Chapter 4

Results

4.1 Descriptions of Areas Studied

4.1.1 Communities located near the mangrove forest in Tambon Ta Se

Tambon Ta Se is located in Hat Samran Subdistrict, Trang Province; and adjacent to the Andaman Sea on the west and the south. It is about 95 km² in total area. Most of the land consists of flood plains and coastal plains. There are five canals run across the areas. The forest of about 19.2 km² (or 12,000 rai) is mostly mangrove forest; some part of it are state owned, and open to public and communal use. This tambon has 6 villages; the total population is 4,176; most of them are Muslims. The people’s principle occupation is small-scale fishery. Other occupations include rubber cultivation and rice cultivation; in addition, some villagers make wickerwork using the leaves of Pandanus spp. for the supplement incomes.

4.1.2 Communities located in Tambon Thung Nui

Tambon Thung Nui is located in Khuan Kalong District, Satun Province. It covers 144.76 km²; the land consists of rolling hills as well as plains and flood plains. There are many canals and streams; it has both primary and secondary forest, with two of national conservation forest: Dong Chueak Chang and Paa Khao Khom. This tambon has 11 villages; the total population of about 9,371 is mostly Muslims. Their major occupation is rubber cultivation. Other occupations include fruit and rice cultivation.

4.1.3 Communities located near Thale Noi Non-hunting Area

Thale Noi Non-hunting Area is one of the forty wetlands that has been considered by the International Union for the Conservation of Nature and Natural resources (IUCN) as the wetland of international importance in Asia (Kaewdee, 1999). It is situated on the extreme northern end of Songkhla lake; its total area is 457 km², and take in part of 3 provinces: Phatthalung (in Khuan khanun district), Songkhla (in Ranod district) and Nakhorn Si Thammarat (in Hua Sai and Cha-aud districts). This area consists of Thale Noi lake (28 km²), marsh, paddy fields, canals, grasslands, rubber plantations, reed beds, tropical evergreen forest and Melaleuca swamp forest. Most of the villagers in the area are Buddhist Thai; rice farming is their major traditional occupation. Other occupations include rubber cultivation, fishing, weaving “Kra chut sedge” (Lepironia articulate (Retz.) Domin) into mats and other handicrafts.

4.1.4 Communities located in Tambon Ban Na and Khlong Sai Khao

Tambon Ban Na is located in Srinakharin Subdistrict, Phatthalung
Province. It’s adjacent to the Nakhorn Si Thammarat Range (or “Khao Banthad” called by local people) on the west. The total area is about 117 km\(^2\). For the topography, there are high mountains, rolling hills and plains, with more than 30 canals and streams in the area. It has both primary rainforest, which is rather still fertile, and secondary forest. There are 11 villages; the total population is 7,341 and all of them are Buddhists. The villagers’ principle occupations are cultivation of rubber, rice, and fruit plants.

Tambon Khlong Sai Khao is located in Kongra district, Phattalung province. It’s also adjacent to Khao Banthad on the west. The total area is about 35 km\(^2\). Most of the land consists of flood plains and plains at foothills. There are 5 canals and 10 small streams run across the areas. The forests in this area are like those in tambon Ban na. Tambon Khlong Sai Khao consists of 8 villages; the total population is about 7,176, consisting of both Buddhists and Muslims. The major occupation is agriculture; most villagers grow rice for family consumption.

### 4.1.5 Communities located in Tambon Khao Phra, Khu Ha

Tambon Khao Phra is located in Rattaphum District, Songkhla Province. Its total area is about 207.7 km\(^2\). For topographic features, there are mountains and plains; many canals and streams run across the areas. Most of the forests are secondary forests and rubber plantations. This tambon consists of 12 villages; with the total population of about 12,160, include both Buddhists and Muslims. The agriculture is their principle occupation; about 1,864 households engage in rubber cultivation, while 410 and 116 households engage in fruit plants and rice cultivation respectively.

Tambon Khu Ha is also located in Rattaphum District, Songkhla Province. Its total area is about 42.7 km\(^2\). Most of the land consists of plains, flood plains, and mountains. There are 14 villages; the population of about 11,463 is mostly Buddhist. There principle occupations are cultivation of rubber and rice. The villagers grow rice for family consumption and selling in the local markets.

### 4.1.6 Communities located in Tambon Thung Phla

Tambon Thung Phla is located in Khok Pho District, Pattani Province. Its total area is about 24.75 km\(^2\); it comprises 5 villages. The population is about 3,474; the villagers are both Buddhists and Muslims. Most of the land consists of flood plains and plains at foothills. The people’s principle occupations are cultivation of rice, rubber and fruit plants.

### 4.1.7 Communities located in Tambon Phron, Khosit

Tambon Phron is located in Tak Bai District, Narathiwat Province. Its total area is about 51.60 km\(^2\). Most of the land consists of flood plains and swampy places; with about 19.2 km\(^2\) (or 12,000 rai) is peat swamp forest. This tambon comprises 6 villages. The total population is about 4,582, consisting of both Buddhists and Muslims. The major occupations of most villagers are rice cultivation and growing fruit plants. Other occupations include livestock raising, handicraft making, working as factory’s employees.
Tambon Khosit is also located in Tak Bai district, Narathiwat province. It’s about 19.84 km² in total area. Most of the land consists of flood plains; there is the Kolok river runs across these areas, and forms a part of the boundary between Thailand and Malaysia on the southeast. Moreover, there is a peat swamp forest which is stated as the national conservation forest. Various parts of the areas are used for cultivation of rice, rubber, coconut and some other crops. This tambon has 5 villages. The total population is about 6,495; most of them are Muslims. The people’s principle occupations are cultivation of rice, coconut, fruit plant, rubber, and other crop plants. Other occupations are livestock raising, business, and working as factory’s employees.

4.1.8 Communities located in Tambon Ka Lu Wo

Tambon Ka Lu Wo is located in Muang District, Narathiwat Province. It is about 75 km² in total area. For topographic features; there are few plains, mountains, and flood plains. It comprises 7 villages. The population is about 8,331; 90% of them are Muslims. The major occupations of 70% of the villagers are rubber cultivation. The others include rice cultivation and fruit plants cultivation; the fruit plant that widely grown is duku (Lansium domesticum Correa).

4.1.9 Communities located near To Daeng Peat Swamp Forest

To Daeng Peat Swamp Forest is located in Narathiwat Province; it occupies a part of Tak Bai, Su-ngaikolok and Su-ngaipadee Districts. It is the only remaining primary peat swamp forest in Thailand, and many species both plants and animals are found. It’s about 347 km² in total area. Due to the intensive use, the area has been extensively reduced. The communities in which the study was conducted are located near this forest in Su-ngaipadee and Su-ngaikolok District. Most of the land in the communities consist of flood plains and swamps. Most villagers are Muslims; their major occupations are rubber cultivation, rice cultivation, fruit plant cultivation, and livestock raising.

4.2 Culture and tradition

The way of life or culture which includes the beliefs, social forms and material traits of a social group of Buddhist Thais and Muslim Thais are quite different. Besides religion and language, culture concerning food-consumption, death, dress and religious practices are distinctly different between the two groups. Buddhist Thai appear to be able to follow the way of life recommended by their religion with a considerable degree of flexibility. Whereas the Muslim Thai believe in strict religious practice; all of them are required to strictly follow the Islamic Pillars, i.e. to make a declaration of faith that there is no deity except Allah and that Mohammed is the Messenger of Allah, to pray to Allah (to act prescribed prayers) 5 times a day, to do Islamic Fast during the entire month of Ramadan, to donate to the poor (called Zagat) once a year and to participate the Haj in Mecca, Saudi Arabia at least once in their lifetime. In addition, there are many prohibitions laid down for Muslims, such as not to make worship to any deity, not to eat or drink or sell certain things such as
meat of animals which died of natural cases, blood, pork, alcoholic beverage, etc., to get usury, to wai (a Thai gesture, used as a form of worship) to any deity or to any individual except to Allah alone. Not only adult Muslim people, but also the young ones practice their religion very seriously. There are Pondok schools in almost every village particularly in the southern border provinces which the village young people attend on Saturdays and Sundays to study the Islamic Pillars. Muslim Thais lead their lives according to Allah’s guidance so that happiness can be attained both in this world and a life hereafter.

Generally, one of the sources of culture is social values and beliefs which influence the mind of people. Such values and beliefs are subject to change. On the contrary, the Muslims’ culture or the Islamic Culture to be the God-given one and not subject to change, unlike those of Buddhist or other non-Muslim societies. Besides the difference in culture of the two groups, the traditions, which are usually intermingled with religious services, are also quite different.

The Buddhist traditions in this area include the Ordination Rite, the Wedding Ceremony, the Funeral Rite, the Songkran Festival (Thai New Year celebration), the Chak Phra Celebration (celebration of the Lord Buddha’s Return from Heaven), the Ching Pret Tradition (tradition for making merit dedicated to the deceased), Long Khaek tradition (tradition of neighbours gathering together in order to help one another at a time of an over load of work), etc. Whereas, the traditions followed by the Muslim Thais include the Ramadan Fasting Ceremony, the Hari Rajah Festival, the Circumcision Rite, the Wedding Ceremony, the Funeral Rite, Maulid Day Ceremony and the Azura Ceremony.

The Ramadan Fasting Ceremony is taken place in the ninth month of the Islamic calendar. It is strictly observed by all adult Muslim Thais, ages of 15 and up, in the lower part of southern Thailand. However, an exception may also be made on the basis of personal health reasons. During the month of Ramadan, they are required to abstain from consuming any form of food and beverage, and to abstain from sexual activity from dawn until dusk.

The Hari Rajah Festival is taken place twice a year; the first is taken place on the day called called “Hari Rajah Por Sor”. This festival is held by the Muslim Thais to celebrate the returning to their normal way of life, once the month-long fast is over. This day is usually falls on the first day of the new moon of the tenth month in the Islamic calendar. The second is taken place on the day called “Hari Rajah Haji”. This festival is held for the celebration of the ending of the “Haj” ceremony which usually falls on the tenth of the twelfth month. On these special religious days, all Muslim Thais are required to undertake the practices, such as: taking a “sunnah” bath in order to prepare themselves for prayer and entering the mosque, wearing their best clothes, congregating at the mosque to attend the prayer service, to visit the “Kubo”or crematory to read the Koran for all those who have passed away, etc. In addition, on these special days most Muslim Thais usually visit friends and relatives and also give them a traditional snack of sticky rice wrapped in leaves of Licuala sp.

The Maulid Day Ceremony is one of the most significant social traditions among The Muslim Thais in this area. Mualid day is the birthday of the Prophet Mohammed; the ceremony is observed in order to honor him, and usually falls in the month of January. On this day, the Muslim Thais prepare and share a feast of goat
meat or chicken curry and rice between relatives and neighbors. The feast is customarily followed by a prayer requesting Allah to bless the Prophet Mohammed.

The Azura ceremony is observed in order to commemorate an important day in Islamic history and to encourage the people to cooperate and share with each other in making a special kind of dessert called “Zura”. The making of “Zura” may be undertaken at their houses or at a mosque of the village. Each villager brings ingredients, such as coconut, rice, sugar, green beans, which are required for making the dessert. All the ingredients are mixed together, and then cooked. After the cooking is finished, the prayer requesting Allah to bless all the villagers for happiness and prosperity is made. After that, the dessert is distributed to every villagers.

Some traditions such as Ramadan Fasting Ceremony is strictly observed by and confined to only the Muslims; consequently the Buddhists do not participate in any stage of this ceremony. In addition, there are many traditions of the Muslims that the activities or procedures can be participated in by Buddhists such as Hari Rajah Festival, Su-nut (or circumcision) Ceremony, Maulid Day Ceremony, etc.

However, there are some traditions that are practiced by both the Buddhist and Muslim Thais. Such traditions include merit-making, birth, marriage, death, house-warming and La-sang (or Puya-bunae) ceremonies. These traditions of the two groups share some similarities but some differences do exist. Some activities of the Buddhist Thai traditions, can be participated in by the Muslim Thais without confliction with Islamic principles. For the La-sang ceremony that is found only in few villages in the lower South, it’s usually observed after all the crops have been harvested to show the farmers’ gratitude to the rice farm. In some villages, both that of Buddhist and Muslim Thais are cooperated.

4.3 Language

Most Buddhist and Muslim Thais in municipal areas speak Thai and southern Thai dialect especially those who live in Trang, Phattalung, Satun, and Songkhla provinces. Although some Muslim Thais in this area speak the Pattani Malay, or local dialect (Yawi), or the Satun Malay in their daily life, but they are able to communicate effectively in the southern Thai dialect. However, most Muslim Thais in Pattani and Narathiwat provinces especially the older ones living in remote areas speak only Yawi. Whereas the younger ones speak Thai (the official national language) only at school; and they can not speak southern Thai dialect.

4.4 Dressing

In daily life, costumes of Buddhist and Muslim Thais both men and women especially the older ones living in remote areas are more or less different. The Muslims dress like the Malaysians; women wear batix sarong, a long and narrow-sleeved blouse, and a head cover or scarf in a Muslim style; men wear sarong, long-sleeved shirt, and a head cover in the Indonesian cap; sometimes a
traditional Malay turban is wrapped around the head. Whereas, most young people dress in western style especially when they go to work or to school.

For the Buddhist Thais, some of them particularly the older ones living in remote areas dress like the Muslim Thais; they wear sarong and a shirt or blouse in western style or Thai style without a head cover. Whereas, most of them living in a big city or in a municipal area usually dress in western style.

4.5 Dwelling houses

The houses in villages were once located in scattered settlements, but they have gradually been relocated to their present arrangement on either side of the road in the village for convenience in transportation. The characteristic of the houses of both Buddhist and Muslim Thais are similar. Most of them are one-storey buildings on stilts of about 3 m high and a few are two-storey buildings. The houses in traditional style may be built singly or twin with double or triple small gables which are usually seen throughout the southern border provinces of Thailand. In addition, some parts of the traditional dwelling houses of both Buddhist and Muslim Thais, such as the top of the roof, the gables, the roof ridge and the ventilation under the roof, are often decorated. The decoration design that is most widely used only by Muslims is calligraphic with Arabic scripture; it reminds them of the Allah’s teaching in order to lead their religious way of life. Most of the houses are made completely of wood; some of them are made of wood and brick, and a few are made completely of brick.

The main structural components of the traditional dwelling houses are usually made of the timber logging from the nearby forest. However, there are stilts houses constructed with corrugated iron or bamboo. The stilts are usually made of local hard wood such as Cotylelobium melanoxylon (Hook.f.) Pierre, Fagraea fragrans Roxb., Intsia palembanica Miq. and Oncosperma tigillarium (Jack) Ridl., etc.

The roofs are usually made of either tiles or corrugated iron or thatches made from leaves of Metroxylon sago Rottb. (Sago palm), Nypa fruticans Wurmb. (Nipa palm), etc.

The floors are often made of hard wood planks or bamboo; they are built one higher or lower than the others. The floor of the main living quarter of the house is the highest; whereas the floor of the verandah is the lowest. For Muslims’ dwelling houses, a specific floor space is always reserved for the daily prays performed by the members of the family.

The walls are generally made with plank, corrugated iron or woven bamboo; sometimes the wooden walls had been carved skillfully and artistically.

The gables are the structural component often found in the local dwelling house of both Buddhist and Muslim Thais, and usually decorated with fancy designs; the sunrise beams are popular among the gable decoration.

The staircases are made of wood, and attached to both the front and the back of the houses; for most house, in front of the staircase a water container is provided for the cleaning of feet before entering the house.

The part underneath the houses is designed to be high enough for people to walk under comfortably. This may be used as a rest space, storage, or a
stall for livestock. The livestock which the villagers raise are sheltered at night in this place.

The house compounds are unplanned and loosely organized. Plants of different kinds, both perennial and annual, are grown in random fashion in the compound.

4.6 The beliefs concerning the plant uses of the local people in the lower part of the southern Thailand

4.6.1 The beliefs concerning the plant uses of the Buddhist Thais

Some of the Buddhist Thais particularly who have been in very remote areas still have some of the beliefs concerning plant uses that have been passed on from their ancestors. Various tradition ceremonies, or rituals, or practices that performed in various occasions of the local people reflect their own beliefs. Certain kinds of plants are employed as follows.

1) The treatment of diseases, ailments, and health-care

Nowadays, though the government provide health-care service centers around the country, in many traditional societies, traditional medicals that practiced by the healers or herbal practitioners still provide essential health-care for the villagers. The traditional treatment of diseases and ailments at a certain stage of the procedures that depend on the beliefs are as follows.

1.1) The treatment of spiritual sickness

In some villages of the studied areas, sometimes, when villagers feel sick and they believe that it is caused by bad spirits, the healers or herbal practitioners use the leaves of *Areca catechu* L. accompanied by the incantation to treat the patient. Other treatments for this ailment include spitting of a chewed betel quid on the patient, and also throwing of rice grains to the patient. All these treatments are accompanied by the incantation that performed by the healers or herbal practitioners. It is believed that these treatment will ward off the bad spirits and release the sickness from the patient.

1.2) The treatment of numbness

The herbal practitioners treat numbness by using the roots of *Desmos chinenis* Lour.; the roots is cut into 108 pieces of 2 cm long, and then cast with spells, boiled in water. Then this water is given to the patients to drink. During the treatment, the patients are prohibited from eating fruit of papaya (*Carica papaya* L.) and seeds of *Archidendron jiringa* (Jack) I.C. Nielsen; alcoholic beverage is also prohibited as well.

1.3) Pterygium treatment

To treat pterygium, the healer use coconut shell that was cut in half to cover the affected eyes of the patient, and then topped by a small piece of fresh meat. During this stage of the treatment, the healer invoke an incantation. After that the meat is cut. This treatment is done once a day for
three days in the morning. It is believed that, by this treatment, the pterygium is cured.

1.4) The treatment of fever associated with menstruation
For this treatment, some villagers make a decoction of 4 medicinal plant species: the stems and roots of *Sida alnifolia* L., the roots of *Imperata cylindrica* (L.) P.Beauv., the whole plant of *Mimosa pudica* L., and the roots of *Cordyline fruticosa* (L.) Gopp., this decoction is given to the patient to drink. Obviously, the collecting of the roots of the last species is a charm procedure. The collectors must put a lighted candle and money (1 baht coin) on the ground near the plant as a token, and it is accompanied by incantation.

1.5) The treatment of herpes infection
The Buddhist herbal practitioners of some villages cure herpes infection by spitting of a chewed betel quid onto the affected areas of the patient; and it accompanied by the incantation. After that they use the leaves of sago palm (*Metroxylon sago* Rottb.) to gently fan over the affected areas.

1.6) The treatment of toothache
Some of the villagers living in some studied areas believe that the toothache will be soothed if they string a small piece of a stem of *Linostoma pauciflorum* Griff. with a thread, and then tie around the waist at all times.

1.7) The practices regarding birth and child-care
Nowadays, among the Buddhist Thais, the childbirth is usually taken place at the health service center or at the hospital. However, some pregnant women still prepare for her childbirth, and child-care with the aid of midwives. Some villagers still have the beliefs which were passed down by their ancestors regarding both the birth and child-care; these beliefs are as follows.

1.7.1) The beliefs concerning general practices and the traditional medicinal treatment during pregnancy.
The pregnant women are usually prohibited from consuming any twin fruits; they believe that such the fruits will cause the pregnancy of a twin. They are also prohibited from consuming any spicy food; it believed to cause bald patch on the child’s head.

1.7.2) The beliefs concerning the application of heat during the immediate post partum period, and the practices after childbirth.
Some women who got her child delivered by the aid of midwives have to practice heat treatment at home for 5 – 9 days. For this treatment, a hot stone wrapped with many sheets of cloths is placed on abdomen of the mother. During 5 – 9 days of the treatment, the mother should take a bath in the morning and evening with water which is steeped with the leaves of *Sida alnifolia* L. and a few of other kinds of medicinal plant. Moreover, the juice form the crushed garlic bulbs (7 bulbs), pepper seeds (7
seeds), and betel leaves (*Piper betle* L.) (10 leaves) is drunk after taking a bath; it believed to stimulate the involution of uterus and dry up the lochia, and also to relieve bodily discomfort and to strengthen the health of mother as well. During the 3 months after giving birth, the mother should be careful of food to be consumed. The following are the certain foods which are forbidden or encouraged to be consumed according to the beliefs. The food that are forbidden include jack fruit (*Artocarpus heterophyllus* Lam.), coconut juice (*Cocos nucifera* L.), peanut (*Arachis hypogaea* L.), rambutan (*Nephelium lappaceum* L.) and langsat (*Lansium domesticum* Correa), sawa (*Manilkara zapota* (L.)R.Royen), durian (*Durio zibethinus* Merr.), klui tani (*Musa balbisiana* Colla), mushroom, desserts wrapped with the leaves of banana (*Musa balbisiana* Colla), curries cooked with coconut milk, pork, meat, and some kinds of sea food. They believe that breaching the forbidden regulation will cause severe illness such as hemorrhage, interruption of lochial discharge, and convulsion; and it may be the cause of death to the mother. However, the midwives are able to treat these illness by giving traditional medicine which made of the roots of *Melastoma malabathricum* L. (white flowers), lime juice and liver of langur to the mother to ingest. For the food that is encouraged to be consumed, they believe that consuming some kinds of dishes such as kaeng liang (Thai-style vegetable soup), or curries cooked with papaya fruit, bua bok (*Centella asiatica* (L.)Urb), the young shoots of *Licuala spinosa* Thunb. will stimulate the lactation. Moreover; spicy food, the dishes cooked with pepper, ginger (*Zingiber officinale* Roscoe), or *Alpinia* sp. should be eaten as well.

1.7.3) The beliefs concerning child-care

For child-care, in the past, there were cultural practices regarding the treatment for the baby at birth, the burying of placenta, the rite of opening the baby’s mouth, the rite of putting the baby in a cradle, the rite to please the baby’s guardian spirit, and the medical treatment of the baby. At present, these practices have disappeared from most villages. However, some of them can still be observed in some areas, and certain kinds of plant species are usually employed in some stages of the practices.

Some villagers believe that a new born baby can be protected from bad spirits by stringing a small piece of the rhizome of *Zingiber ottensii* Valeton. with a thread, and then tied around the baby’s wrist. Moreover, a leaf of betel pepper (*Piper betle* L.) or a leaf of ma-uek (*Solanum stramonifolium* Jacq.) alone or together with thorns of lime tree (*Citrus aurantifolia* (Christm.) Swingle) are usually placed under a baby’s mattress for this purpose as well. In the case that the childbirth is under taken at home with the aid of a midwife, the placenta is usually buried near the home and then a certain kind of plants is grown there; the plants that are commonly grown are coconut fruit (*Cocos nucifera* L.), areca nut (*Areca catechu* L.), or banana (*Musa* spp.). They believe that if this plant grows well, the baby will grow healthily and have a good future. Before a baby’s first feed, the midwife dips a piece of the stem of *Tinospora crispa* (L.) Miers ex Hook.f. & Thomson into honey, and then it is used to touch a baby’s tongue in order to clean the mouth and throat.
2) The traditions

Tradition is an essential factor of a culture; it is people’s way of life in society, and appears in almost every stage of life. From this study, there are various tradition practiced by the Buddhist Thais living in the areas; some stages of the tradition procedures, various kinds of local plants play a part in. Such traditions are as follows.

2.1) The tradition of merit-making

The merit-making pattern practiced by the Buddhist Thais living in the studied areas, as well as those who live in other parts of the country, is performed based on two prime motives: to promote good fortune on certain occasions such as for a marriage, or at a house-warming celebration, etc.; and to rid bad fortune, performed, for example, at a funeral or as a form of condolence on certain occasions after natural disasters.

The procedures of merit-making performed on various occasions are rather similar; generally, the monks are invited to intone holy chants and to perform the religious rites. In addition, there is a series of offerings for the Triple Gems; it not only consists of candles and joss sticks but also consist of some kinds of flowers. The flowers that are mostly used for this purpose are lotus (Nelumbo nucifera Gaertn.). Moreover, there is a bowl of sacred water that is, sometimes, mixed with the leaves of a certain kind of plants bearing the Thai name “bai Ngoen Bai Thong” (Graptophyllum pictum (L.) Griff.), that symbolizes prosperity and wealth. This water is used in pouring dedicated to ancestor spirits; sometimes, the monks sprinkle it to the participants of the merit-making ceremony for the prosperity and good luck. For the sprinkling of sacred water, in funeral ceremony, the branches and leaves of Justicia gendarussa Burm. f. are commonly used as a sprinkler; whereas in the ceremony performed to encourage good fortune, a bundle of the leaves of Imperata cylindrica (L.) P.Beauv. is commonly used; and in a ceremony performed toward off bad spirits, the branches and leaves of Phyllanthus acidus (L.) Skeels are commonly used.

2.2) The tradition of house construction

Most of Buddhist Thais living in the areas still have the beliefs concerning the house construction which include the pre-construction, the construction, and the inhabitation in the new house. Before the construction started, the direction of the house is determined. Depending on the beliefs of the Buddhists, their house commonly face to the east or to the west. Regarding the construction period, they believe in the auspicious time to start the construction. At the auspicious time, a hole for a major pole is dug. In the hole, not only the major pole is set in but the owner usually put good articles such as coins, talismans, and various kinds of flowers into it. The major pole is hung with red and white strips of cloths, red and white thread, areca nuts, betel leaves, banana shoot, coconut seedling, and a stem and leaves of sugar cane. In this ritual, sometimes, the monks are invited to intone the
chant of blessings. They believe that this practices will bring the happiness and success to the house’s owner. Moreover, most Buddhist Thais in the areas have the beliefs concerning certain kinds of plants encouraged or forbidden to grow in the yard. The plants of which the Thai names have positive meaning and connotation are usually grown, such as khanun or jack fruit tree (*Artocarpus heterophyllus* Lam.) symbolizing helping, makham or tamarind (*Tamarindus indica* L.) symbolizing awe, mayom (*Phyllanthus acidus* (L.) Skeels) symbolizing affection, yo (*Morinda citrifolia* L.) symbolizing praise, and koson (*Codiaeum variegatum* Blume) symbolizing kindness; whereas certain kinds of plants are forbidden to grow, such as kluai tani (*Musa balbisiana* Colla), ta khain (*Hopea* sp.) ; they believe that these plants are habitation of ghosts or bad spirits.

2.3) The tradition of marriage

There are many kinds of plants that play an important role in the procedure of the marriage tradition. Some of them are used as a offering to the Triple Gems, in the religious ceremony of this tradition; whereas the others are used in the secular ceremonies; most of them are used according to the beliefs which are passed form their ancestors. For secular ceremonies, one of the most important component is a set of the bowls of wedding objects called “khanmark”; it is a token symbolizing the starting point of marriage, and it is provided by the bridegroom’s family for the bride’s family. Generally, the number of khanmark are 2 or more; some of them contain areca nuts, betel leaves, rice, cooked pork, and desserts; whereas the others contain the wedding gifts or dowry in the form of gold and / or money. Added to this are joss sticks and candles, beans, sesame seeds, rice grains (containing the husks), and the leaves of certain plants of which the names symbolize prosperity and affection, namely bai ngoen bai thong and mayom. Generally, besides the khanmark, there are trays of sugar cane, banana, green coconut, pomelo (*Citrus maxima* (Burm.f.)); various kinds of flowers of which Thai names give positive meaning and connotation such as dao rueang (*Tagetes erecta* L.) symbolizing prosperity, dokrak (*Calotropis gigantia* (L.) Dryander ex W.T. Aiton) symbolizing love, ban mai ruroi (*Gomphrena globosa* L.) symbolizing affection which is everlasting, ban chuen (*Zinnia violacea* Cav.) symbolizing freshness, and dok khem (*Ixora* sp.) symbolizing wisdom. In some villages, the leaves of *Clausena excavata* Burm. f. are thrown to newly-weds; they believe that it will protect the newly-weds from bad spirits.

2.4) The tradition concerning death

The plants used in this tradition not only used in merit-making or religious ceremony, but they are traditional used in other stages of the tradition as well. Before placing a dead body in a coffin, generally, it is bathed with water mixed with the crushed turmeric rhizome (*Curcuma longa* L.). Some villagers use the water mixed with small amount of the leaves of lemon grass (*Cymbopogon citratus* Stapf.), the turmeric rhizome, a piece of coconut stem, a piece of banana trunk, the rhizome of *Zingiber ottensii* Val. and charcoal for this purpose. All these plants are believed to mask the odor of the dead body. In addition, some villagers wash the face of the dead with coconut juice.
3) The agriculture

Most villagers in the areas earn their living in agriculture: rice cultivation, rubber cultivation, fruit cultivation, animal raising, fishing, etc. Some of the beliefs concerning the agricultural practice were passed down from their ancestors. All rituals performed by the farmers regarding agriculture reflect their beliefs. At present, the rituals that are performed for the rice cultivation are seen in some areas, whereas most of the others has disappeared.

For the rice cultivation, some farmers believe in spiritual beings, such as Mae Phosop (rice goddess) and guardian spirits. Each year, form the beginning to the end of the farming season, there were certain farming rituals performed by the farmers at some stages of farming; they are as follows.

3.1) The ritual performed before rice planting

The villagers begin their rice cultivation on the most propitious day that was advised by the astrologers or the monks. Before planting, a leaf with petiole of fan palm (*Borassus flabellifer* L.) is pitched in the ground of the paddy field, and then 9 seedlings of rice plants are grown for the prosperity. After that, they ask Mae Phosop to help protect and nurture their crops.

3.2) The ritual performed before rice harvesting

This ritual is performed to pay homage to Mae Phosop, and request for prosperity in harvesting and for a plentiful harvest in the next season. It is undertaken at the farm land, and by the specialist according to custom of the village. It is usually performed in the morning; the specialist will tie few rice plants bearing rice ears together with long white cloth. Added to this with the branches and leaves of certain kinds of plant, such as chumhet (*Senna alata* (L.) Roxb.), bang bai (*Leea indica* (Burm.f.) Merr.), phum riang (*Lepisanthes fruticosa* (Roxb.) Leenh.), khwan khaw (*Aralidium pinnatifidum* (Jung. & de Vriese) Miq.) and sugar cane. After that, candle and joss sticks are lighted, while the specialist bless to express gratitude to Mae Phosop.

3.3) The ritual performed after rice harvesting

This ritual sometimes called La-sang; this term means goodbye to the hay, in southern Thai dialect. It is usually performed after all the crops have been harvested. The objective of this ritual is also to express gratitude to Mae Phosop for the kindness in granting abundant crops.

For the procedure of this ritual, the farmers choose suspicious day and propitious place for performing it. At the beginning of the ritual, the hays from every farm in the village are gathered, tied together in the form of figures of a man and a woman to symbolize god and goddess who protect and nurture the crops. All the villagers prepare traditional dishes consisted of cooked rice, cooked sticky rice, khanom tom (cooked sticky rice mixed with coconut milk, wrapped in the leaves of *Licuala spinosa* Thunb.), boiled eggs and boiled chicken. This food is prepared to offer the monks at the temple, to the god and goodness, and it is also used for the villagers own feast. At the time of the ritual; the food, bouquet of flowers, a spadix and a...
young fruit of coconut, joss sticks, and candle are laid in front of the spirit house where the hay figures are placed. Then the specialist perform the ritual.

As well as the rice cultivation, in growing fruit plants, some villagers have the superstitious beliefs that are reflected in the used of “Joe” (an object hung on trees) to scare of thieves, in fruiting season; they believe that those who eat stolen fruits will suffer illnesses.

4.6.2 The beliefs concerning the plant uses of the Muslim Thais

Similar to the Buddhist Thais in the areas, the Muslims Thais still have some of the beliefs concerning various tradition and practices in their way of life; and certain kinds of plants are employed and being used for various purposes according to the beliefs. The tradition, or practices that the plants play a role are as follows.

1) The treatment of diseases, ailments, and health-care

Nowadays, the uses of traditional medicines that depend on the beliefs of the Muslim Thais are still observed particularly in very remote areas. For the traditional treatment of diseases, ailments, and health-care, some stages of the procedure are being done according to the beliefs are as follows.

1.1) The treatment of spiritual sickness

In some village, when a villager has fever that is believed to be caused by the power of a black magic, or supernatural; and it cannot be cured by modern medicine, the curing is undertaken by aid of healers. In treating this fever the healer spit the chewed leaves of *Breynia vitis-idaea* (Burm.f.) C.E.C.Fisch. to the patient. This treatment is undertaken in the evening and accompanied by an incantation. In addition, sometimes, the patient is bathed with water which is steeped with the leaves of *Codiaeum variegatum* Blume, *Cordyline fruticosa* (L.)Gopp., and citrus (7 kinds); while the traditional music is played. Another method to treat this illness includes rubbing the patient’s body with rice grains, a turmeric rhizome, and the flowers of *Jasminum sambac* (L.) Aiton; and accompanied with the reading of the “Du-a” (a prayer requesting Allah’s blessing). Moreover, sometimes the healer arranges the rice grains, turmeric rhizomes, and pepper seeds on the tray; while the reading of the “Du-a” is being done. After that he throws all these objects to the patient. Generally, in any rooms that the ritual are performed, they usually hang the flowers of *Hibiscus rosa-sinensis* L. and *Jasminum sambac* (L.) Aiton to the window or the door.

1.2) The fever indication

Some Muslim herbal practitioners use the water extract of the crushed leaves of a local plant namely “Ka-lu-mood” (an unknown species) as an indicator to check whether someone has fever or not. For the procedure, the herbal practitioner applies this extract on the body of the person who wants to be checked, then the excess used extract is stored in a container, left for some time. After that the extract in the container is observed whether it
becomes solid or is still liquid; if it becomes solid, it indicates that the person
who is checked has fever and vice versa.

1.3) The treatment of contraceptive

Some female villagers take a decoction of the whole plant
of *Melastoma malabathricum* L. as a contraceptive. According to their beliefs,
the decoction will be more powerful if the plant used has alternate branching;
moreover, it must be collected only by men, on Tuesday.

1.4) The treatment regarding birth and child-care

As well as the Buddhist Thais, nowadays, the childbirth of
most Muslim Thais in the areas are taken place at the health service center, or
at the hospital. However, some of them still have their child delivered by the
aid of midwives; certainly, the medicinal plants are employed in both the
preparation for the childbirth and child-care. Moreover, they still have some of
the beliefs concerning these treatments which were passed down by their ancestors;
such beliefs are as follows.

1.4.1) The beliefs concerning the preparation for the childbirth

For a pregnant woman with her first child, and 7
months’ gestation, a midwife uses coconut oil massage on her abdomen in
order to place a baby from a breech to a normal position in the mother’s
womb, then a small coconut fruit and lime are rolled on the abdomen too.
This treatment is accompanied with the incantation; it is believed to promote
an easier delivery.

1.4.2) The beliefs concerning the application of heat during
the immediate post partum period.

Right after giving birth, the mother must lay down on
a bamboo board that is placed over a wood-burning stove. Then the midwife
place a hot stone wrapped with many layer of cloths on the mother’s abdomen.
After that, a traditional medicine is prepared form the stem bark of *Vitex
pinnata* L., a young coconut shell, salt and water. All these ingredients are
crushed, squeezed, and the extract is given to the mother to drink. It is
considered to prevent hemorrhage. On the next day, the midwife prepares a
remedy for blood circulation given to the mother; this remedy is prepared by
boiling the combination of the rhizome of *Licuala spinosa* Thunb. and
*Flagellaria indica* L., the roots of *Goniothalamus macrophyllus* (Blume) Hook.f.
& Thomson, and few kinds of other medicinal plants.

1.4.3) The beliefs concerning child-care

For child-care, there are cultural practices influenced by
the beliefs which are still observed among the Muslim Thais in the areas. They
include the treatment for the baby at birth, the burying of placenta, the rite of
the first hair-cut, the rite of opening the baby’s mouth, and the rite of putting
the baby in a cradle. All these practices, certain kinds of the plants play a role in.

At the birth of a child, some villagers protect their
new born baby form bad spirits by laying the baby on 7 layers of cloths
which are laid on the rice grains and turmeric rhizome, a banana leaf, respectively. In addition, they also string a small piece of the rhizome of *Zingiber ottensii* Val. with a thread and then tie around the baby’s wrist. The placenta is usually buried near a baby’s house, and a coconut tree is usually grown near it. They believe that it will bring prosperity to the baby. Before a baby’s first feed, sometimes, a little amount of the fruit juice of *Garcinia atroviridis* Griff. ex T. Anderson mixed with a little amount of salt is dropped into the baby’s mouth in order to stimulate vomiting, and the mouth and throat will become clean. When the baby is about one week of age, a fruit of date palm (*Phoenix dactylifera* L.) is brought to touch the baby’s lips; it believed to make the baby become polite and tractable. At this time, there is the rite of the first hair-cut as well. For this ritual, the cut hair is put in a young coconut fruit that was punched at its one end, and then it is buried in the yard. Later, when the baby is about one month of age, some villagers perform the rite of putting the baby in a cradle. In this ritual, certain kinds of the plants are employed, such as banana fruits, a leaf of *Licuala spinosa* Thunb., a rice plant, and a spine of any plants; they all are tied to the baby’s cradle, it is believed to make the baby healthy and clever.

2) The traditions

This study reveals that only few traditions of the Muslim Thais in the areas that certain kind of plants are employed, such as:

2.1) The tradition of house construction

Similar to the Buddhist Thais living in the area, the Muslim Thais have the beliefs concerning the house construction particularly the beliefs about auspicious time, the setting of major pole, the direction of the house, etc. However, only a few traditional practices that the plants are employed, such as the setting of the major pole before the beginning of the house construction. The plants or the plant parts that are used in this practice include a banana shoot, a coconut seedling, the rice ears, and various kinds of flowers. All these plants and the plant parts are tied to the major pole before it is put in the hole. Added to this are 7 sheets of cloths with different colour, they are also tied to the major pole. According to their beliefs, all these objects symbolize the happiness, success, and wealthy. Generally, in this ritual, The owner and the participants usually offer the prayer to Allah, requesting blessings. Moreover, the Muslim Thais also have the beliefs concerning the certain kinds of plants encouraged or disencouraged to grow in the yard. The plants that are encouraged to grow, and believed to bring prosperity and happiness to the owner are, for example, *Artocarpus heterophyllus* Lam., *Cocos nucifera* L., *Phyllanthus acidus* (L.) Skeels, *Tamarindus indica* L., *Saccharum officinarum* L. The beliefs about the growing of these plants among the Muslim Thais are similar to those of the Buddhist Thais living in the areas. For the plants that are usually not grown in the yard; they include *Areca catechu* L., *Cyrtostachys renda* Blume, *Hibiscus rosa-sinensis* L., *Michelia alba* DC., *Ficus* sp., *Minusops elengi* L., etc. According to their beliefs, these plants are habitation of ghosts, or the cause of broken home.
2.2) The tradition of marriage

The marriage tradition of the Muslim Thais in the areas is little different from that of the Buddhist Thais. There is no merit-making in this tradition of the Muslims; whereas it is rather strictly practiced by the Buddhists. For other traditional practices of the Muslims, only few kinds of plants are used, such as: the areca nuts, the betel leaves, the banana fruits, the sugar cane stems, and oranges. The areca nuts and betel leaves are used for filling the bowls of wedding or “khanmark”. The betel leaves are also popular for the decoration of khanmark. The leaves of the plant namely “bai ngoen bai thong” are popular used to decorate khanmark as well. According to their beliefs, the areca nuts and betel leaves symbolize a long happy married life, whereas bai ngoen bai thong symbolizes wealthy. Generally, in this tradition, they usually prepare yellow sticky rice for the bride and the bridegroom to feed each other; it is also served to the guests of the ceremony. This is a custom handed down to the present-day Muslim Thais in some areas of the lower south.

2.3) The Su nut tradition

Su nut refer to the circumcision of a male; it is mostly undertaken when he is about 7–10 years of age. Although Su-nut is not the mandatory, but every male Muslim cannot reach perfection unless he undertakes the Su-nut. This practice is done to ease the thorough cleaning of every part of the body before attending the five daily prayers (La Madh). Nowadays, circumcision is usually undertaken at hospital with no ceremonious practice. However, in very remote areas, it is undertaken at home or mosque by Tok Mudeng (or the religious doctor). Some villagers usually give the yellow sticky rice to the boy who is about to undertake the Su-nut to eat; they believe that it will decrease the bleeding form the cut. The procedure of this tradition is started with the reading of the “Du-a”. After that, the Tok Mudeng directs a boy to sit on a banana tree which is laid on the floor. As soon as the top part of the boy’s penis is stretched, the Tok Mudeng will make an incision. After the circumcision, a decoction of the turmeric rhizome is usually given to the boy to drink; they believe that it will soothe the pain and also relieve contusion. To accelerate the wound healing, sometimes, they use the sap from the petioles of Alocasia denudata Engl.; or the crushed leaves of Chromolaena odoratum (L.) R.M. King & H. Rob., or Melastoma malabathricum L.

2.4) The tradition concerning death

There are only few traditional practice concerning the death of the Muslim Thais. Immediately after someone dies, his/her body must be bathed, wrapped, and then a prayer service for the dead is performed. After that, the dead body is carried to the “Kubo” or the cemetery where it will be buried. It is very important that the body must be buried within 24 hours after death. For some stages of the traditional practice, such as the bathing of the dead body, some certain kinds of plants are employed. Generally, it must be bathed thoroughly at least once. If the bath is taken more than once, cleaned-soil water is used first, then water that had been steeped with the leaves of Ziziphus Mauritian Lam. will be added to this water, sometimes, with the
leaves of *Citrus hystrix* DC, the stem of *Entada rheedi* Spreng., and some aromatic flowers. After the funeral ceremony, merit-making ceremony will be performed later on the 7th, 20th, and 40th day.

3) The agriculture

Similar to the Buddhist Thais, most of the Muslim Thais earn their living in agriculture, and some of them still have the beliefs concerning it. Some of the rituals that they have performed reflect such beliefs; they are as follows.

3.1) The ritual performed before rice planting

The Muslim Thais also believe in auspicious day to begin rice planting. On the most propitious day, the farmers grow certain kinds of plants in their paddy field, such as *Areca catechu* L., *Calamus* sp., *Dillenia* sp. and 4 rice plants. They believe that this practice will provide the abundant crops. In some villages, the farmers grow *Colocasia esculenta* (L.) Schott and *Fagraea racemosa* Jack at the corner of their paddy field. It is believed to provide the fertility of the soil and plentiful supply of water.

3.2) The ritual performed before rice harvesting

In some villages, before reaping, the farmers perform a ritual called “Ngue tae”. For the procedure of this ritual, they arrange the areca nuts, the betel leaves, the leaves of *Areca catechu* L., and the rice grains (containing the husks) on the tray, and then placed in the rice barn. After that, on a following day, the farmers collect 3 bundles of rice ears, and deposit in the rice barn as well. Then, 5 and 7 bundles of rice ears are collected later on the 3rd and 4th day, respectively. After that, the reaping of the season is started. In some villages, the farmers place the young shoot of banana, the sugar cane plant, and the rice ears at the roof beam of the rice barn. They believe that, by the performing of this practice, they will get enough rice for consuming throughout the year, and the pests will be driven away from their crops.

4.7 Enumeration of useful plants

From the study that was conducted in 18 communities of Buddhist Thais and in 18 communities of Muslim Thais located in 9 studied areas of the lower part of Southern Thailand from May 2001 to October 2004; 477 species of used plants were noted, collected and identified to species level. They belong to 251 genera and 84 families of Dicotyledon, to 79 genera and 26 families of Monocotyledon, to 17 genera and 11 families of Fern, to 1 genus and 1 family of Gymnosperm and to 1 genus and 1 family of other lower plants (Table 3).

The number of the used plant species belonging to each family of Monocotyledon, Fern, Gymnosperm and other lower plant are shown in Figure 3, and those of Dicotyledons are shown in Figure 4. These plants are separated into 6 groups according to their uses as food, medicine, construction, utensil, ritual and other uses. The total number of the plants that have been used for each purpose in the studied areas are as follows: 236 species for food, 327 species for medicines, 31 species for construction, 21 species for utensils, 39
species for rituals and 72 species for other uses (Figure 5). The most important plant families of the local people in terms of species used are shown in Table 4.

Out of 477 species of the used plants, 390 species are used by Buddhist Thais, whereas 372 species are used by Muslim Thais living in the areas. The comparison of the number of plants that are used for various purposes between these two groups of people is shown in Table 5 and Figure 6.

The information on uses of plants is shown in Table 6, and presented alphabetically by family, genus, and species within a given family. Listed with each species are the species name, vernacular, use(s), part(s) used, and user(s). The descriptions of some used plants and the manner in which they are used as well as their locations, distribution, ecology, and material studied or voucher specimen number are presented. For the users, the Buddhist or Muslim Thais, are represented by ‘B’ or ‘M’ in brackets respectively. Table 7 shows formulae of traditional medicines including their indications, ingredients, preparation and application.

Table 3 Number of plants used by Buddhist and Muslim Thais arranged by group category and taxonomic rank.

<table>
<thead>
<tr>
<th>Plant group</th>
<th>Family</th>
<th>Genus</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dicotyledon</td>
<td>84</td>
<td>251</td>
<td>353</td>
</tr>
<tr>
<td>Monocotyledon</td>
<td>26</td>
<td>79</td>
<td>103</td>
</tr>
<tr>
<td>Fern</td>
<td>11</td>
<td>17</td>
<td>19</td>
</tr>
<tr>
<td>Gymnosperm</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Lower plant</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>123</strong></td>
<td><strong>349</strong></td>
<td><strong>477</strong></td>
</tr>
</tbody>
</table>

Figure 3. A chart indicates the number of used plant species of each family of monocotyledon, gymnosperm, fern and lower plant.
Figure 4. A chart indicates the number of used plant species of each family of dicotyledon.
**Figure 5.** A chart shows total number of plants used by both Buddhist and Muslim Thais, categorized according to their uses.

**Figure 6.** A chart shows a comparison of number of plants used for each purpose between Buddhist and Muslim Thais.
**Table 4.** The important plant families of the local plants in terms of number of species used.

<table>
<thead>
<tr>
<th>Family</th>
<th>Food</th>
<th>Medicine</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leguminosae</td>
<td>20</td>
<td>22</td>
<td>11</td>
<td>33</td>
</tr>
<tr>
<td>Euphorbiaceae</td>
<td>15</td>
<td>22</td>
<td>6</td>
<td>31</td>
</tr>
<tr>
<td>Rubiaceae</td>
<td>8</td>
<td>15</td>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td>Palmae</td>
<td>13</td>
<td>8</td>
<td>23</td>
<td>16</td>
</tr>
<tr>
<td>Zingiberaceae</td>
<td>12</td>
<td>11</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>Moraceae</td>
<td>11</td>
<td>4</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Gramineae</td>
<td>7</td>
<td>10</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Verbenaceae</td>
<td>1</td>
<td>13</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Araceae</td>
<td>10</td>
<td>6</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Compositae</td>
<td>3</td>
<td>11</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Annonaceae</td>
<td>5</td>
<td>10</td>
<td>-</td>
<td>11</td>
</tr>
</tbody>
</table>

**Table 5.** A comparison of number of plants used for each purpose between Buddhist and Muslim Thais.

<table>
<thead>
<tr>
<th>Uses</th>
<th>Buddhist</th>
<th>Muslim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>211</td>
<td>185</td>
</tr>
<tr>
<td>Medicine</td>
<td>215</td>
<td>229</td>
</tr>
<tr>
<td>Construction</td>
<td>29</td>
<td>28</td>
</tr>
<tr>
<td>Utensil</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>Ritual</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td>Other uses</td>
<td>61</td>
<td>48</td>
</tr>
</tbody>
</table>
Table 6  Used plant and their uses

<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acanthaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Acanthus ebracteatus</em></td>
<td>Kaem mo</td>
<td>Medicine</td>
<td>Flowers : treatment of abscesses</td>
<td>B</td>
</tr>
<tr>
<td>Vahl</td>
<td></td>
<td></td>
<td>Leaves : as a tonic ; treatment of diabetes</td>
<td>M</td>
</tr>
<tr>
<td><strong>Andrographis paniculata</strong></td>
<td>Fa thalai , Ya ngu</td>
<td>Medicine</td>
<td>Whole plant : as a tonic; treatment of anorexia , insomnia</td>
<td>B, M</td>
</tr>
<tr>
<td>(Burm.f.) Wall. ex Nees</td>
<td></td>
<td></td>
<td>Stems, leaves : treatment of snake bites</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves : treatment of urinary stones , wasting illness , lumbago</td>
<td>M</td>
</tr>
<tr>
<td><strong>Barleria lapulina</strong></td>
<td>Salet phang phon tua phu</td>
<td>Medicine</td>
<td>Leaves : treatment of snake bites</td>
<td>B, M</td>
</tr>
<tr>
<td>Lindl.</td>
<td></td>
<td></td>
<td>treatment of herpes infections</td>
<td>B</td>
</tr>
<tr>
<td><strong>Clinacanthus nutans</strong></td>
<td>Salet phang phon tua mia</td>
<td>Medicine</td>
<td>Leaves : treatment of snake bites , insect bites, herpes infection</td>
<td>B, M</td>
</tr>
<tr>
<td>(Burm.f.) Lindau</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Graptophyllum pictum</strong></td>
<td>Bai ngoen bai thong</td>
<td>Ritual</td>
<td>Branches, leaves : they are commonly placed in a bowl of holy water used in merit-making ceremony ; to decorate bowls of wedding or “ khanmark”</td>
<td>B, M</td>
</tr>
<tr>
<td>(L.) Griff.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Justicia gendarussa</strong></td>
<td>Chiang phra</td>
<td>Ritual</td>
<td>Branches, leaves : getting rid of evil spirits</td>
<td>B , M</td>
</tr>
<tr>
<td>Burm. f.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rhinacanthus nasutus</strong></td>
<td>Thong phan chang tong phat thong</td>
<td>Medicine</td>
<td>Whole plant : as a tonic for potency ; treatment of lumbago , back ache</td>
<td>B</td>
</tr>
<tr>
<td>(L.) Kurz</td>
<td></td>
<td></td>
<td>Leaves : treatment of ringworm</td>
<td>M</td>
</tr>
<tr>
<td><strong>Thunbergia fragrans</strong></td>
<td>Tan pakka</td>
<td>Medicine</td>
<td>Whole plant : treatment of chronic gastrointestinal ailments</td>
<td>B</td>
</tr>
<tr>
<td>Roxb.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Thunbergia laurifolia</strong></td>
<td>Rang chuethao</td>
<td>Medicine</td>
<td>Whole plant : treatment of toxication</td>
<td>B</td>
</tr>
<tr>
<td>Lindl.</td>
<td></td>
<td></td>
<td>Roots : as an antidote</td>
<td>B</td>
</tr>
</tbody>
</table>

Abbreviations : B = Buddhist Thai , M = Muslim Thai 
F = Formula of traditional medicine which its ingredients , preparation and application are shown in Table 7.
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agavaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Cordyline fruticosa</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(L.) Gopp.</td>
<td>Mak phu mak mia หมากผูหมากเมีย</td>
<td>Medicine</td>
<td>Stems: treatment of fever</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ritual</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves: used in ceremonial occasions; in magical treatment of fever.</td>
<td>M</td>
</tr>
<tr>
<td><strong>Dracaena umbratica</strong></td>
<td></td>
<td></td>
<td>Medicine</td>
<td></td>
</tr>
<tr>
<td>Ridl.</td>
<td>Kamlang hanuman กำลังหานุมา</td>
<td>Roots: as a tonic</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td><strong>Alismatagae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Caldesia oligococca</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(F. Muell.) Buchenae</td>
<td>Khi tai ขี้ไต</td>
<td>Food</td>
<td>Shoots: eaten raw as a vegetable, cooked in curries.</td>
<td>B</td>
</tr>
<tr>
<td><strong>Alliaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Allium ascalonicum</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L.</td>
<td>Hom หอม</td>
<td>Food</td>
<td>Bulbs: as a condiment in various kinds of dishes, eaten raw or cooked.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Medicine</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bulbs: treatment of swelling</td>
<td>B</td>
</tr>
<tr>
<td><em>Allium sativum</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L.</td>
<td>Krathiam กระเทียม</td>
<td>Food</td>
<td>Bulbs: as a condiment in various kinds of dishes, eaten raw, cooked or pickled.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Medicine</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bulbs: treatment of abdominal pain</td>
<td>B</td>
</tr>
<tr>
<td><strong>Amaranthaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Aerva lanata</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(L.) Juss</td>
<td>Klet pla khoa แกลแหละขาว</td>
<td>Medicine</td>
<td>Whole plant: as an antidiabetes, anti-allergic agent</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Alternanthera sessilis</strong> (L.) DC.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Phak pet ผักเปด</td>
<td>Medicine</td>
<td>Whole plant: as an antidiarrheic</td>
<td>M</td>
</tr>
</tbody>
</table>

Table continues
Table 6 (continued)

<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Gomphrena globosa</em> L.</td>
<td>Ban mai ruoi</td>
<td>Ritual</td>
<td>Flowers : employed in tradition of marriage</td>
<td>B</td>
</tr>
<tr>
<td><em>Amaryllidaceae</em></td>
<td><em>Crinum asiaticum</em> L.</td>
<td>Ba wae ba kong</td>
<td>Medicine</td>
<td>Leaves : treatment of corns</td>
</tr>
<tr>
<td><em>Anacardiaceae</em></td>
<td><em>Anacardium occidentale</em> L.</td>
<td>Mamuang, Himmaphan, Ya ruang</td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable. Pear-like pedicels : eaten fresh as fruit. Seeds : eaten after cooking or roasting.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Medicine</td>
<td>Barks : treatment of diarrhea</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>Barks : the roasted bark chips are put in palm wine as a preservative, and for good taste.</td>
</tr>
<tr>
<td><em>Bouea oppositifolia</em> (Roxb.) Meisn.</td>
<td>Pring</td>
<td>Food</td>
<td>Fruits, young leaves : eaten raw</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Construction</td>
<td>Wood : house building and for various purposes.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Dracontomelon dao</em> (Blanco) Merr. &amp; Rolfe</td>
<td>Ko โท</td>
<td>Food</td>
<td>Fruits : the ripe fruits are eaten fresh.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Mangifera caesia</em> Jack</td>
<td>Lam ya, Lam yai</td>
<td>Food</td>
<td>Fruits : the ripe fruits are locally used to give sour flavor to various kinds of dishes.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Mangifera foetida</em> Lour.</td>
<td>Mut ฤๅ</td>
<td>Food</td>
<td>Fruits : eaten raw</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Mangifera indica</em> L.</td>
<td>Muang มะวง</td>
<td>Food</td>
<td>Fruits, leaves : eaten raw</td>
<td>B, M</td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semecarpus curtisii King</td>
<td>Rak รัก</td>
<td>Medicine</td>
<td>Stem bark : treatment of post partum</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>Leaves : as an immuno - stimulating factor</td>
<td>B</td>
</tr>
<tr>
<td>Ancistrocladaceae</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ancistrocladus tectorius (Lour.) Merr.</td>
<td>Khon ti ma คKNONTIYA,</td>
<td>Food</td>
<td>Leaves : cooked in Thai-style vegetable soup.</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Medicine</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots : as a blood circulation tonic; treatment of bodily discomfort</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ritual</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves : to drive off bad spirits from the houses.</td>
<td>B</td>
</tr>
<tr>
<td>Annonaceae</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anaxagorea javanica</td>
<td>Champun จับวน</td>
<td>Medicine</td>
<td>Whole plant : as a tonic</td>
<td>B</td>
</tr>
<tr>
<td>Blume</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annona muricata L.</td>
<td>Thurian nam ทุเรียนน้ํา</td>
<td>Food</td>
<td>Fruits : eaten fresh.</td>
<td>M, B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Medicine</td>
<td></td>
</tr>
<tr>
<td>Annona reticulata L.</td>
<td>Noi nong นอยโหนง</td>
<td>Food</td>
<td>Fruits : eaten fresh.</td>
<td>M, B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Medicine</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves : as an antidiabetes</td>
<td>M</td>
</tr>
<tr>
<td>Friesodielsia desmoides (Craib) Steenis</td>
<td>Sao yud สาวหยุด</td>
<td>Medicine</td>
<td>Whole plant : as a blood tonic ; treatment of fever caused by menstruation.</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Whole plant : as a tonic for potency</td>
<td>B</td>
</tr>
<tr>
<td>Desmos chinensis Lour.</td>
<td>Sao yud สาวหยุด</td>
<td>Medicine</td>
<td>Roots : treatment of fever, treatment of numbness</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Stems : as a blood circulation tonic , treatment of bodily discomfort</td>
<td>B</td>
</tr>
<tr>
<td>Goniothalamus</td>
<td>Ching dok diao จิงดอกดียา</td>
<td>Medicine</td>
<td>Whole plant : as a blood circulation tonic , treatment of bodily discomfort</td>
<td>B, M</td>
</tr>
<tr>
<td>macrophyllus (Blume)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hook. f. &amp; Th.</td>
<td></td>
<td></td>
<td>Roots : as a tonic</td>
<td>M</td>
</tr>
<tr>
<td>Family and species name</td>
<td>Vernacular</td>
<td>Uses</td>
<td>Part used</td>
<td>User</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------</td>
<td>------</td>
<td>-----------</td>
<td>------</td>
</tr>
<tr>
<td><em>Melodorum siamense</em> (Scheff.) Ban</td>
<td>Nom maew นามแมว</td>
<td>Medicine</td>
<td>Leaves : as an antidiarrheic</td>
<td>M</td>
</tr>
<tr>
<td><em>Polyalthia bullata</em> King</td>
<td>Tuka a li ตูกะอาลี</td>
<td>Medicine</td>
<td>Whole plant : treatment of bodily discomfort</td>
<td>M</td>
</tr>
<tr>
<td><em>Polyalthia suberosa</em> (Roxb.) Thwaites</td>
<td>Si nai ซีไหม</td>
<td>Food</td>
<td>Fruit : eaten fresh.</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Whole plant : as an antipyretic, treatment of post partum</td>
<td>B</td>
</tr>
<tr>
<td><em>Uvaria grandiflora</em> Roxb. ex Hornem</td>
<td>Kluai musang Pe sae ka yu กล้วยมูสัง เพศยาหย</td>
<td>Food</td>
<td>Fruits : eaten fresh.</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Uvaria rufa</em> L.</td>
<td>Nom khwai นามควาย</td>
<td>Food</td>
<td>Fruits : eaten fresh.</td>
<td>B , M</td>
</tr>
<tr>
<td><strong>Apocynaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Aganosma marginata</em> (Roxb.) G.Don</td>
<td>Dueai din เดือยดิน</td>
<td>Food</td>
<td>Leaves : eaten as vegetable</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Leaves : treatment of abscesses</td>
<td>B</td>
</tr>
<tr>
<td><em>Alyxia reinwardtii</em> Blume</td>
<td>Nut นุ้ย</td>
<td>Miscellane-ous</td>
<td>Stems : as a firewood in cremation; to perfume clothing in a wardrobe.</td>
<td>B</td>
</tr>
<tr>
<td><em>Alstonia macrophylla</em> Wall. ex G.Don</td>
<td>Thung fa ทุ่งفا</td>
<td>Medicine</td>
<td>Branches and leaves : as a tonic</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stems : treatment of bodily discomfort</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td><em>Alstonia scholaris</em> (L.) R. Br.</td>
<td>Tin pet, Pu le ตีนเพ็ด, ปูเล</td>
<td>Medicine</td>
<td>Latex : treatment of toothache</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stems and roots : treatment of influenza</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leases : to promote vagina contraction</td>
<td>M</td>
<td></td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alstonia spathulata</strong> Blume</td>
<td>Thia, Kabui</td>
<td>Medicine</td>
<td>Roots : as a tonic</td>
<td>M</td>
</tr>
<tr>
<td><strong>Parameria laevigata</strong> (Juss.) Moldenke</td>
<td>Som yen</td>
<td>Miscellaneous</td>
<td>Wood : making small objects; to rub a knife</td>
<td>M</td>
</tr>
<tr>
<td><strong>Tabernaemontana peduncularis</strong> Wall.</td>
<td>Ai saek</td>
<td>Medicine</td>
<td>Roots : as a tonic</td>
<td>B</td>
</tr>
<tr>
<td><strong>Urceola rosea</strong> (Hook. f. &amp; Arn.) D. J. Middleton</td>
<td>Som kiap</td>
<td>Food</td>
<td>Leaves : eaten as a vegetable.</td>
<td>B , M</td>
</tr>
<tr>
<td><strong>Willughbeia edulis</strong> Roxb.</td>
<td>Khui</td>
<td>Food</td>
<td>Fruits : eaten fresh</td>
<td>B</td>
</tr>
<tr>
<td><strong>Wrightia religiosa</strong> Benth. ex Kurz</td>
<td>Mok โมก</td>
<td>Medicine</td>
<td>Leaves : as an antidote for fish and insect poison</td>
<td>M</td>
</tr>
<tr>
<td><strong>Apostasiaceae</strong></td>
<td>Lek nang yong</td>
<td>Medicine</td>
<td>Whole plant : as a tonic</td>
<td>B , M</td>
</tr>
<tr>
<td><strong>Apostasia nuda</strong> R.Br.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Araceae</strong></td>
<td>O nok, Kla di cha</td>
<td>Medicine</td>
<td>Tuber, petioles : treatment of wounds</td>
<td>M</td>
</tr>
<tr>
<td><strong>Alocasia denudata</strong> Engl.</td>
<td>O khao เอะขาว</td>
<td>Food</td>
<td>Stem : eaten as substitute for taro.</td>
<td>M</td>
</tr>
<tr>
<td><strong>Alocasia macrorrhizos</strong> (L.) G. Don</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table continues
Table 6 (continued)

<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Amorphophallus prainii</em> Hook. f.</td>
<td>Buk ngu lueam</td>
<td>Food</td>
<td>Petioles : cooked in curries</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Amorphophallus paeoniifolius</em> (Dennst.) Nicolson</td>
<td>Buk khang khok</td>
<td>Food</td>
<td>Leaves, petioles : cooked in curries</td>
<td>B</td>
</tr>
<tr>
<td><em>Caladium bicolor</em> Vent</td>
<td>Bon si บอนสี</td>
<td>Medicine</td>
<td>Tubers : treatment of the bites of venomous animals</td>
<td>M</td>
</tr>
<tr>
<td><em>Colocasia esculenta</em> (L.) Schott</td>
<td>Phueak, Bon เบื้อง, บอน</td>
<td>Food</td>
<td>Tubers : boiled or cooked in curries.</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Colocasia gigantea</em> Hook.f.</td>
<td>Khun, O dip คูน, อ๊อดิบ</td>
<td>Food</td>
<td>Leaves : cooked in curries</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Cryptocoryne cordata</em> Griff.</td>
<td>Wa nam, chuap วาน้ำ, ช่วย</td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable</td>
<td>B</td>
</tr>
<tr>
<td><em>Homalomena pendula</em> (Bl.) Bakh.f.</td>
<td>Bon tao บอนต้อ</td>
<td>Food</td>
<td>Petioles : cooked in curries</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Homalomena</em> sp.</td>
<td>Bon som บอนฮ่อง</td>
<td>Food</td>
<td>Petioles : cooked in curries</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Lasia spinosa</em> (L.) Thw.</td>
<td>Phak nam, Ka li ผักน้ำ, กาละ</td>
<td>Food</td>
<td>Leaves : eaten as a vegetable</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Schismatoglottis calyptrata</em> (Roxb.) Z. &amp; M.</td>
<td>Bon ya rat บอนยาเรต</td>
<td>Food</td>
<td>Petioles : cooked as a vegetable.</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typhonium trilobatum</td>
<td>Utta phit</td>
<td>Medicine</td>
<td>Leaves : as an expectorant</td>
<td>B</td>
</tr>
<tr>
<td>(L.) Schott</td>
<td></td>
<td></td>
<td>Tubers : treatment of venomous bites</td>
<td>B</td>
</tr>
<tr>
<td>Araliaceae</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aralidium pinnatifidum</td>
<td>Khwan khao</td>
<td>Ritual</td>
<td>Leaves : used in a ritual performed at the beginning of rice-harvesting season</td>
<td>B</td>
</tr>
<tr>
<td>(Jungh &amp; de Vriese) Miq.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polyscias cunningiana</td>
<td>Lep khrut</td>
<td>Medicine</td>
<td>Stem : treatment of snake bites</td>
<td>B</td>
</tr>
<tr>
<td>(Presl) F.-Vill</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polyscias fruticosa</td>
<td>Lep khrut</td>
<td>Food</td>
<td>Leaves : eaten as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td>(L.) Harms</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trevesia arborea Merr.</td>
<td>Nam suae</td>
<td>Food</td>
<td>Inflorescences : eaten as a vegetable</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aristolochiaceae</td>
<td>Hu me</td>
<td>Medicine</td>
<td>Whole plant : as a tonic</td>
<td>B</td>
</tr>
<tr>
<td>Thottea tomentosa</td>
<td></td>
<td></td>
<td></td>
<td>M</td>
</tr>
<tr>
<td>(Blume) Ding Hou</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asclepiadaceae</td>
<td>Ta ba</td>
<td>Medicine</td>
<td>Leaves : treatment of colic</td>
<td>M</td>
</tr>
<tr>
<td>Hoya parasitica</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Roxb.) Wall. ex Traill</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calotropis gigantea</td>
<td>Rak</td>
<td>Ritual</td>
<td>Flowers : used in tradition of marriage.</td>
<td>B</td>
</tr>
<tr>
<td>(L.) Dryander ex W.T.Aiton</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Athyriaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Diplazium esculentum</em> <em>(Retz.) Sw.</em></td>
<td>Phak kut</td>
<td>Food</td>
<td>Leaves : eaten as a vegetable</td>
<td>B , M</td>
</tr>
<tr>
<td><strong>Balsaminaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Impatiens mirabilis</em> Hook.f.</td>
<td>Wan din yen</td>
<td>Medicine</td>
<td>Stems and leaves : Treatment of centipede bites</td>
<td>B</td>
</tr>
<tr>
<td><strong>Bignoniaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Dolichandrone columnaris</em> Santisuk</td>
<td>Khae na</td>
<td>Utensil</td>
<td>Wood : making furniture, small implements, planks, toys, etc.</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Oroxylum indicum</em> <em>(L.)</em> Kurz</td>
<td>Phe ka, Be ka</td>
<td>Food</td>
<td>Fruits : eaten after boiling or roasting.</td>
<td>B , M</td>
</tr>
<tr>
<td><strong>Bixaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Bixa orellana</em> <em>(L.)</em></td>
<td>Kham saet</td>
<td>Medicine</td>
<td>Roots : treatment of heat rash in children</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves : Treatment of joint swelling</td>
<td>M</td>
</tr>
<tr>
<td><strong>Bombacaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ceiba pentandra</em> <em>(L.)</em> Gaertn.</td>
<td>Nun</td>
<td>Medicine</td>
<td>Fruits : as a contraceptive</td>
<td>M</td>
</tr>
<tr>
<td><strong>Durio zibethinus</strong> Merr.</td>
<td>Thuriain, Rain</td>
<td>Construction</td>
<td>Wood : indoor construction</td>
<td>B , M</td>
</tr>
</tbody>
</table>

Table continues
Table 6 (continued)

<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boraginaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Heliotropium indicum</em></td>
<td>Ya งวงชาง</td>
<td>Medicine</td>
<td>Leaves: as an expectorant</td>
<td>B, M</td>
</tr>
<tr>
<td><strong>Bromeliaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ananas comosus</em> (L.)</td>
<td>Sapparot, Yanat</td>
<td>Food</td>
<td>Fruits: the unripe fruits (a little more than half-grown) are used in cooking various kinds of dishes. The ripe ones are eaten fresh.</td>
<td>B, M</td>
</tr>
<tr>
<td>Merr.</td>
<td></td>
<td>Medicine</td>
<td>Leaves: as a diuretic</td>
<td>M</td>
</tr>
<tr>
<td><strong>Capparaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Cleome gynandra</em> L.</td>
<td>Phak sian</td>
<td>Food</td>
<td>Leaves: pickled in salt water and eaten as a side dish with rice.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td>พักเสี้ยน</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Cleome viscosa</em> L.</td>
<td>Phak sian phi</td>
<td>Medicine</td>
<td>Whole plant: treatment of epilepsy</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>พักเสี้ยนผี</td>
<td></td>
<td>Whole plant: as a tonic; treatment of bodily discomfort, numbness, flatulence</td>
<td>B</td>
</tr>
<tr>
<td><strong>Crateva magna</strong> (Lour.) DC.</td>
<td>Kum ขาม</td>
<td>Food</td>
<td>Leaves: eaten as a vegetable.</td>
<td>B</td>
</tr>
<tr>
<td><strong>Caricaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Carica papaya</em> L.</td>
<td>Malako, Loko</td>
<td>Food</td>
<td>Fruits: mature green fruits can be eaten raw or cooked. The ripe ones are eaten fresh.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td>มาละกอ, ลอกอ</td>
<td>Medicine</td>
<td>Roots: as a diuretic; treatment of venereal diseases</td>
<td>M</td>
</tr>
<tr>
<td><strong>Celastraceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Salacia macrophylla</em></td>
<td>Khop nang</td>
<td>Food</td>
<td>Fruits: eaten fresh.</td>
<td>B, M</td>
</tr>
<tr>
<td>Blume</td>
<td>ขอบนาง</td>
<td>Medicine</td>
<td>Roots: treatment of diabetes, bodily discomfort</td>
<td>B, M</td>
</tr>
<tr>
<td><strong>Combretaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Terminalia calamansanat</em> (Blanco) Rolfe</td>
<td>Chod chod</td>
<td>Medicine</td>
<td>Stem bark: as an antidiarrheic in poultry</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves: treatment of cold in poultry</td>
<td>M</td>
</tr>
<tr>
<td>Family and species name</td>
<td>Vernacular</td>
<td>Uses</td>
<td>Part used</td>
<td>User</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------------</td>
<td>------------------------</td>
<td>----------------------------------</td>
<td>------</td>
</tr>
<tr>
<td><em>Terminalia catappa</em> L.</td>
<td>Hu kwang, หูกวาง</td>
<td>Construction</td>
<td>Wood : house building</td>
<td>B</td>
</tr>
<tr>
<td><em>Compositae</em></td>
<td></td>
<td>Medicine</td>
<td>Leaves : as a blood circulation tonic</td>
<td>B</td>
</tr>
<tr>
<td><em>Ageratum conyzoides</em> L.</td>
<td>Sap raeng sap ka , Sap suea สาบแร่ สาบกา, สามเหลี่ยม</td>
<td>Medicine</td>
<td>Leaves : treatment of wounds , cough</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Blumea balsamifera</em> (L.) DC.</td>
<td>Nat หนาด</td>
<td>Medicine</td>
<td>Leaves : treatment of swelling ; as an anthelminthic , antidiarrheic</td>
<td>B</td>
</tr>
<tr>
<td><em>Chromolaena odoratum</em> (L.) R. M. King &amp; H. Rob.</td>
<td>Sub ruk, Sap suea สามรุก, สามเหลี่ยม</td>
<td>Medicine</td>
<td>Leaves : treatment of pneumonosis</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves : treatment of the wounds</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Miscellaneous</em></td>
<td></td>
<td></td>
<td>Leaves : insect repellent</td>
<td>M</td>
</tr>
<tr>
<td><em>Crassocephalum crepidioides</em> (Benth.) S. Moore</td>
<td>Ya hua ngok หญ้าหัวหงอก</td>
<td>Food</td>
<td>Leaves : eaten raw or blanched as a vegetable.</td>
<td>B</td>
</tr>
<tr>
<td><em>Eclipta prostrata</em> (L.) L.</td>
<td>Ka meng ก้าม้ง</td>
<td>Medicine</td>
<td>Whole plant : as an antidiarrheic ; treatment of bodily discomfort , numbness</td>
<td>B</td>
</tr>
<tr>
<td><em>Elephantopus scaber</em> L.</td>
<td>Do mai ru lom, Phang krap โดไมรูลอม, พังกราบ</td>
<td>Medicine</td>
<td>Whole plant : as a tonic ; treatment of chest complaints</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Gynura procumbens</em> (Lour.) Merr.</td>
<td>Kamlang khwai thuek กำลังควายถึก</td>
<td>Food</td>
<td>Leaves : eaten raw or cooked</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Flowers : as a tonic</td>
<td>B</td>
</tr>
<tr>
<td>Family and species name</td>
<td>Vernacular</td>
<td>Uses</td>
<td>Part used</td>
<td>User</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>------------------</td>
<td>--------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td><em>Mikania cordata</em> (Burm.f.) B.L.Rob.</td>
<td>Khi kai yan</td>
<td>Medicine</td>
<td>Whole plant: treatment of helminthes in children</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves: treatment of flatulence, fever in children</td>
<td></td>
</tr>
<tr>
<td><em>Spilanthes paniculata</em> Wall. ex DC.</td>
<td>Phak khrat</td>
<td>Food</td>
<td>Leaves: eaten raw as a vegetable</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Medicine</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Flowers: treatment of toothache</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Struchium sparganophorum</em> (L.) O.K.</td>
<td>Sudu e-de</td>
<td>Medicine</td>
<td>Leaves: treatment of wounds and burns</td>
<td>M</td>
</tr>
<tr>
<td><em>Vernonia cinerea</em> (L.) Less.</td>
<td>Ya dok khao</td>
<td>Medicine</td>
<td>Whole plant: treatment of internal injury, contusion, herpes infection</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Vernonia elliptica</em> DC.</td>
<td>Tan mon</td>
<td>Medicine</td>
<td>Whole plant: treatment of gastrointestinal ailments; treatment of diarrhea in cattle.</td>
<td>B</td>
</tr>
<tr>
<td><em>Zinnia violacea</em> Cav.</td>
<td>Ban chuen</td>
<td>Ritual</td>
<td>Flowers: used in tradition of marriage.</td>
<td>B</td>
</tr>
<tr>
<td><em>Connaraceae Cnetis palala</em> (Lour.) Merr.</td>
<td>Ngon kai</td>
<td>Miscellaneous</td>
<td>Seeds: as dog poison</td>
<td>B</td>
</tr>
<tr>
<td><em>Convolvulaceae Anisca martinicensis</em> (Jacq.) Choisy</td>
<td>Lidah batong</td>
<td>Food</td>
<td>Leaves: cooked as a vegetable</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Cuscuta chinensis</em> Lam.</td>
<td>Foi thong</td>
<td>Food</td>
<td>Whole plant: eaten after steamed.</td>
<td>M</td>
</tr>
<tr>
<td><em>Ipomoea aquatica</em> Forssk.</td>
<td>Phak bung</td>
<td>Food</td>
<td>Young shoots: eaten raw or cooked as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Stems, leaves: treatment of cancer</td>
<td>B</td>
</tr>
<tr>
<td>Family and species name</td>
<td>Vernacular</td>
<td>Uses</td>
<td>Part used</td>
<td>User</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>--------------</td>
<td>-------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ipomoea batatas (L.) Lam.</td>
<td>Man thet, Man la</td>
<td>Food</td>
<td>Leaves : the young leaves are eaten raw or cooked as a vegetable. Tubers : the tubers are eaten after boiled, roasted, cooked in curries, or made into dessert.</td>
<td>B, M</td>
</tr>
<tr>
<td>Ipomoea pes-caprae (L.) R.Br.</td>
<td>Pak bung thale</td>
<td>Medicine</td>
<td>Leaves : treatment of jelly-fish allergy</td>
<td>B, M</td>
</tr>
<tr>
<td>Operculina turpethum (L.) Silva Manso</td>
<td>Chingcho yan</td>
<td>Food</td>
<td>Young shoots : eaten raw or cooked as a vegetable.</td>
<td>B</td>
</tr>
<tr>
<td>Costaceae</td>
<td>Ueang mai na</td>
<td>Medicine</td>
<td>Rhizome : treatment of rash ; as an aphrodisiac.</td>
<td>B : M</td>
</tr>
<tr>
<td>Costus speciosus (Koen.) Sm.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crassulaceae</td>
<td>Khwam tai ngai pen</td>
<td>Medicine</td>
<td>Leaves : treatment of insect bites</td>
<td>M</td>
</tr>
<tr>
<td>Kalanchoe pinnata (Lam.) Pers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crypteroniaceae</td>
<td>Ku wa</td>
<td>Medicine</td>
<td>Roots , stem bark , leaves : as a contraceptive</td>
<td>M</td>
</tr>
<tr>
<td>Crypteronia paniculata Blume</td>
<td></td>
<td></td>
<td>Leaves : treatment of contusion</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Stem bark : treatment of toothache , as an abstergent</td>
<td>B</td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cucurbitaceae</td>
<td>Tamlueng</td>
<td>Food</td>
<td>Leaves : the young leaves are eaten after cooked in various kinds of dishes.</td>
<td>B, M</td>
</tr>
<tr>
<td>Coccinia grandis (L.) Voigt</td>
<td></td>
<td>Medicine</td>
<td>Stems : treatment of eye-ache</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves : treatment of fever</td>
<td>M</td>
</tr>
<tr>
<td>Family and species name</td>
<td>Vernacular</td>
<td>Uses</td>
<td>Part used</td>
<td>User</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------</td>
<td>------</td>
<td>-----------</td>
<td>------</td>
</tr>
<tr>
<td><em>Gymnopetalum chinense</em> (Lour.) Merr.</td>
<td>Dom ดอม</td>
<td>Food</td>
<td>Leaves , fruits : cooked as a vegetable.</td>
<td>B</td>
</tr>
<tr>
<td><em>Momordica cochinchinensis</em> (Lour.) Spreng</td>
<td>Khi phra fai ขี้พราไฟ</td>
<td>Food</td>
<td>Fruits : cooked as a vegetable.</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Cyperaceae</em></td>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td></td>
</tr>
<tr>
<td><em>Cyperus involucratus</em> Rotth.</td>
<td>Kok rangka, Kok กกรังกา, กก</td>
<td>Medicine</td>
<td>Roots : as an antidote</td>
<td>B</td>
</tr>
<tr>
<td><em>Cyperus rotundus</em> L.</td>
<td>Ya haeo mu หญ้าหมู</td>
<td>Medicine</td>
<td>Whole plant : treatment of lumbago</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Kyllinga nemoralis</em> (J. R. &amp; G. Forst.) Dandy ex Hutch. &amp; Dalzied</td>
<td>Ya nuai fai หญ้าหน้าไฟ</td>
<td>Medicine</td>
<td>Flowers : treatment of earache</td>
<td>B</td>
</tr>
<tr>
<td><em>Lepironia articulata</em> (Retz.) Domin</td>
<td>Kra chut, Chut กระดุต, ชุด</td>
<td>Utensil</td>
<td>Stems : making mats , baskets and other utensils.</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Scleria poaeformis</em> Retz.</td>
<td>Prue ปรือ</td>
<td>Miscellaneous</td>
<td>Leaves : made into roof thatches.</td>
<td>B</td>
</tr>
<tr>
<td><em>Davalliaceae</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Davallia solida</em> (G. Forst.) Sw.</td>
<td>Wan nakkharat วันนักขรรค</td>
<td>Medicine</td>
<td>Rhizome : treatment of toothache , itching</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Dicksoniaceae</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Cibotium barometz</em> (L.) I. Sm.</td>
<td>Wan luk kai thong วันลูกไก่ทอง</td>
<td>Medicine</td>
<td>Hairs of rhizomes : treatment of the wounds</td>
<td>B , M</td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dilleniaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Tetracera indica</em></td>
<td>Pod hai luen</td>
<td>Medicine</td>
<td>Roots, stem: treatment of aphthous ulcer</td>
<td>M</td>
</tr>
<tr>
<td>(Christm. &amp; Panz.) Merr.</td>
<td></td>
<td></td>
<td>Leaves: as a diuretic</td>
<td>M</td>
</tr>
<tr>
<td><em>Dillenia</em> spp.</td>
<td>Sán, Si po</td>
<td>Ritual</td>
<td>Whole plant: used in ritual performed at the beginning of the rice growing season</td>
<td>M</td>
</tr>
<tr>
<td><strong>Dioscoreaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Dioscorea bulbifera</em> L.</td>
<td>Man lœn</td>
<td>Food</td>
<td>Tubers: cooked in curries</td>
<td>B</td>
</tr>
<tr>
<td>Dennst.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Dioscorea hispida</em></td>
<td>Kloi</td>
<td>Food</td>
<td>Tubers: the tubers are eaten after the poison is washed out, and then boiled</td>
<td>B, M</td>
</tr>
<tr>
<td>(Dennst.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dipterocarpaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Cotylelobium melanoxylon</em> (Hook.) Pierre</td>
<td>Khiam</td>
<td>Construction</td>
<td>Wood: house building</td>
<td>B, M</td>
</tr>
<tr>
<td>(Presl.) Holtt.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Hopea odorata</em> Roxb.</td>
<td>Khian</td>
<td>Construction</td>
<td>Wood: house building</td>
<td>B, M</td>
</tr>
<tr>
<td><strong>Dryopteridaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Pleocnemia irregularis</em> (Presl.) Holtt.</td>
<td>Kut pa</td>
<td>Food</td>
<td>Leaves: eaten as a vegetable</td>
<td>B</td>
</tr>
<tr>
<td>Family and species name</td>
<td>Vernacular</td>
<td>Uses</td>
<td>Part used</td>
<td>User</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------</td>
<td>------</td>
<td>-----------</td>
<td>------</td>
</tr>
<tr>
<td><strong>Ebenaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diospyros buxifolia</td>
<td>Sam tham</td>
<td>Construction</td>
<td>Wood : house building.</td>
<td>B</td>
</tr>
<tr>
<td>(Blume) Hiern.</td>
<td>ส่าทํา</td>
<td>Ritual</td>
<td>Leaves : used in ritual performed at the beginning of the rice-harvesting season</td>
<td>B</td>
</tr>
<tr>
<td>Diospyros malabarica</td>
<td>Phlap</td>
<td>Food</td>
<td>Fruits : eaten fresh.</td>
<td>B</td>
</tr>
<tr>
<td>(Desr.) Kostel</td>
<td>พลับ</td>
<td>Miscellaneous</td>
<td>Fruits : as a sticky substance</td>
<td>B</td>
</tr>
<tr>
<td><strong>Elaeagnaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elaeagnus latifolia L.</td>
<td>Som lod</td>
<td>Food</td>
<td>Fruits : eaten fresh, cooked in curries.</td>
<td>B , M</td>
</tr>
<tr>
<td><strong>Elaeocarpaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elaeocarpus robustus</td>
<td>Pe yo</td>
<td>Food</td>
<td>Fruits : are eaten fresh.</td>
<td>M</td>
</tr>
<tr>
<td>Roxb.</td>
<td>ปียะาะ</td>
<td>Medicine</td>
<td>Leaves : treatment of herpes infection</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bark : treatment of diabetic ulcer, chronic ulcer.</td>
<td>M</td>
</tr>
<tr>
<td><strong>Euphorbiaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acalypha indica L.</td>
<td>Tamyae maeo</td>
<td>Medicine</td>
<td>Whole plant : as an aphrodisiac</td>
<td>M</td>
</tr>
<tr>
<td>Antidesma ghaesembilla</td>
<td>Mao na</td>
<td>Food</td>
<td>Leaves, fruits : eaten raw as a vegetable</td>
<td>B , M</td>
</tr>
<tr>
<td>Gaertn.</td>
<td>นางา</td>
<td>Medicine</td>
<td>Leaves : treatment of abscesses</td>
<td>B</td>
</tr>
<tr>
<td>Antidesma montanum</td>
<td>Mao polo</td>
<td>Medicine</td>
<td>Whole plant : treatment of dysmenorrhoea, hemorrhage</td>
<td>M</td>
</tr>
<tr>
<td>Blume</td>
<td>น้าโปโล</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antidesma velutinosum</td>
<td>Mao khon</td>
<td>Food</td>
<td>Fruits : eaten fresh.</td>
<td>B , M</td>
</tr>
<tr>
<td>Blume</td>
<td>น้าควน</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Baccaurea macrocarpa</em> (Miq.) Mull. Arg.</td>
<td>Lang khae (ลังแข)</td>
<td>Food</td>
<td>Fruits : are eaten fresh.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Baccaurea polynoeura</em> Hook.f.</td>
<td>Cham pu ling (จำปูลิง)</td>
<td>Food</td>
<td>Fruits : eaten fresh.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Balakata baccata</em> (Roxb.) Esser</td>
<td>Yuea chong (เหยื่อจง)</td>
<td>Miscellaneous</td>
<td>Wood : as firewood.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves : used to bait traps.</td>
<td></td>
</tr>
<tr>
<td><em>Baliospermum montanum</em> (Willd.) Mull. Arg.</td>
<td>Thon di (ทนดี)</td>
<td>Medicine</td>
<td>Roots : as a laxative</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Breynia vitis-edaea</em> (Burm.f.) C.E.C. Fisch.</td>
<td>Sue mama, Kang pla (ซือมามา, กางปลา)</td>
<td>Medicine</td>
<td>Roots and leaves : treatment of post partum</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ritual</td>
<td>Leaves : employed in magical ritual to drive off evil spirits.</td>
<td>M</td>
</tr>
<tr>
<td><em>Claoxylon longifolium</em> (Blume) Endl. ex Hassk.</td>
<td>Ta mat, A yae (ตาหมัด, อาแย)</td>
<td>Food</td>
<td>Leaves : eaten raw or blanched or cooked as a vegetable</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Whole plant : treatment of fever</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots : treatment of fever</td>
<td>B</td>
</tr>
<tr>
<td><em>Codiaeum variegatum</em> Blume</td>
<td>Koson (โกสน)</td>
<td>Ritual</td>
<td>Leaves : magical treatment of chronic fever</td>
<td>M</td>
</tr>
<tr>
<td><em>Croton cascarilloides</em> Raesch</td>
<td>Plao ngoen (เปลาเงิน)</td>
<td>Medicine</td>
<td>Whole plant : treatment of post partum</td>
<td>M</td>
</tr>
<tr>
<td><em>Croton caudatus</em> Geiseler</td>
<td>Kura pria (กูระเปรียะ)</td>
<td>Medicine</td>
<td>Leaves : as a cardio tonic</td>
<td>M</td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Croton tiglium</strong> L.</td>
<td>Salot</td>
<td>Medicine</td>
<td>Leaves : treatment of toothache, itching</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Seeds : treatment of constipation</td>
<td>M</td>
</tr>
<tr>
<td><strong>Elateriospermum tapos</strong> Blume</td>
<td>Pra</td>
<td>Food</td>
<td>Seeds : eaten after roasted, boiled, or pickled.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Construction</td>
<td>Wood : house building</td>
<td>B, M</td>
</tr>
<tr>
<td><strong>Euphorbia hirta</strong> L.</td>
<td>Namnom ratchasi</td>
<td>Medicine</td>
<td>Whole plant : as a galactogogue</td>
<td>M</td>
</tr>
<tr>
<td><strong>Euphorbia thymifolia</strong> L.</td>
<td>La mo bue tae</td>
<td>Medicine</td>
<td>Whole plant : as a galactogogue</td>
<td>M</td>
</tr>
<tr>
<td><strong>Excoecaria</strong> cochinichinis Lour.</td>
<td>Lin kra bue</td>
<td>Medicine</td>
<td>Roots : treatment of urinary stones</td>
<td>M</td>
</tr>
<tr>
<td><strong>Excoecaria oppositifolia</strong> Griff.</td>
<td>Fai duean ha</td>
<td>Medicine</td>
<td>Roots : as a blood circulation tonic</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Stems : as a tonic ; treatment of bodily discomfort</td>
<td>B</td>
</tr>
<tr>
<td><strong>Glochidion perakens</strong> Hook.f.</td>
<td>Man pu</td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Roots : as a tonic</td>
<td>M</td>
</tr>
<tr>
<td><strong>Hymenocardia punctata</strong> Wall. ex Lindl.</td>
<td>Faep</td>
<td>Food</td>
<td>Fruits : cooked in Thai-style vegetable soup.</td>
<td>B</td>
</tr>
<tr>
<td><strong>Phyllanthus acidus</strong> (L.) Skeels</td>
<td>Mayom</td>
<td>Food</td>
<td>Fruits : eaten fresh, pickled, or cooked in sour curries.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Roots : as a somnificient; treatment of asthma</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>Leaves : local people usually tie the leaf rachis in a bundle, and then use it to sprinkle holy water to ward off evil spirits.</td>
<td>B</td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phyllanthus amarus Schumach. &amp; Thonn</td>
<td>Tai bai khoa ใต้ใบขาว</td>
<td>Medicine Whole plant : treatment of diabetes, chronic fever, malarial fever</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Phyllanthus elegans Wall. ex Mull. Arg.</td>
<td>Phak wan chang ตังavnขาง</td>
<td>Food Leaves : eaten raw or cooked as a vegetable.</td>
<td>B, M</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine Leaves : treatment of toothache</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>treatment of abscesses</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous Leaves : given to boxers to chew; it is believed to strengthen the boxers.</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Phyllanthus oxyphyllus Miq.</td>
<td>Yai thip lan ยายถีบหลาน</td>
<td>Food Leaves : eaten raw as a vegetable</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>treatment of abscesses, herpes infection</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Roots : treatment of venereal diseases</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Phyllanthus urinaria L.</td>
<td>Ya tai bai หญาใต้ใบ</td>
<td>Medicine Whole plant : treatment of fever, diabetes, high blood pressure</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leaves : treatment of itching</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Phyllanthus virgatus G. Forst.</td>
<td>Tai bai khoa ใต้ใบขาว</td>
<td>Medicine Whole plant : treatment of fever associated with menstruation</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Sauropus androgynous (L.) Merr.</td>
<td>Phak wan ผักหวาน</td>
<td>Food Leaves : cooked as a vegetable</td>
<td>B, M</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine Roots : as a refrigerant</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Shirakiopsis indica (Willd.) Esser</td>
<td>Ku ra กระ</td>
<td>Medicine Seeds : as an anthelmintic</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous Leaves : treatment of vermin in livestock, to repel insect larvae in paddy field.</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Family and species name</td>
<td>Vernacular</td>
<td>Uses</td>
<td>Part used</td>
<td>User</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------</td>
<td>---------------</td>
<td>------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td><strong>Fagaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Castanopsis inermis</em></td>
<td>Ko, Bue ra ngae</td>
<td>Food</td>
<td>Fruits: eaten after roasted</td>
<td>B, M</td>
</tr>
<tr>
<td><strong>Flagellariaceae</strong></td>
<td></td>
<td>Medicine</td>
<td>Rhizomes: treatment of herpes infection</td>
<td>M</td>
</tr>
<tr>
<td><em>Flagellaria indica</em></td>
<td>Wai ling</td>
<td>Medicine</td>
<td>Rhizomes: treatment of herpes infection</td>
<td>M</td>
</tr>
<tr>
<td><em>(L.) Rousch</em></td>
<td></td>
<td>Miscellaneous</td>
<td>Stems: the climbing stems are used as cordage to thread leaves of Nipa palm together for roof-thatching.</td>
<td>B, M</td>
</tr>
<tr>
<td><strong>Flacourtiaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Flacourtia jangomas</em></td>
<td>Khrob</td>
<td>Food</td>
<td>Fruits: eaten fresh.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>(Lour.) Rousch</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gnetaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Gnetum gnemon</em> L.</td>
<td>Miang. Li leng</td>
<td>Food</td>
<td>Leaves: eaten raw as a vegetable, as an ingredient in authentic dessert</td>
<td>B, M</td>
</tr>
<tr>
<td><strong>Gramineae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Bambusa</em> sp.</td>
<td>Phai</td>
<td>Food</td>
<td>Shoots: cooked in various kinds of dishes.</td>
<td>B, M</td>
</tr>
<tr>
<td><strong>Cenotheca lappacea</strong></td>
<td>Niao ma</td>
<td>Medicine</td>
<td>Whole plant: treatment of fever</td>
<td>B</td>
</tr>
<tr>
<td><em>(Desv.)</em></td>
<td></td>
<td>Medicine</td>
<td>Leaves: treatment of herpes infection</td>
<td>B</td>
</tr>
<tr>
<td><strong>Chrysopogon aciculatus</strong></td>
<td>Ya chao chu</td>
<td>Medicine</td>
<td>Flowers: treatment of urinary stones</td>
<td>B, M</td>
</tr>
<tr>
<td><em>(Retz.) Trin.</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family and species name</td>
<td>Vernacular</td>
<td>Uses</td>
<td>Part used</td>
<td>User</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------</td>
<td>--------------</td>
<td>------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Coix lachryma-jobi L.</td>
<td>Dueai</td>
<td>Medicine</td>
<td>Whole plant : as a tonic</td>
<td>M</td>
</tr>
<tr>
<td>Cymbopogon citratus</td>
<td>Ta khrai, Khrai</td>
<td>Food</td>
<td>Leaf sheath : eaten raw as a vegetable , used as a condiment in various kinds of dishes.</td>
<td>B , M</td>
</tr>
<tr>
<td>Dendrocalamus asper</td>
<td>Phai tong</td>
<td>Medicine</td>
<td>Leaves : treatment of post partum</td>
<td>M</td>
</tr>
<tr>
<td>(Roem. &amp; Schult.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Backer ex Heyne</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Imperata cylindrica (L.)</td>
<td>Ya kha</td>
<td>Medicine</td>
<td>Roots : treatment of fever</td>
<td>B</td>
</tr>
<tr>
<td>P. Beauv.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptaspis cf. urceolata</td>
<td>R. Lek mai phai</td>
<td>Medicine</td>
<td>Whole plant : as a tonic</td>
<td>M</td>
</tr>
<tr>
<td>Br.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lophatherum gracile</td>
<td>Lek mai phai</td>
<td>Medicine</td>
<td>Whole plant : as a tonic</td>
<td>B , M</td>
</tr>
<tr>
<td>Brongn.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oryza sativa L.</td>
<td>Khao</td>
<td>Food</td>
<td>Grains : main food of people both Buddhist and Muslim Thais.</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Grains : as an ingredient in various types of formulae used to treat various ailments.</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ritual</td>
<td>Grains : employed in rituals performed in various occasions.</td>
<td>B , M</td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Phragmites karka</em> (Retz.) Trin. ex Stend.</td>
<td>La pho</td>
<td>Food</td>
<td>Shoots: cooked in curries as substitute for bamboo shoots.</td>
<td>B</td>
</tr>
<tr>
<td><em>Saccharum officinarum</em> L.</td>
<td>Oi</td>
<td>Food</td>
<td>Stems: sweet juice squeezed from the stems is drunk fresh, or made into sugar.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Stems: treatment of diabetes</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots: treatment of urinary stones</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ritual</td>
<td>Stem and leaves: used in rituals in connection with marriage, housewarming, agriculture, etc.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Thysanolaena maxima</em> Kuntze</td>
<td>Ya mai kwat</td>
<td>Utensil</td>
<td>Inflorescences: made into brooms.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Zea mays</em> L.</td>
<td>Khao phot, khong</td>
<td>Food</td>
<td>Grains: eaten after boiling, steaming, roasting, etc.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Whole plant: treatment of post partum</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Corn cops: treatment of fever associated with menstruation</td>
<td>M</td>
</tr>
<tr>
<td><em>Guttiferae</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Garcinia atroviridis</em> Griff. ex T. Anderson</td>
<td>Som khaek</td>
<td>Food</td>
<td>Leaves: eaten raw or cooked as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fruits: as a seasoning or sour flavor in dishes</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Fruits: as a tonic</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots, leaves: treatment of hypertension</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Construction</td>
<td>Wood: house building, making furniture.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Garcinia cowa</em> Roxb. ex DC.</td>
<td>Muang Ka ni</td>
<td>Food</td>
<td>Leaves: eaten raw or cooked as a vegetable</td>
<td>B, M</td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Garcinia dulcis</em> (Roxb.) Kurz</td>
<td>Ma phut มะพูด</td>
<td>Food</td>
<td>Fruits : as a sour flavor in dishes</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Garcinia mangostana</em> L.</td>
<td>Mang khut มังคุด</td>
<td>Food</td>
<td>Fruits : eaten fresh.</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Leaves : as a contraceptive</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Stem bark : as an abstergent</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fruits rinds : treatment of herpes infection, ulcer</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Garcinia prainiana</em> King</td>
<td>Chu puจูปู</td>
<td>Food</td>
<td>Fruits : are eaten fresh.</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hanguanaceae</strong></td>
<td>Kongกง</td>
<td>Food</td>
<td>Apical bud : eaten after cooked</td>
<td>B</td>
</tr>
<tr>
<td><em>Hanguana malayana</em> (Jack.) Merr.</td>
<td></td>
<td>Medicine</td>
<td>Rhizome : treatment of fever</td>
<td>M</td>
</tr>
<tr>
<td><strong>Hydrocharitaceae</strong></td>
<td>Ruai รวาย</td>
<td>Food</td>
<td>Leaves : eaten raw or blanched as a vegetable.</td>
<td>B</td>
</tr>
<tr>
<td><em>Blyxa aubertii</em> A. Rich</td>
<td>Santawa, Phak waสันตะวา, ผักหวา</td>
<td>Food</td>
<td>Leaves : eaten raw or blanched as a vegetable.</td>
<td>B , M</td>
</tr>
<tr>
<td><strong>Hypericaceae</strong></td>
<td>Lo ngaeลำไย</td>
<td>Medicine</td>
<td>Stem barks : treatment of itching and scabies</td>
<td>M</td>
</tr>
<tr>
<td><em>Cratoxylum arborescens</em> (Vahl) Blume</td>
<td>Phrao nok khum, Yo lue moพรายนกคุ้ม, อยู่ล้อม</td>
<td>Food</td>
<td>Fruits : eaten fresh.</td>
<td>B , M</td>
</tr>
<tr>
<td><strong>Hypoxidaceae</strong></td>
<td></td>
<td>Medicine</td>
<td>Leaves : treatment of wounds, as a haemostatic</td>
<td>M</td>
</tr>
<tr>
<td><em>Curculigo latifolia</em> Dryand.</td>
<td></td>
<td></td>
<td>Roots : as a diuretic</td>
<td>B</td>
</tr>
</tbody>
</table>

Table continues
Table 6 (continued)

<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Labiatae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Gomphostemma</em></td>
<td>Lek khru</td>
<td>Medicine</td>
<td>Whole plant: as a tonic</td>
<td>B, M</td>
</tr>
<tr>
<td><em>scortechinii</em> Prain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Leucas zeylanica</em> (L.) R. Br.</td>
<td>Ya prik, Tu me</td>
<td>Medicine</td>
<td>Whole plant: treatment of stomach-ache, flatulence, helminthes</td>
<td>M, B</td>
</tr>
<tr>
<td><em>Orthosiphon aristatus</em> (Blume) Miq.</td>
<td>Ya nuat maeo</td>
<td>Medicine</td>
<td>Whole plant: treatment of urinary stones, diabetes</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Plectranthus rotundifolius</em> (Poir.) Spreng.</td>
<td>Man khi nu</td>
<td>Food</td>
<td>Leaves: treatment of leucorrhoea</td>
<td>M</td>
</tr>
<tr>
<td><strong>Lauraceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Cinnamomum iners</em></td>
<td>Chiat, Tae yo</td>
<td>Food</td>
<td>Leaves: eaten raw as a vegetable</td>
<td>B</td>
</tr>
<tr>
<td><em>Reinw.</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Cinnamomum porrectum</em></td>
<td>Chuang</td>
<td>Food</td>
<td>Leaves: eaten raw as a vegetable</td>
<td>M</td>
</tr>
<tr>
<td><em>(Roxb.) Kosterm.</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Litsea elliptica</em></td>
<td>Thammang</td>
<td>Food</td>
<td>Leaves: eaten raw as a vegetable</td>
<td>B, M</td>
</tr>
<tr>
<td><strong>Miscellaneous</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Senna siamea</em> (Lam.) Irwin &amp; Barneby*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Litsea grandis</em> (Wall. ex Nees) Hook.f.</td>
<td>Thang, Mue dae</td>
<td>Construction</td>
<td>Wood : house building</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>Leaves : used to wrap food</td>
<td>B, M</td>
</tr>
<tr>
<td><strong>Lecythidaceae</strong></td>
<td><strong>Chik, Puta</strong></td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Barringtonia acutangula</em> (L.) Gaertn.</td>
<td></td>
<td>Medicine</td>
<td>Stem bark : treatment of dermatitis irritated skin caused by irritant sap of <em>Semecarpus curtisii</em> King</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves : treatment of herpes infection ; as an antidiarrheic</td>
<td>M, B</td>
</tr>
<tr>
<td><strong>Careya sphaerica</strong> Roxb.</td>
<td>Kradon, Don</td>
<td>Food</td>
<td>Leaves, flower : eaten raw as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td><strong>Leeaceae</strong></td>
<td><strong>Bangbai, Mali</strong></td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Leea indica</em> (Burm.f.) Merr.</td>
<td></td>
<td>Medicine</td>
<td>Flowers : treatment of burns and scalds</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fruits : treatment of warts , itching</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ritual</td>
<td>Leaves : used in traditional ritual performed at the beginning of the rice-harvesting season</td>
<td>B</td>
</tr>
<tr>
<td><strong>Leea rubra</strong> Blume ex Spreng.</td>
<td>Bangbai daeng</td>
<td>Medicine</td>
<td>Flowers : treatment of herpes infection , burns and scalds.</td>
<td>B, M</td>
</tr>
<tr>
<td><strong>Leguminosae – Caesalpinioideae</strong></td>
<td><strong>Wat</strong></td>
<td>Medicine</td>
<td>Leaves : as an anthelmintic</td>
<td>M</td>
</tr>
<tr>
<td><em>Caesalpinia bonduc</em> (L.) Roxb.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Caesalpinia major</em></td>
<td>Wat</td>
<td>Medicine</td>
<td>Leaves: as an anthelminthic</td>
<td>B, M</td>
</tr>
<tr>
<td>(Medix.) Dandy &amp; Exell</td>
<td></td>
<td></td>
<td>Seeds: treatment of ringworm</td>
<td>M</td>
</tr>
<tr>
<td><em>Cynometra cauliflora</em></td>
<td>Makham</td>
<td>Food</td>
<td>Fruits: eaten fresh or pickled.</td>
<td>B, M</td>
</tr>
<tr>
<td>L. Makham khang</td>
<td>khok</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Dialium cochinchinense</em></td>
<td>Yi</td>
<td>Food</td>
<td>Fruits: eaten fresh, made into dessert.</td>
<td>B, M</td>
</tr>
<tr>
<td>Pierre</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Stem: treatment of dropsy</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Construction Wood: house building; making</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>agricultural implements, furniture, etc.</td>
<td></td>
</tr>
<tr>
<td><em>Intsia palembanica</em></td>
<td>Lum pho,</td>
<td>Food</td>
<td>Leaves: young leaves are eaten raw as a</td>
<td>B</td>
</tr>
<tr>
<td>Miq.</td>
<td>Mue ba</td>
<td></td>
<td>vegetable.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ทุ่มทอก,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ข้องบ้า</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Construction Wood: house building.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Senna alata</em> (L.)</td>
<td>Chumhet thet</td>
<td>Medicine</td>
<td>Leaves: as a laxative, a tonic for longevity;</td>
<td>B, M</td>
</tr>
<tr>
<td>Roxb.</td>
<td>ชุมเห็ดเทศ</td>
<td></td>
<td>treatment of scabies, nasal polyp</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ritual</td>
<td>Leaves: used in the traditional ritual</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>performed at the beginning of the</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>rice-harvesting season.</td>
<td></td>
</tr>
<tr>
<td><em>Senna hirsuta</em> (L.)</td>
<td>Rang chued to</td>
<td>Medicine</td>
<td>Leaves: as an antidote</td>
<td>B</td>
</tr>
<tr>
<td>Irwin &amp; Barneby</td>
<td>รางจืดต้น</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Senna siamea</em> (Lam.)</td>
<td>Khi lek</td>
<td>Food</td>
<td>Leaves, flowers: eaten after boiled, and then</td>
<td>B, M</td>
</tr>
<tr>
<td>Irwin &amp; Barneby</td>
<td>ขี้เหล็ก</td>
<td></td>
<td>cooked in curries.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Stem bark: treatment of malarial fever</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Whole plant: treatment of lumbago; as a tonic</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>for longevity</td>
<td></td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Senna sophera</em> (L.) Roxb.</td>
<td>Khi lek chued</td>
<td>Medicine</td>
<td>Whole plant: as a diuretic, Leaves: as an antidote</td>
<td>M, B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>Leaves: a juice from the crushed leaves is used to mask the bitter taste of the remedies</td>
<td></td>
</tr>
<tr>
<td><em>Senna tora</em> (L.) Roxb.</td>
<td>Chumhet khwai</td>
<td>Food</td>
<td>Leaves: eaten cooked as a vegetable</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Pods: as a laxative</td>
<td>B</td>
</tr>
<tr>
<td><em>Tamarindus indica</em> L.</td>
<td>Makham, Kham</td>
<td>Food</td>
<td>Leaves, fruits: cooked in sour curries</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Leaves: treatment of diabetes, malarial fever</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Utensil</td>
<td>Wood: making household items</td>
<td>B, M</td>
</tr>
<tr>
<td><strong>Leguminosae – Mimosoideae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Acacia concinna</em> (Willd.) DC.</td>
<td>Som poi</td>
<td>Food</td>
<td>Leaves: cooked as a vegetable</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Whole plant: treatment of diabetes</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ritual</td>
<td>Leaves: used in religious ceremonies.</td>
<td>B</td>
</tr>
<tr>
<td><em>Acacia merillii</em> Nielsen</td>
<td>Hai สกบ</td>
<td>Miscellaneous</td>
<td>Leaves: as a hair shampoo</td>
<td>B</td>
</tr>
<tr>
<td><em>Acacia pennata</em> (L.) Willd.</td>
<td>Cha om, Om ชาม ข้าม</td>
<td>Food</td>
<td>Leaves: cooked as a vegetable</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Adenanthera pavonina</em> L.</td>
<td>Phai ไล</td>
<td>Construction</td>
<td>Wood: house building</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Food</td>
<td>Leaves: eaten raw as a vegetable</td>
<td>B</td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albizia myriophylla</td>
<td>Oi chang</td>
<td>Medicine</td>
<td>Stems : as a refrigerant; treatment of herpes infection</td>
<td>B, M</td>
</tr>
<tr>
<td>Benth.</td>
<td></td>
<td></td>
<td>Bark : treatment of aphthous ulcer</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots : treatment of cough</td>
<td>M</td>
</tr>
<tr>
<td>Archidendron bubalinum</td>
<td>Niang nok</td>
<td>Food</td>
<td>Seeds : eaten raw as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td>(Jack) I. C. Nelsen</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Archidendron clypearia</td>
<td>Ma kham pae, Pasae</td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable.</td>
<td>M</td>
</tr>
<tr>
<td>(Jack) I.C.Nielsen</td>
<td></td>
<td>Medicine</td>
<td>Roots : treatment of aphthous ulcer</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves : treatment of itching</td>
<td>M</td>
</tr>
<tr>
<td>Archidendron jiringa</td>
<td>Niang</td>
<td>Food</td>
<td>Seeds : eaten raw or boiled</td>
<td>B, M</td>
</tr>
<tr>
<td>(Jack) I.C.Nielsen</td>
<td></td>
<td>Medicine</td>
<td>Stem bark : treatment of diabetes</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots : treatment of diabetes; as a diuretic</td>
<td>B</td>
</tr>
<tr>
<td>Entada rheedii Spreng.</td>
<td>Ba, Saba</td>
<td>Medicine</td>
<td>Seeds : treatment of ringworm</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>Stems : used as a substitute for hair shampoo</td>
<td>B, M</td>
</tr>
<tr>
<td>Entada spiralis Ridl.</td>
<td>Saba chang</td>
<td>Food</td>
<td>Seeds : eaten after boiled.</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>Stems : used as a substitute for hair shampoo</td>
<td>B, M</td>
</tr>
<tr>
<td>Leucaena leucocephala</td>
<td>Kra thin, To bao</td>
<td>Food</td>
<td>Leaves, pods, seeds : eaten raw as a vegetable</td>
<td>B, M</td>
</tr>
<tr>
<td>(Lam.) de Wit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mimosa pudica L.</td>
<td>Maiyarap, Ya ra ngap</td>
<td>Medicine</td>
<td>Whole plant : treatment of leucorrhoea, urticaria, fever; as a tonic</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots : treatment of herpes infection</td>
<td>B</td>
</tr>
<tr>
<td>Family and species name</td>
<td>Vernacular</td>
<td>Uses</td>
<td>Part used</td>
<td>User</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------</td>
<td>---------------------------</td>
<td>----------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td><em>Parkia speciosa</em> Hassk.</td>
<td>Sato</td>
<td>Food</td>
<td>Leaves, seeds: eaten raw or cooked as a vegetable</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Roots: as an antidiabetes</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bark: treatment of mumps.</td>
<td>M</td>
</tr>
<tr>
<td><em>Parkia timoriana</em> Merr.</td>
<td>Riang</td>
<td>Food</td>
<td>Seeds: eaten raw or cooked in curries</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Roots: treatment of diabetes</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Utensils</td>
<td>Wood: making household utensils</td>
<td>B, M</td>
</tr>
</tbody>
</table>

**Leguminosae – Papilionoideae**

<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Cajanus cajan</em> (L.) Millsp.</td>
<td>Thua raet ถั่วดอย</td>
<td>Food</td>
<td>Pods: eaten as a snack.</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Leaves: treatment of hemorrhage</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots: treatment of post partum</td>
<td></td>
</tr>
<tr>
<td><em>Canavalia cathartica</em> Thouars</td>
<td>Thua phi ถั่วผี</td>
<td>Food</td>
<td>Flowers: eaten raw as a vegetable.</td>
<td>B</td>
</tr>
<tr>
<td><em>Dalbergia parviflora</em> Roxb.</td>
<td>Khri, La ko ครี้, ลากอ</td>
<td>Food</td>
<td>Leaves: eaten raw as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Leaves: treatment of absences</td>
<td>M</td>
</tr>
<tr>
<td><em>Derris indica</em> (Lamk.) Benn.</td>
<td>Ka yi กาหยี</td>
<td>Medicine</td>
<td>Leaves: as an anti-inflammation caused by jelly-fish allergy</td>
<td>M</td>
</tr>
<tr>
<td><em>Desmodium heterocarpon</em> (L.) DC.</td>
<td>Me sa kuching มีซากูจิง</td>
<td>Medicine</td>
<td>Whole plant: as an emmenagogue</td>
<td>M</td>
</tr>
<tr>
<td><em>Milletia atropurpurea</em> (Wall.) Benth.</td>
<td>Sae เซะ</td>
<td>Food</td>
<td>Leaves: eaten raw as a vegetable.</td>
<td>B, M</td>
</tr>
</tbody>
</table>
Table 6 (continued)

<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Pterocarpus indicus</em> Willd.</td>
<td>Pradu ประดู</td>
<td>Medicine</td>
<td>Leaves : treatment of ulcer, insect bites, and contusion</td>
<td>M</td>
</tr>
<tr>
<td><em>Sesbania grandiflora</em> (L.) Desv.</td>
<td>Khae แก๊</td>
<td>Food</td>
<td>Flowers : cooked in various ways as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Tadehagi triquetrum</em> (L.) Ohashi</td>
<td>Puti bue le yong ปูตีบือลียง</td>
<td>Medicine</td>
<td>Roots : as a remedy given to women after abortion</td>
<td>M</td>
</tr>
<tr>
<td><strong>Liliaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Dianella ensifolia</em> (L.) DC.</td>
<td>Ya nu ton, Se yo หญ้านูตํน , ซีโยะ</td>
<td>Medicine</td>
<td>Whole plant : treatment of asthma</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots : as a tonic ; treatment of joint pain</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fruits : treatment of earache</td>
<td>M</td>
</tr>
<tr>
<td><em>Peliosanthes teta</em> Andr.</td>
<td>Not din, La mo โหนดดิน , ลาโม</td>
<td>Medicine</td>
<td>Whole plant : as a tonic ; treatment of gastrointestinal ailments.</td>
<td>M, B</td>
</tr>
<tr>
<td><strong>Loganiaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Fagraea fragrans</em> Roxb.</td>
<td>Tamsao ตําเสา</td>
<td>Medicine</td>
<td>Leaves : treatment of malarial fever</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Stems : treatment of malarial fever</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Whole plant : treatment of elephantiasis</td>
<td>B</td>
</tr>
<tr>
<td><em>Fagraea racemosa</em> Jack ex Wall.</td>
<td>Phawa nam พบวาน</td>
<td>Medicine</td>
<td>Leaves : treatment of measles</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots : treatment of bodily discomfort ; as a refrigerant.</td>
<td>B</td>
</tr>
<tr>
<td><strong>Loranthaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Dendrophthoe pentandra</em> (L.) Miq.</td>
<td>Kafak กาฝาก</td>
<td>Medicine</td>
<td>Stems : treatment of herpes infection</td>
<td>B</td>
</tr>
<tr>
<td>Family and species name</td>
<td>Vernacular</td>
<td>Uses</td>
<td>Part used</td>
<td>User</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------</td>
<td>------</td>
<td>-----------</td>
<td>------</td>
</tr>
</tbody>
</table>
| *Dendrophthoe cf.*  
*pentandra* (L.) Miq. | Kafak  
ก้าก้าก | Medicine | Whole plant: treatment of haemorrhage | M |
| **Lythraceae**  
*Lagerstroemia speciosa*  
(L.) Pers. | Inthanin, Ba ye  
อินทนิน, บาแย | Medicine | Leaves: treatment of diabetes | B |
| *Lawsonia inermis* L. | Thian king, Henna  
เทียนกิ่ง, เหน่ำ | Medicine | Leaves: treatment of asthma in children | M |
| **Malvaceae**  
*Abutilon indicum* (L.) Sweet | Phong pheng  
โพงฟ่ง | Medicine | Whole plant: treatment of hemorrhoids | B |
| *Hibiscus macrophyllus*  
Roxb. ex Hornem | Chong  
จง | Construction | Wood: house building | B, M |
| **Hibiscus rosa-sinensis** L. | Chaba  
ซ่าบะ | Medicine | Roots: treatment of snake bites | B |
| *Hibiscus tiliaceus* L. | Pho thale  
โพท่าเลย | Miscellaneous | Bark: making cordage.  
Leaves: food wrapping | B |
| *Sida alnifolia* L. | Khat mon  
ขัดมอน | Medicine | Roots, stems: treatment of fever associated with menstruation. | B |
| *Urena lobata* L. | Khi khrok, Seng  
ขี้ครอก, แซง | Medicine | Roots: to make delivery easier, as an antipyretic | M |

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maranthaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Donax arundastrum</em> Lour.</td>
<td>Khla กล้ํา</td>
<td>Medicine</td>
<td>Terminal bud : treatment of eye ache</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots : as a refrigerant</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Utensil</td>
<td>Stems : making household utensils.</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>Flowers : employed in a special ritual</td>
<td>M</td>
</tr>
<tr>
<td><em>Donax grandis</em> (Miq.) Ridl.</td>
<td>Khrum กลุม</td>
<td>Medicine</td>
<td>Roots : as an antipyretic</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>Stems : the stripped stem barks are used for</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>wickerwork making, to stitch leaves of <em>Metroxylon sagu</em> Rottb. or <em>Nypa fruticans</em> Wurmb. together for roof thatching</td>
<td></td>
</tr>
<tr>
<td><strong>Phrynium capitatum</strong> Willd.</td>
<td>Let เล็ด</td>
<td>Miscellaneous</td>
<td>Leaves : as wrappers for rice before cooking</td>
<td>B , M</td>
</tr>
<tr>
<td><strong>Marattiaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Angiopteris evecta</em> (G. Forst.) Hoffm</td>
<td>Kip raet กิบแรด</td>
<td>Medicine</td>
<td>Rhizomes : as a tonic, treatment of bodily</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>discomfort</td>
<td></td>
</tr>
<tr>
<td><strong>Melastomataceae</strong></td>
<td></td>
<td>Medicine</td>
<td>Branches, leaves : as anthelminthic; treatment</td>
<td>M</td>
</tr>
<tr>
<td><em>Clidemia hirta</em> (L.) D. Don</td>
<td>Khlong khlong огдаหลังขน</td>
<td></td>
<td>of the wounds</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Whole plant : as a contraceptive; treatment</td>
<td>M , B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>of hemorrhage.</td>
<td>B</td>
</tr>
<tr>
<td><em>Melastoma malabathricum</em> L. (flowers purple)</td>
<td>Khlong khlong, Ka du do</td>
<td>Medicine</td>
<td>Leaves : treatment of umbilical wound, treatment of post partum</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots , leaves : treatment of fresh wounds</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots : as an anti diarrheic; treatment of</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>bodily discomfort</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Stamens : treatment of herpes infection</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fruits : treatment of aphthous ulcer</td>
<td>B</td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Melastoma balabathricum</strong> L. (flowers white)</td>
<td>Khlong khlang, Ka du do</td>
<td>Medicine</td>
<td>Whole plant: as a contraceptive; treatment of post partum</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots: treatment of snake bites</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves: treatment of fresh wounds</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Flowers: as a refrigerant; treatment of internal injury</td>
<td>M</td>
</tr>
<tr>
<td><strong>Osbeckia chinensis</strong> L.</td>
<td>Ka du do ba dae</td>
<td>Medicine</td>
<td>Roots: as a contraceptive; treatment of bodily discomfort</td>
<td>M</td>
</tr>
<tr>
<td><strong>Meliaceae</strong></td>
<td>Sang khriet</td>
<td>Food</td>
<td>Fruits: eaten fresh.</td>
<td>B , M</td>
</tr>
<tr>
<td><strong>Aglaia korthalsii</strong> Miq.</td>
<td>Thiam</td>
<td>Food</td>
<td>Leaves, flowers: eaten raw or blanched as a vegetable.</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Construction</td>
<td>Wood: house building.</td>
<td>B , M</td>
</tr>
<tr>
<td><strong>Azadirachta indica</strong> A. Juss</td>
<td>Sadao</td>
<td>Food</td>
<td>Leaves, flowers: eaten raw or blanched as a vegetable.</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Stem bark: as an antimalarial fever</td>
<td>B</td>
</tr>
<tr>
<td><strong>Lansium domesticum</strong> Correa</td>
<td>Langsat</td>
<td>Food</td>
<td>Fruits: eaten fresh.</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Seeds: treatment of dizziness in women after giving birth</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Stem bark: as an antimalarial fever</td>
<td>B</td>
</tr>
<tr>
<td><strong>Sandoricum koetjape</strong> (Burm.f.) Merr.</td>
<td>Kraton, Ton</td>
<td>Food</td>
<td>Fruits: eaten fresh, cooked in curries.</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Stem bark: as a contraceptive</td>
<td>B</td>
</tr>
<tr>
<td><strong>Xylocarpus granatum</strong> Koen.</td>
<td>Tabun khoao</td>
<td>Medicine</td>
<td>Seeds: as an antidiarrheic</td>
<td>B , M</td>
</tr>
</tbody>
</table>

Table continues
Table 6 (continued)

<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylocarpus moluccensis (Lam.) M.Roem.</td>
<td>Tabun dam</td>
<td>Medicine</td>
<td>Seeds : as an antidiarrheic</td>
<td>B, M</td>
</tr>
<tr>
<td>Menispermaceae</td>
<td>Cyclea barbata Miers.</td>
<td>Krong mao</td>
<td>Medicine</td>
<td>Roots : treatment of hemorrhage, dysmenorrhea, insect bites</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Roots : treatment of hemorrhoids</td>
</tr>
<tr>
<td>Fibraurea cf. tinctoria Lour.</td>
<td>Mae khamin</td>
<td>Medicine</td>
<td>Roots : treatment of bodily discomfort, wasting disease</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stephania venosa (Blume) Spreng.</td>
<td>Sabu luat</td>
<td>Medicine</td>
<td>Tubers : as a blood circulation tonic; treatment of bodily discomfort</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Miscellaneous</td>
</tr>
<tr>
<td></td>
<td>Tiliacora triandra (Colebr.) Diels</td>
<td>Ya nang</td>
<td>Food</td>
<td>Leaves : the young leaves are eaten raw or cooked as a vegetable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Medicine</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Miscellaneous</td>
</tr>
<tr>
<td></td>
<td>Tinospora crispa (L.) Miers ex Hook.f. &amp; Thomson</td>
<td>Bora phet, Khet mun</td>
<td>Medicine</td>
<td>Stem : treatment of hemorrhoids</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Stems : treatment of hypertension</td>
</tr>
<tr>
<td></td>
<td>Moraceae</td>
<td>Artocarpus elasticus Rienw. ex Blume</td>
<td>Ka – ๐</td>
<td>Food</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Construction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Artocarpus heterophyllus Lamk.</td>
<td>Khanun</td>
<td>Food</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Seeds : cooked in curries.</td>
</tr>
<tr>
<td>Family and species name</td>
<td>Vernacular</td>
<td>Uses</td>
<td>Part used</td>
<td>User</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------</td>
<td>------</td>
<td>-----------</td>
<td>------</td>
</tr>
<tr>
<td><strong>Artocarpus integer</strong></td>
<td>Champada</td>
<td>Medicine</td>
<td>Wood : treatment of dropsy</td>
<td>B</td>
</tr>
<tr>
<td>(Thunb.) Merr.</td>
<td></td>
<td>Miscellaneous</td>
<td>Wood : making implements, furniture.</td>
<td>B , M</td>
</tr>
<tr>
<td><strong>Artocarpus rigidus</strong></td>
<td>Khanan pan</td>
<td>Construction</td>
<td>Wood : general construction, boat making.</td>
<td>B</td>
</tr>
<tr>
<td>Blume</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ficus apiocarpa</strong></td>
<td>Duea nae da ko</td>
<td>Medicine</td>
<td>Fruits : prevention of blood-sucking by leech</td>
<td>M</td>
</tr>
<tr>
<td>Miq.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ficus deltoidea</strong></td>
<td>Ma juthe</td>
<td>Medicine</td>
<td>Leaves : as a tonic</td>
<td>M</td>
</tr>
<tr>
<td>Jack var. angustifolia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Miq.) Corn</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ficus deltoidea</strong></td>
<td>Li ngo bu loh</td>
<td>Medicine</td>
<td>Leaves : as a tonic</td>
<td>M</td>
</tr>
<tr>
<td>Jack var. kunstleri</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(King) Corner</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ficus fistulosa</strong></td>
<td>Ching</td>
<td>Food</td>
<td>Figs : eaten raw, cooked in curries.</td>
<td>B , M</td>
</tr>
<tr>
<td>Reinw. ex Blume</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ficus ischnopoda</strong></td>
<td>Kho ton</td>
<td>Food</td>
<td>Leaves, figs : eaten raw as a vegetable</td>
<td>M</td>
</tr>
<tr>
<td>Miq.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ficus obpyramidata</strong></td>
<td>Pho</td>
<td>Food</td>
<td>Figs : eaten raw as a vegetable</td>
<td>B , M</td>
</tr>
<tr>
<td>King</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ficus oligodon</strong></td>
<td>Duea mua</td>
<td>Food</td>
<td>Figs : eaten raw as a vegetable</td>
<td>B , M</td>
</tr>
<tr>
<td>Miq.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ficus punctata</strong></td>
<td>Duea tho</td>
<td>Medicine</td>
<td>Fruits : prevention of blood-sucking by leech</td>
<td>M</td>
</tr>
<tr>
<td>Thunb.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ficus racemosa</strong></td>
<td>Duea chenoi</td>
<td>Food</td>
<td>Figs : eaten raw as a vegetable.</td>
<td>B , M</td>
</tr>
<tr>
<td>L.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Ficus semicordata</em> Buch.-Ham. ex Sm.</td>
<td>Kuat กวด</td>
<td>Food</td>
<td>Figs : eaten fresh.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Ficus superba</em> Miq.</td>
<td>Leab เลียบ</td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Streblus asper</em> Lour.</td>
<td>Khoi ข้อ</td>
<td>Miscellaneous</td>
<td>Whole plant : the whole plant is chopped boiled in water, and then this water is sometimes used by local people to bath their fighting cocks. It is believed to strengthen the cocks.</td>
<td>B</td>
</tr>
<tr>
<td><em>Streblus taxoides</em> (Heynes) Kurz</td>
<td>Khi raet nam nom ขี้แรดน้ํานม</td>
<td>Food</td>
<td>Leaves : cooked in Thai-style vegetable soup; the ripe fruits are eaten fresh. Fruit : eaten fresh</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Roots : treatment of wounds</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots : treatment of hemorrhage, dysmenorrhea</td>
<td>M</td>
</tr>
<tr>
<td><strong>Musaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Musa acuminata</em> Colla.</td>
<td>Kluai thuaen กล้วยเถื่อน</td>
<td>Food</td>
<td>Pseudo trunk, inflorescence, fruits : cooked in curries</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Musa balbisiana</em> Colla.</td>
<td>Kluai tani กล้วยตานี</td>
<td>Medicine</td>
<td>Inflorescences : treatment of ulcer</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>Leaves : used to wrap a food, made into special food containers.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Musa sapientum</em> L.</td>
<td>Kluai khai กล้วยไข่</td>
<td>Food</td>
<td>Fruits : cooked in curries, eaten fresh, made into dessert</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Leaf stalk : treatment of earache</td>
<td>M</td>
</tr>
<tr>
<td><em>Musa sapientum</em> L.</td>
<td>Kluai namwa กล้วยน้ําวา</td>
<td>Food</td>
<td>Fruits : cooked in curries, eaten fresh, made into dessert Inflorescences : eaten raw or boiled as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Rhizomes : treatment of diabetes</td>
<td>M</td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ritual</td>
<td>Pseudo trunk: the pseudo trunk plays a part in a funeral ceremony of Muslims. In this ceremony, the two trunks are used as a board for a dead person to be bathed before being buried. The plant plays a part in various cultural traditions, for example, at wedding, when a house is erected, and in various religious ceremonies.</td>
<td></td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>Leaves: strips cut from the leaf sheath are used for tying and binding. The leaves are usually made into containers, used for wrapping food, etc.</td>
<td></td>
<td>B, M</td>
<td></td>
</tr>
<tr>
<td><strong>Musa sp.</strong></td>
<td>Kluai nam fat</td>
<td>Food</td>
<td>Fruits: eaten fresh.</td>
<td>B, M</td>
</tr>
<tr>
<td><strong>Myristicaceae</strong></td>
<td>Han</td>
<td>Medicine</td>
<td>Fruits: as an antidiarrheic</td>
<td>M</td>
</tr>
<tr>
<td><em>Knema globularia</em> (Lam.) Warb.</td>
<td>Tapet takai</td>
<td>Construction</td>
<td>Wood: house building</td>
<td>B, M</td>
</tr>
<tr>
<td><strong>Myristica fragrans</strong></td>
<td>Chan thet</td>
<td>Food</td>
<td>Fruits: made into dessert, pickled</td>
<td>B</td>
</tr>
<tr>
<td><strong>Myrsinaceae</strong></td>
<td>Phirang kasa</td>
<td>Food</td>
<td>Leaves, fruits: eaten raw as a vegetable</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Ardisia crenata</em> Sims.</td>
<td>Ram, Pue na</td>
<td>Medicine</td>
<td>Stems: to treat a disease of the fingernails</td>
<td>M</td>
</tr>
<tr>
<td><em>Ardisia elliptica</em> Thunb.</td>
<td>Phirang kasa</td>
<td>Food</td>
<td>Leaves: eaten raw as a vegetable; fruits are eaten fresh.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Ardisia fulva</em> King &amp; Gamble</td>
<td></td>
<td>Food</td>
<td>Fruits: eaten fresh</td>
<td>B, M</td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Table 6 (continued)</th>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Embelia coriacea</strong> Wall. ex A.DC.</td>
<td><strong>Wua hai</strong></td>
<td>Medicine</td>
<td>Stem bark : as an antidote</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td><strong>Labisia pumila</strong> (Blume) F.-Vill. &amp; Naves</td>
<td><strong>Ga chi ti mo</strong></td>
<td>Medicine</td>
<td>Rhizomes : treatment of post partum</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td><strong>Myrtaceae</strong></td>
<td><strong>Melaleuca cajuputi</strong> Powell</td>
<td><strong>Met, Samet khao</strong></td>
<td>Medicine</td>
<td>Whole plant : treatment of post partum, bodily discomfort</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Leaves : as a tonic</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Construction</td>
<td>Wood : making posts, piles, implements, etc.</td>
<td>B, M</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>Stem barks : used for roof, house walls; made into torches</td>
<td>B, M</td>
<td></td>
</tr>
<tr>
<td><strong>Psidum guajava</strong> L.</td>
<td><strong>Chom pu</strong></td>
<td>Food</td>
<td>Fruits : eaten fresh</td>
<td>B, M</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Leaves : as an antidiarrheic</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots : treatment of insect bites</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ritual</td>
<td>Leaves : used in traditional ritual performed at the beginning of the rice-harvesting season.</td>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rhodomyrtus tomentosa</strong> (Aiton) Hassk.</td>
<td><strong>Tho, Kue mu ting</strong></td>
<td>Food</td>
<td>Fruits : eaten fresh</td>
<td>B, M</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medicine</td>
<td>Roots : treatment of abscesses; as an antidiarrheic</td>
<td>M, B</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leaves : treatment of post partum</td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Syzygium gratum</strong> (Wight) S. N. Mitra</td>
<td><strong>Met chun</strong></td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable.</td>
<td>B, M</td>
<td></td>
</tr>
</tbody>
</table>
Table 6 (continued)

<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Syzygium polyanthum</em> (Wight) Walp.</td>
<td>Phae. Sa mo แพ, ชาวโม</td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable  Fruits : eaten fresh</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Roots : as an antidiarrheic  Leaves : as an aphrodisiac; treatment of hemorrhage, leucorrhoea, skin diseases in children, insect bites</td>
<td>B  M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>Stem bark : as a dye for fish-net.</td>
<td>B</td>
</tr>
<tr>
<td><em>Syzygium cf. skiophilum</em> (Duthie) Airy Shaw.</td>
<td>Ta khrai ton ,  samo sue ka ตะไคร้ต๊ะ , ซามุซีก้า</td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Roots : as an antihypertension</td>
<td>M</td>
</tr>
<tr>
<td><em>Syzygium zeylanicum</em> (L.) DC.</td>
<td>Hua ngok หัวหงอก</td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable  Fruits : eaten fresh</td>
<td>M</td>
</tr>
<tr>
<td><em>Nepenthaceae</em>  <em>Nepenthes</em> spp.</td>
<td>Mo kaeng ling หม้อแกงลิง</td>
<td>Medicine</td>
<td>Whole plant : treatment of bodily discomfort</td>
<td>B</td>
</tr>
<tr>
<td><em>Nepenthes gracilis</em> Korth.</td>
<td>Mo kaeng ling หม้อแกงลิง</td>
<td>Medicine</td>
<td>Pitchers : treatment of urticaria.</td>
<td>M</td>
</tr>
<tr>
<td><em>Nyctaginaceae</em>  <em>Mirabilis jalapa</em> L.</td>
<td>Ban yen บานเย็น</td>
<td>Medicine</td>
<td>Roots : treatment of insect bites</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Nymphaeaceae</em>  <em>Nelumbo nucifera</em> Gaertn.</td>
<td>Bua luang , Bua บัวหลวง , บัว</td>
<td>Food</td>
<td>Shoots : cooked as a vegetable  Rhizomes : a decoction is drunk as a beverage  Seeds : eaten raw</td>
<td>B , M</td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Olacaceae</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erythropsalum scandens</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blume</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olax scandens Roxb.</td>
<td>Jok thok</td>
<td>Food</td>
<td>Leaves : cooked as a vegetable.</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scorodocarpus borneensis</td>
<td>Kra thiam</td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable.</td>
<td>M</td>
</tr>
<tr>
<td>Becc.</td>
<td>ton กะทิแย่งคัน</td>
<td></td>
<td>Stem bark, seeds : as condiment in dishes</td>
<td>M</td>
</tr>
<tr>
<td>Strombosia javanica L.</td>
<td>Man mu, Kae mo</td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable</td>
<td>B</td>
</tr>
<tr>
<td>Oleaceae</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jasminum sambac (L)</td>
<td>Mali มāli</td>
<td>Ritual</td>
<td>Flowers : employed in a ritual performed to treat spiritual sickness.</td>
<td>M</td>
</tr>
<tr>
<td>Arton</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table continues
Table 6 (continued)

<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oleandraceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Oleandra pistillaris</em></td>
<td>Phaya nakkharat</td>
<td>Miscellaneous</td>
<td>Stems : used in magic treatment</td>
<td>B</td>
</tr>
<tr>
<td>(Sw.) C.Chr.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Onagraceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ludwigia adscendens</em></td>
<td>Phak pot</td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable.</td>
<td>B</td>
</tr>
<tr>
<td>(L.) H.Hara</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ophioglossaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Helminthostachys</em></td>
<td>Tin nok yung</td>
<td>Food</td>
<td>Shoots : cooked in Thai-style vegetable soup; eaten blanched</td>
<td>B , M</td>
</tr>
<tr>
<td>zeylanica (L.) Hook.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Opiliaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Champereia manillana</em></td>
<td>Phak pa , Do dae</td>
<td>Food</td>
<td>Leaves : eaten raw or cooked as a vegetable.</td>
<td>B , M</td>
</tr>
<tr>
<td>(Blume) Merr.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lepionurus sylvestris</strong></td>
<td>Mak mok</td>
<td>Food</td>
<td>Leaves : eaten raw or cooked as a vegetable</td>
<td>B , M</td>
</tr>
<tr>
<td>Blume</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Orchidaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Corymborchis veratrifolia</em></td>
<td>Tuga ali</td>
<td>Medicine</td>
<td>Roots : as a tonic</td>
<td>M</td>
</tr>
<tr>
<td>Blume</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Cymbidium atropurpureum</em></td>
<td>Ka re ka ron</td>
<td>Medicine</td>
<td>Pseudo bulbs : treatment of pimples on head; Leaves : treatment of earache</td>
<td>M</td>
</tr>
<tr>
<td>(Lindl.) Rolfe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Table continues
Table 6 (continued)

<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Dendrobium crumenatum</em> Sw.</td>
<td>Ta nga tue ri ตางาตือรี</td>
<td>Medicine</td>
<td>Pseudo bulbs : treatment of earache, centipede bites</td>
<td>M</td>
</tr>
<tr>
<td><em>Grammatophyllum speciosum</em> Blume</td>
<td>Wan phet cha วันเพชรชา</td>
<td>Medicine</td>
<td>Peduncle and rachis : as a tonic</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Stems : as a tonic, treatment of lumbago</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>It is the largest orchid, and usually planted as an ornamental.</td>
<td>B, M</td>
</tr>
<tr>
<td><strong>Oxalidaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Averrhoa bilimbi</em> L.</td>
<td>Taling pring ตะลิงปริง</td>
<td>Food</td>
<td>Fruits : eaten raw</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Averrhoa carambola</em> L.</td>
<td>Ma fueang มาเฟอง</td>
<td>Food</td>
<td>Fruits : are eaten fresh.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Roots : treatment of fever, nausea</td>
<td>B</td>
</tr>
<tr>
<td><strong>Palmae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Areca catechu</em> L.</td>
<td>Mak หมาก</td>
<td>Medicine</td>
<td>Seeds : treatment of post partum</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Utensil</td>
<td>Leaf sheath : made into water buckets</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td>Miscellaneous</td>
<td>Seeds : the seeds, both unripe and ripe ones, are chewed as a masticatory, “betel quid”. The main ingredients used in this masticatory besides <em>Areca catechu</em> are betel leaf, lime and tobacco. The practice of betel quid chewing is very popular among the elderly local people both Buddhist and Muslim Thais.</td>
<td>B, M</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ritual</td>
<td>A plant is grown in the paddy field at the beginning of rice growing season.</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leaves : used in magical treatment to ward off evil spirit from a patient in case of sickness due to sorcery.</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Seeds : employed in various traditional practices</td>
<td>B, M</td>
<td></td>
</tr>
</tbody>
</table>

Table continues
Table 6 (continued)

<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Arennga pinnata</em> (Warmb) Merr.</td>
<td>Chok ชก</td>
<td>Food</td>
<td>Apical bud, inflorescences, seeds</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Borassus flabellifer</em> L.</td>
<td>Tan, Not ตาแล, โหนด</td>
<td>Food</td>
<td>Apical bud, inflorescences, young fruits, seeds. The apical buds are cooked in various ways as a vegetable. The cut young inflorescences yield sugar palm syrup which is drunk fresh or boiled. Sometimes it is made into sugar bars, which can be kept for a long time to be used in cooking. It is also left to ferment and become an alcoholic beverage or toddy. The young fruits are finely sliced, boiled with salt water and made into a curry. The immature seed pulps are eaten raw or boiled in light syrup. Over-aged seed pulps are sweetened for dessert.</td>
<td>B, M</td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td>Stems: the aged tree trunks are used in house building to make floor, walls.</td>
<td>B, M</td>
<td></td>
</tr>
<tr>
<td>Utensils</td>
<td></td>
<td>Leaves: making household items.</td>
<td>B, M</td>
<td></td>
</tr>
<tr>
<td>Ritual</td>
<td></td>
<td>Leaves: used in the ritual performed at the beginning of the rice growing season.</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td><em>Calamus palustris</em> Griff.</td>
<td>Wai khring หวายขริง</td>
<td>Food</td>
<td>Fruits: eaten fresh</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Utensil</td>
<td>Stems: making household items, furniture.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Caryota mitis</em> Lour.</td>
<td>Tao rang ตาหริ่ง</td>
<td>Food</td>
<td>Shoots: cooked in various ways as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Cocos nucifera</em> L.</td>
<td>Ma phrao, Phrao มะพร้าว, พร้าว</td>
<td>Food</td>
<td>Apical buds: cooked in various ways as a vegetable. Fruits: the fruits both young and mature are edible; the fresh endosperm, when still very young and jelly like, is eaten raw as a delicacy; the</td>
<td>B, M</td>
</tr>
</tbody>
</table>

Table continues
Table 6 (continued)

<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corypha utan Lam.</td>
<td>Lan ลำน</td>
<td>Food Seeds</td>
<td>the immature seed pulps are eaten raw or boiled in light syrup for dessert.</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>Leaves : the leaves are used for thatches and weaving.</td>
<td>B , M</td>
</tr>
<tr>
<td>Eleiodoxa conferta (Griff.)</td>
<td>Lum ผุ, Ka lu bi ผุ, ปาลุ</td>
<td>Food Fruits</td>
<td>eaten fresh or pickled.</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine Shoots</td>
<td>treatment of diabetes</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>Leaves : used for roof thatching, mat making.</td>
<td>B , M</td>
</tr>
<tr>
<td>Licuala paludosa Griff.</td>
<td>Ka pho daeng กาพ้อแดง</td>
<td>Food Shoot</td>
<td>eaten as a vegetable</td>
<td>M</td>
</tr>
<tr>
<td>Licuala peltata Buch.-Ham.</td>
<td>Ching, Kajing-kajing ชิง, กาจิง-กาจิง</td>
<td>Medicine Roots</td>
<td>as a diuretic</td>
<td>M</td>
</tr>
</tbody>
</table>

mature endosperm or coconut meat is grated and mixed with food. The grated endosperm together with water are squeezed, the extract obtained called coconut milk is used to make various kinds of dishes and desserts. Coconut milk can be made into coconut oil which is used for both food and traditional medicines.

Medicine
- Inflorescences : treatment of impotency
- Fruits : treatment of diarrhea, fever;
  as a hemostyptic

Construction
- Wood : house building ; made into rafts, posts, etc.

Miscellaneous
- Leaves : used for thatches and weaving
- Nut shells : made into household utensils

- Medicine
- Fruits : treatment of diarrhea, fever;
  as a hemostyptic

- Construction
- Wood : house building ; made into rafts, posts, etc.

- Miscellaneous
- Leaves : used for thatches and weaving
- Nut shells : made into household utensils

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Licuala spinosa</em> Thunb.</td>
<td>Ka pho kiao กะเพียรเขียว</td>
<td>Miscellaneous</td>
<td>Leaves : used to wrap some local food.</td>
<td>M</td>
</tr>
<tr>
<td><em>Metroxylon sagu</em> Rottb.</td>
<td>Sagu สาคู</td>
<td>Food</td>
<td>Trunks : starch in the trunks are made into various kinds of food and dessert</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Nypa fruticans</em> Wurmb.</td>
<td>Chak จาก</td>
<td>Food</td>
<td>Inflorescences, seeds, fruit bunches : inflorescences are eaten after boiling and cooking; seeds are eaten fresh; fruit bunches yield a sweet fluid</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Oncosperma tigillarium</em> (Jack) Ridl.</td>
<td>La own, Ni bong หลาโอน, นิบง</td>
<td>Food</td>
<td>Apical buds : cooked in various ways as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Salacca wallichiana</em> Mart</td>
<td>Ra kam, Kam ระกา, ก๊า</td>
<td>Food</td>
<td>Fruits : eaten fresh or pickled.</td>
<td>B, M</td>
</tr>
</tbody>
</table>
Table 6 (continued)

<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pandanaceae</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freycinetia cf.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>angustifolia Blume</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pandanus amaryllifolius</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roxb.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pandanus humilis Lour.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parkeriaceae</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adiantum flabellatum L.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passifloraceae</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passiflora foetida L.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Medicine**
- Leaves: treatment of urticaria
- Stems and leaves: as abortifacient
- Roots: treatment of skin disease, venereal disease.
- Fruits: treatment of debility
- Whole plant: treatment of lumbago
- Whole plant: as a refrigerant; treatment of chest complaints
- Leaves, fruits: the young leaves are eaten raw or blanched as a vegetable; the ripe fruits are also edible.

**Food**
- Stems and leaves: as abortifacient
- Leaves: a juice from the crushed leaves is used as a green colorant in desserts.
- Fruits: the fruits are used in a magic treatment by local people to ward off bad spirits from their houses.
- Leaves: making utensils.

**Ritual**
- Fruits: the fruits are used in a magic treatment by local people to ward off bad spirits from their houses.

**User**
- M
- B
- M
- M
- B, M
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Piperaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Peperomia pellucida</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(L.) Humb., Bonpl. &amp; Kunth</td>
<td>Phak kra sang</td>
<td>Medicine</td>
<td>Leaves: the leaves are eaten raw as an anthelmintic</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Phak sang</td>
<td>Food</td>
<td>Leaves: eaten raw as a vegetable.</td>
<td>B</td>
</tr>
<tr>
<td><em>Piper caninum</em> Blume</td>
<td>Phrik nok</td>
<td>Medicine</td>
<td>Whole plant: treatment of pimples, herpes infection</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>พิกนก</td>
<td>Food</td>
<td>Fruits: cooked in curries.</td>
<td>B</td>
</tr>
<tr>
<td><em>Piper betle</em> L.</td>
<td>Phlu, Si re</td>
<td>Medicine</td>
<td>Leaves: treatment of various ailments and diseases</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>พลู, ซีเระ</td>
<td>Ritual</td>
<td>Leaves: the leaves have many uses in daily life in connection with birth, marriage and many traditional rituals.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Piper chaba</em> Hung.</td>
<td>Di pli chueak</td>
<td>Medicine</td>
<td>Fruits: as a tonic for longevity, an antidiabetes; treatment of hemorrhoids</td>
<td>B</td>
</tr>
<tr>
<td><em>Piper nigrum</em> L.</td>
<td>Phrik thai</td>
<td>Food</td>
<td>Fruits: as a condiment in various dishes.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td>พริกไทย</td>
<td>Medicine</td>
<td>Fruits: treatment of herpes infection; as a tonic for longevity</td>
<td>M; B</td>
</tr>
<tr>
<td><em>Piper sarmentosum</em> Roxb.</td>
<td>Cha phlu</td>
<td>Food</td>
<td>Leaves: eaten raw or cooked as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td>ชะพลู</td>
<td>Medicine</td>
<td>Whole plant: treatment of diabetes; as a blood circulation tonic treatment of bodily discomfort</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves: treatment of post partum</td>
<td>B</td>
</tr>
<tr>
<td><strong>Plantaginaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Plantago major</em> L.</td>
<td>Ya en yuet</td>
<td>Medicine</td>
<td>Whole plant: as a diuretic; treatment of fever associated with menstruation</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td>หญาเอ็นยืด</td>
<td>Medicine</td>
<td>Whole plant: as a diuretic; treatment of fever associated with menstruation</td>
<td>B, M</td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plumbaginaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Plumbago indica</em> L.</td>
<td>Chetta mun phloeng daeng</td>
<td>Food</td>
<td>Leaves : as a condiment in curries.</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Plumbago indica L.</td>
<td>Medicine</td>
<td>Roots : as a diaphoretic</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves : as an anthelminthic in cattle</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Whole plant : as a contraceptive</td>
<td>M</td>
</tr>
<tr>
<td><em>Plumbago zeylanica</em> L.</td>
<td>Chetta mun phloeng khao</td>
<td>Medicine</td>
<td>Whole plant : as an antipyretic</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Plumbago zeylanica L.</td>
<td></td>
<td>Roots : as a blood circulation tonic; treatment of numbness</td>
<td>M</td>
</tr>
<tr>
<td><strong>Polygonaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Polygonum odoratum</em> Lour.</td>
<td>Hom chan Kue song</td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable.</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td>Polygonum odoratum Lour.</td>
<td>Medicine</td>
<td>Roots : treatment of herpes infection</td>
<td>M</td>
</tr>
<tr>
<td><em>Polygonum tomentosum</em> Willd.</td>
<td>Ueang เอื้อง</td>
<td>Food</td>
<td>Leaves : cooked in curry</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Polygonum tomentosum Willd.</td>
<td>Medicine</td>
<td>Leaves : treatment of diarrhea</td>
<td>B</td>
</tr>
<tr>
<td><strong>Polypodiaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Drymoglossum piloselloides</em> (L.) C. Presl</td>
<td>Klet nakkhat , Pi ti เกล็ดนักษัท, ปีติ</td>
<td>Medicine</td>
<td>Whole plant : treatment of urticaria</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>Drymoglossum piloselloides (L.) C. Presl</td>
<td></td>
<td>Leaves : treatment of scars</td>
<td>B</td>
</tr>
<tr>
<td><em>Drynaria quercifolia</em> (L.) Sm.</td>
<td>Hua wao หว้าวา</td>
<td>Medicine</td>
<td>Rhizomes : as antihypertension; treatment of herpes infection</td>
<td>B ; M</td>
</tr>
<tr>
<td><em>Myrmecophila sinuosa</em> (Wall. ex Hook.) Nakai ex H. Ito</td>
<td>Tan mangkorn , Karong ตานมังกร, ก้ารง</td>
<td>Medicine</td>
<td>Whole plant : treatment of venomous bites</td>
<td>M</td>
</tr>
<tr>
<td>Family and species name</td>
<td>Vernacular</td>
<td>Uses</td>
<td>Part used</td>
<td>User</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>----------------------------</td>
<td>-----------------------</td>
<td>---------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td><em>Pontederiaceae</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Monochoria elata</em> Ridl.</td>
<td>Phlong พลอง</td>
<td>Food</td>
<td>Shoots, flowers: eaten raw or cooked as a vegetable ผักต้มหรือผักนึ่ง</td>
<td>B</td>
</tr>
<tr>
<td><em>Proteaceae</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Helicia robusta</em> (Roxb.) R.Br. ex Wall.</td>
<td>Niang rok เนียงรอก</td>
<td>Food</td>
<td>Leaves, flowers: eaten raw as a vegetable ผักผื่นแผล</td>
<td>B</td>
</tr>
<tr>
<td><em>Pteridaceae</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Acrostichum aureum</em> L.</td>
<td>Prong thale, Pi yai ปรงทะเล ปิยัย</td>
<td>Food</td>
<td>Leaves: eaten as a vegetable ผักต้ม</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Rhizomes: treatment of herpes infection ยาแก้เพลีย</td>
<td>M</td>
</tr>
<tr>
<td><em>Stenochlaena palustris</em> (Burm.f.) Bedd.</td>
<td>Lam theng ลำที่ง</td>
<td>Food</td>
<td>Leaves: cooked in various ways as a vegetable ผักนึ่ง</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Stems: treatment of herpes infection ยาแก้เพลีย&lt;br&gt;Leaves: treatment of bilharia</td>
<td>M</td>
</tr>
<tr>
<td><em>Rhamnaceae</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ziziphus mauritiana</em> Lam.</td>
<td>Phutsa, พุดทรา</td>
<td>Food</td>
<td>Fruits: eaten fresh or pickled. ผลไม้สดหรือผัด</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ritual</td>
<td>Leaves: used in tradition concerning death ใบผัด</td>
<td>M</td>
</tr>
<tr>
<td><em>Zizyphus oenaplia</em> (L.) Mill.</td>
<td>Lep yiao, Yap yio เล็บเหยี่ยว, ยับยิ่ว</td>
<td>Ritual</td>
<td>Spines: employed in a ritual performed at the beginning of the rice-growing season ใบผัด</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>Spines: the local people who have wounds usually keep a spine of this plant species in their pocket when they have to go to cremation; it is believed to avoid inflammation of the wounds.</td>
<td>B</td>
</tr>
</tbody>
</table>
### Table 6 (continued)

<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rhizophoraceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Bruguiera cylindrica</em> (L.) Blume</td>
<td>Thua khoa ถั่วขาว</td>
<td>Medicine</td>
<td>Fruits : as an antidiarrheic</td>
<td>M</td>
</tr>
<tr>
<td><em>Cereops tagal</em> (Perr.) C. B. Rob.</td>
<td>Prong daeng ปรงแดง</td>
<td>Food</td>
<td>Fruits : eaten raw as a vegetable.</td>
<td>M</td>
</tr>
<tr>
<td><em>Rhizophora apiculata</em> Blume</td>
<td>Kong kang โคงกาง</td>
<td>Miscellaneous Wood</td>
<td>Wood : as fuel; production of charcoal; making implements.</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Rhizophora mucronata</em> Poir.</td>
<td>Kong kang โคงกาง</td>
<td>Miscellaneous Wood</td>
<td>Wood : as fuel; production of charcoal.</td>
<td>B , M</td>
</tr>
<tr>
<td><strong>Rosaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Rubus moluccanus</em> L.</td>
<td>Fa laep ฟ้าแลบ</td>
<td>Food</td>
<td>Leaves : cooked as a vegetable.</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Thainam ท้านำม</td>
<td>Medicine</td>
<td>Stems and leaves : as a blood circulation tonic; treatment of bodily discomfort</td>
<td>B</td>
</tr>
<tr>
<td><strong>Rubiaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Catunaregum stipulosa</em> (Zoll. &amp; Moritzi) Triveng</td>
<td>Nam khwakchang หนามขวากช้าง</td>
<td>Ritual</td>
<td>Whole plant : a decoction of the whole plant is drunk; it is believed to exorcise evil spirits from the body.</td>
<td>B</td>
</tr>
<tr>
<td><em>Chassalia curviflora</em> (Wall.) Thwaites</td>
<td>Plai sarn ปลั่งสาร</td>
<td>Food</td>
<td>Leaves, flowers : eaten raw as a vegetable.</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Gynochthodes sublanceolata</em> Miq.</td>
<td>Phan samo, Pe tae พันสมอ, ปีเตา</td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable</td>
<td>B , M</td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Hedyotis capitellata</em></td>
<td>Ne ma ka koh</td>
<td>Medicine</td>
<td>Whole plant : treatment of insect bites, contusion</td>
<td>M</td>
</tr>
<tr>
<td>Wall. ex G.Don</td>
<td></td>
<td></td>
<td>Roots : treatment of venereal sores</td>
<td>M</td>
</tr>
<tr>
<td><em>Hedyotis corymbosa</em> (L.) Lam.</td>
<td>Ya lin ngu</td>
<td>Medicine</td>
<td>Whole plant : treatment of cancer</td>
<td>B</td>
</tr>
<tr>
<td><em>Hedyotis pachycarpa</em> Ridl.</td>
<td>Tong haeng</td>
<td>Medicine</td>
<td>Roots : treatment post partum hemorrhage</td>
<td>M</td>
</tr>
<tr>
<td><em>Hydnophytum formicarum</em> Jack</td>
<td>Hua roi ru</td>
<td>Medicine</td>
<td>Whole plant : as a blood circulation tonic ; treatment of lumbago</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Stems : treatment of fever ; cancer</td>
<td>M ; B</td>
</tr>
<tr>
<td><em>Ixora javanica</em> (Blume) DC.</td>
<td>Khem thong</td>
<td>Medicine</td>
<td>Roots : as a blood circulation tonic</td>
<td>M</td>
</tr>
<tr>
<td><em>Lasianthus hirsutus</em> (Roxb.) Merr.</td>
<td>Ruesi som</td>
<td>Medicine</td>
<td>Whole plant : as an ingredient of various traditional remedies</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots : as a tonic</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves : treatment of rash</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>treatment of lumbago</td>
<td>B</td>
</tr>
<tr>
<td><em>Morinda citrifolia</em> L.</td>
<td>Yo ban</td>
<td>Food</td>
<td>Leaves : eaten cooked as a vegetable</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Fruits : as a tonic</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Morinda elliptica</em> Ridl.</td>
<td>Yo pa</td>
<td>Food</td>
<td>Leaves : eaten cooked as a vegetable</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Fruits : treatment of hiccough, nausea</td>
<td>B</td>
</tr>
<tr>
<td>Family and species name</td>
<td>Vernacular</td>
<td>Uses</td>
<td>Part used</td>
<td>User</td>
</tr>
<tr>
<td>------------------------------</td>
<td>------------</td>
<td>------------</td>
<td>---------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Mussaenda graba Vahl.</td>
<td>Balix a-da</td>
<td>Food</td>
<td>Leaves: eaten raw as a vegetable</td>
<td>M</td>
</tr>
<tr>
<td>Mussaenda wallichii G. Don</td>
<td>Bao mamuet</td>
<td>Medicine</td>
<td>Whole plant: as a tonic</td>
<td>B</td>
</tr>
<tr>
<td>Paederia foetida (Lour.) Merr.</td>
<td>Yan pha hom</td>
<td>Food</td>
<td>Leaves: eaten raw as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td>Prismatomeris tetrandra (Roxb.) K. Schum.</td>
<td>Duk kai</td>
<td>Medicine</td>
<td>Roots: as a tonic; treatment of bodily discomfort, fever</td>
<td>B</td>
</tr>
<tr>
<td>Psychotria viridiflora Reindw. ex Blume</td>
<td>Khem</td>
<td>Food</td>
<td>Inflorescences: cooked in Thai-style vegetable soup.</td>
<td>B</td>
</tr>
<tr>
<td>Saprosma indicum Dalz.</td>
<td>Tud</td>
<td>Food</td>
<td>Leaves: eaten raw, cooked in curries</td>
<td>B</td>
</tr>
<tr>
<td>Uncaria sclerophylla (Hunter) Roxb.</td>
<td>Ka he</td>
<td>Medicine</td>
<td>Stems and leaves: as an antiflatulence</td>
<td>B</td>
</tr>
<tr>
<td>Rutaceae Citrus aurantifolia (Christm.) Swingle</td>
<td>Manao</td>
<td>Food</td>
<td>Fruits: as a sour flavor to various kinds of dishes.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Fruits: the fruits are usually used to accompany various kinds of medicinal plants and used as a traditional medicines.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots: treatment of fever; as an anti-emetic</td>
<td>B</td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Citrus hystrix</em> DC</td>
<td>Makrut, Som krut</td>
<td>Food</td>
<td>Fruits: used as a condiment in various dishes.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves: eaten raw as a vegetable, or to season food.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Medicine</td>
<td>Roots: treatment of fever; as an anti-emetic</td>
</tr>
<tr>
<td><em>Clausena excavata</em> Burm.f.</td>
<td>Mui</td>
<td>Food</td>
<td>Leaves: eaten raw as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>Leaves: used to accelerate fruit ripening</td>
</tr>
<tr>
<td><em>Euodia roxburghiana</em> (Cham.) Benth. ex Hook.f.</td>
<td>Ya khong</td>
<td>Food</td>
<td>Leaves: eaten raw as a vegetable</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Medicine</td>
<td>Leaves: as an anthelminthic in children</td>
</tr>
<tr>
<td><em>Feroniella lucida</em> (Scheff.) Swingle</td>
<td>Ma sang, Sang</td>
<td>Food</td>
<td>Leaves, flowers: eaten raw as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Glycosmis pentaphylla</em> (Retz.) DC.</td>
<td>Nam khoa, Na pae</td>
<td>Medicine</td>
<td>Leaves: as a contraceptive</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots: treatment of herpes infection</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ritual</td>
<td>Leaves: treatment of sickness due to sorcery</td>
</tr>
<tr>
<td><em>Micromelum hirsutum</em> Oliv.</td>
<td>Lam phi phai</td>
<td>Food</td>
<td>Fruits: cooked in curries</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ritual</td>
<td>Stem, leaves: employed in a ritual performed to drive off evil spirits</td>
</tr>
<tr>
<td><em>Zanthoxylum nitidum</em> (Roxb.) DC.</td>
<td>Pha grut</td>
<td>Food</td>
<td>Leaves: eaten raw as a vegetable</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Medicine</td>
<td>Whole plant: treatment of hemorrhoids</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Roots, leaves: treatment of wounds</td>
</tr>
<tr>
<td>Family and species name</td>
<td>Vernacular</td>
<td>Uses</td>
<td>Part used</td>
<td>User</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------</td>
<td>------</td>
<td>-----------</td>
<td>------</td>
</tr>
<tr>
<td><strong>Salicaceae</strong>&lt;br&gt;<code>Salix tetrasperma</code> Roxb.</td>
<td>Sanun, Dalu สนุน, ดาลู</td>
<td>Construction</td>
<td>Wood : house building</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>Leaves : as a hair shampoo.</td>
<td>M</td>
</tr>
<tr>
<td><strong>Sapindaceae</strong>&lt;br&gt;<code>Amesiodendron chinense</code> (Merr.) Hu</td>
<td>Khan ขัน</td>
<td>Food</td>
<td>Seeds : eaten after cooked.</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Seeds : treatment of sores</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td>Seeds : seed oil is used as a hair tonic</td>
<td>M</td>
</tr>
<tr>
<td><strong>Guioa pleuropteris</strong>&lt;br&gt;(Blume) Radlk.</td>
<td>Som ling สอมลิง</td>
<td>Food</td>
<td>Fruits : eaten fresh</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Leaves : as a diuretic</td>
<td>B</td>
</tr>
<tr>
<td><strong>Lepisanthes alata</strong> (Blume)&lt;br&gt;Leenh.</td>
<td>Ya ho ยาโฮ</td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable.</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fruits : eaten fresh</td>
<td>M</td>
</tr>
<tr>
<td><strong>Lepisanthes fruticosa</strong>&lt;br&gt;(Roxb.) Leenh.</td>
<td>Plum riang พุมเรียง</td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fruit : eaten fresh</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ritual</td>
<td>Leaves : used in ritual performed before rice-harvesting season.</td>
<td>B</td>
</tr>
<tr>
<td><strong>Lepisanthes rubiginosa</strong>&lt;br&gt;(Roxb.) Leenh.</td>
<td>Kam cham กำชัย</td>
<td>Food</td>
<td>Fruits : eaten fresh</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Roots : treatment of hemorrhage, dysmenorrheal</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>treatment of fever, nausea.</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves : treatment of burns, fever and cold</td>
<td>B</td>
</tr>
</tbody>
</table>

Table continues
Table 6 (continued)

<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nephelium lappaceum L.</td>
<td>Ngo, Phom ngo</td>
<td>Food</td>
<td>Fruits : eaten fresh.</td>
<td>B, M</td>
</tr>
<tr>
<td>Sapotaceae</td>
<td></td>
<td>Medicine</td>
<td>Stem bark : as an abstergent</td>
<td>B</td>
</tr>
<tr>
<td>Ganua motleyana Pierre ex Dubark</td>
<td>Sa tiao</td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Stem bark : treatment of joint pain</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Construction</td>
<td>Wood : house building</td>
<td>B, M</td>
</tr>
<tr>
<td>Manilkara zapota (L.) P. Royen</td>
<td>Lamut, Sawa</td>
<td>Food</td>
<td>Fruits : eaten fresh</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medicine</td>
<td>Fruits : as an anti diarrheic</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves : treatment of abdominal pain in children</td>
<td>M</td>
</tr>
<tr>
<td>Mimusops elengi L.</td>
<td>Phikun, Kun</td>
<td>Miscellaneous</td>
<td>Fruits : used to dye fish-nets</td>
<td>B</td>
</tr>
<tr>
<td>Selaginellaceae</td>
<td>Ya rang kai</td>
<td>Food</td>
<td>Leaves : eaten raw as a vegetable</td>
<td>B</td>
</tr>
<tr>
<td>Schizaeaceae</td>
<td>Li phao yung</td>
<td>Medicine</td>
<td>Whole plant : treatment of numbness</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Rhizomes : as a refrigerant; treatment of anorexia</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Utensil</td>
<td>Leaf stalk, rachis : used for wickerwork</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td>Li phao</td>
<td>Medicine</td>
<td>Whole plant : treatment of numbness</td>
<td>B, M</td>
</tr>
<tr>
<td>Lygodium salicifolium C. Presl.</td>
<td></td>
<td></td>
<td>Rhizomes : as a refrigerant; treatment of anorexia</td>
<td>B, M</td>
</tr>
<tr>
<td>Family and species name</td>
<td>Vernacular</td>
<td>Uses</td>
<td>Part used</td>
<td>User</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------</td>
<td>------</td>
<td>-----------</td>
<td>------</td>
</tr>
<tr>
<td>Schizaea dichotoma (L.) Sm.</td>
<td>Tan phrao ตานพร้าว</td>
<td>Medicine</td>
<td>Whole plant : treatment of abscesses, pustules</td>
<td>B</td>
</tr>
<tr>
<td>Schizaea digitata (L.) Sw.</td>
<td>Tan ตาน</td>
<td>Medicine</td>
<td>Whole plant : treatment of abscesses, pustules</td>
<td>B</td>
</tr>
<tr>
<td>Scrophulariaceae</td>
<td>Lindernia crustacea (L.) F. Muell</td>
<td>Kerak nasi กีรรักนาซี</td>
<td>Medicine</td>
<td>Whole plant : treatment of insect bites, scabies</td>
</tr>
<tr>
<td>Scoparia dulcis L.</td>
<td>Ya tai baiหญ้าใต้ใบ</td>
<td>Medicine</td>
<td>Whole plant : treatment of flatulence</td>
<td>B, M</td>
</tr>
<tr>
<td>Eurycoma longifolia Jack</td>
<td>Lai phueakลำไยผึ้ง</td>
<td>Medicine</td>
<td>Roots : as a tonic ; treatment of calculi, antihypertension, treatment of bodily discomfort, lumbago</td>
<td>M</td>
</tr>
<tr>
<td>Smilacaceae</td>
<td>Smilax myosotiflora A. DC.</td>
<td>Lek thong daengเหล็กลงแดง</td>
<td>Medicine</td>
<td>Tubers : as a tonic ; treatment of lumbago, bodily discomfort.</td>
</tr>
<tr>
<td>Smilax perfoliata Lour.</td>
<td>Kamlang khwai ถึก</td>
<td>Medicine</td>
<td>Roots and stems : as a tonic ; treatment of lumbago</td>
<td>B, M</td>
</tr>
<tr>
<td>Solanaceae</td>
<td>Capsicum frutescens L.</td>
<td>Phrik khinu, Dipliพริกขี้หนู, ดีปลี</td>
<td>Food</td>
<td>Fruits : as a condiment in various dishes.</td>
</tr>
</tbody>
</table>

Table continues.
Table 6 (continued)

<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Nicotiana tabacum</em> L.</td>
<td>Ya sup</td>
<td>Medicine</td>
<td>Leaves: treatment of fever</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roots: treatment of herpes infection</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leaves: the shredded dried leaves are used to make local cigarettes which are wrapped in Nipa palm leaves. Sometimes the shredded dried leaves and a betel quid are chewed together as a masticatory.</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Solanum indicum</em> L.</td>
<td>Waeng</td>
<td>Medicine</td>
<td>Whole plant: as an antidiabetes</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Solanum involucratum</em> Blume</td>
<td>Uek muak อีกหมาก</td>
<td>Medicine</td>
<td>Whole plant: as a blood circulation tonic; treatment of bodily discomfort.</td>
<td>B</td>
</tr>
<tr>
<td><em>Solanum stramonifolium</em> Jacq.</td>
<td>Ma uek มะอึก</td>
<td>Food</td>
<td>Fruits: eaten raw or made into dishes eaten with rice.</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Solanum torvum</em> Sw.</td>
<td>Ma khuea phuang มาเขือพวง</td>
<td>Food</td>
<td>Fruits: eaten raw as a vegetable, cooked in curries.</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Medicine</td>
<td></td>
</tr>
<tr>
<td><em>Stemonaceae</em></td>
<td></td>
<td></td>
<td>Roots: as a scabicide; to kill head-lice</td>
<td>B</td>
</tr>
<tr>
<td><em>Stemona tuberosa</em> Lour.</td>
<td>Non tai yak หนอนตายหยาก</td>
<td>Medicine</td>
<td>Roots: as a scabicide; to kill head-lice</td>
<td>B</td>
</tr>
<tr>
<td><em>Sterculiaceae</em></td>
<td></td>
<td></td>
<td>Construction: Wood: house building, making household items, and other construction.</td>
<td>M</td>
</tr>
<tr>
<td><em>Heritiera littoralis</em> Dryand.</td>
<td>Du hun ดุู๋น</td>
<td>Construction</td>
<td>Wood: house building, making household items, and other construction.</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Miscellaneous: Fruits: as a toy for children.</td>
<td></td>
</tr>
<tr>
<td><em>Leptonychia caudata</em> (Wall. ex G.Don)</td>
<td>Mo tack มอตก</td>
<td>Medicine</td>
<td>Leaves: treatment of fever, faint</td>
<td>B , M</td>
</tr>
<tr>
<td><em>Taccaceae</em></td>
<td></td>
<td></td>
<td>Rhizomes: as an aphrodisiac</td>
<td>B</td>
</tr>
<tr>
<td><em>Tacca chantrieri</em> Andre</td>
<td>Nang krwan นางควรวัน</td>
<td>Medicine</td>
<td>Rhizomes: as an aphrodisiac</td>
<td>B</td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Tacca integrifolia</em></td>
<td>Nang khruan</td>
<td>Medicine</td>
<td>Rhizomes, whole plant : used in a similar way as <em>Tacca chantrieri</em> Andre</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Linostoma pauciflorum</em></td>
<td>Pha mi</td>
<td>Medicine</td>
<td>Roots : treatment of nasal polyp</td>
<td>M</td>
</tr>
<tr>
<td><em>Corchorus capsularis</em></td>
<td>Ka ching ba yu</td>
<td>Medicine</td>
<td>Leaves : treatment of abscesses, ulcer, contusion</td>
<td>M</td>
</tr>
<tr>
<td><em>Microcos tomentosa</em></td>
<td>Phla</td>
<td>Medicine</td>
<td>Flowers : treatment of herpes infection</td>
<td>M</td>
</tr>
<tr>
<td><em>Trema cannabina</em></td>
<td>Kira</td>
<td>Medicine</td>
<td>Stem bark : treatment of aphthous ulcer</td>
<td>M</td>
</tr>
<tr>
<td><em>Trema tomentosa</em> (Roxb.)</td>
<td>Kira</td>
<td>Medicine</td>
<td>Stem bark : treatment of aphthous ulcer</td>
<td>M</td>
</tr>
<tr>
<td><em>Centella asiatica</em> (L.) Urb.</td>
<td>Bua bok</td>
<td>Food</td>
<td>Leaves : eaten raw or cooked as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Laportea interrupta</em> (L.)</td>
<td>Kalang tang kai</td>
<td>Medicine</td>
<td>Roots : treatment of herpes infection</td>
<td>M</td>
</tr>
<tr>
<td><em>Urticaceae</em></td>
<td></td>
<td></td>
<td></td>
<td>B</td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Poikilospermum suaveolens</em> (Bl.) Merr.</td>
<td>Mu ru</td>
<td>Miscellaneous</td>
<td>Roots, stems: as cordage; used as a torch for honey-collecting on a tall tree.</td>
<td>B, M</td>
</tr>
<tr>
<td>Verbenaceae</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Avicennia alba</em> Blume</td>
<td>Pi pi</td>
<td>Medicine</td>
<td>Leaves: as an antidote</td>
<td>M</td>
</tr>
<tr>
<td><em>Avicennia marina</em> (Forsk) Vierh</td>
<td>Pi pi</td>
<td>Medicine</td>
<td>Leaves: as an antidote</td>
<td>M</td>
</tr>
<tr>
<td><em>Callicarpa candicans</em> (Burm.f.) Hochr.</td>
<td>Tamo bue si</td>
<td>Medicine</td>
<td>Leaves: as a contraceptive; roots: treatment of post partum</td>
<td>M</td>
</tr>
<tr>
<td><em>Callicarpa longifolia</em> Lam.</td>
<td>Tok khoa</td>
<td>Medicine</td>
<td>Leaves: treatment of wounds; treatment of post partum, fever</td>
<td>B</td>
</tr>
<tr>
<td><em>Clerodendrum chinense</em> (Osbeck) Mabb.</td>
<td>Nang yaem</td>
<td>Medicine</td>
<td>leaf: treatment of fever, nausea</td>
<td>M</td>
</tr>
<tr>
<td><em>Clerodendrum petasites</em> (Lour.) S.Moore</td>
<td>Mai thao yai mom</td>
<td>Food</td>
<td>Leaves: eaten blanched as a vegetable.</td>
<td>B</td>
</tr>
<tr>
<td><em>Gmelina elliptica</em> Sm.</td>
<td>Ching jai</td>
<td>Medicine</td>
<td>Leaves: treatment of leucorrhoea, hemorrhoids</td>
<td>M</td>
</tr>
<tr>
<td><em>Lantana camara</em> L.</td>
<td>Phaka krong, Khi kai</td>
<td>Medicine</td>
<td>Whole plant: as a refrigerant</td>
<td>B</td>
</tr>
</tbody>
</table>

Table continues
Table 6 (continued)

<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peronema canescens</strong></td>
<td>Jack Su ka</td>
<td>Medicine</td>
<td>Leaves: treatment of symptoms, helminthes in children.</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>ซูก้า</td>
<td>Construction</td>
<td>Wood: house building, making hedge.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ritual</td>
<td>Leaves: employed in magic treatment to ward off bad spirits</td>
<td>M</td>
</tr>
<tr>
<td><strong>Stachytarpheta jamaicensis</strong></td>
<td>Phan ngu khiao</td>
<td>Medicine</td>
<td>Leaves: treatment of stomach ache</td>
<td>B</td>
</tr>
<tr>
<td>(L.) Vahl</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vitex negundo</strong> L.</td>
<td>Khon thi, Ku ning</td>
<td>Medicine</td>
<td>Whole plant: treatment of bodily discomfort</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>กูนิง</td>
<td>Ritual</td>
<td>Leaves: used in religious ceremonies.</td>
<td>B</td>
</tr>
<tr>
<td><strong>Vitex pinnata</strong> L.</td>
<td>Non, Lue bae</td>
<td>Medicine</td>
<td>Stem bark and leaves: as an abstergent</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>หน้า,  עשרות</td>
<td></td>
<td>Fruits: treatment of abscesses</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Utensil</td>
<td>Wood: making household items, agricultural equipments, etc.</td>
<td>B, M</td>
</tr>
<tr>
<td><strong>Violaceae</strong></td>
<td>Phak wan chang khlong</td>
<td>Food</td>
<td>Leaves: eaten cooked.</td>
<td>B</td>
</tr>
<tr>
<td><strong>Rinorea bengalensis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Wall.) O.K.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vitaceae</strong></td>
<td>Som kung</td>
<td>Food</td>
<td>Leaves: cooked in various way as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td><strong>Ampleocissus arachnoidea</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Hassk.) Planch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cayratia japonica</strong> (Thunb.) Gagnep</td>
<td>La kong</td>
<td>Medicine</td>
<td>Leaves: treatment of swellings</td>
<td>M</td>
</tr>
<tr>
<td><strong>Cayratia trifolia</strong> (L.) Domin</td>
<td>Thao khan</td>
<td>Food</td>
<td>Fruits: cooked in sour curry</td>
<td>B, M</td>
</tr>
<tr>
<td>Family and species name</td>
<td>Vernacular</td>
<td>Uses</td>
<td>Part used</td>
<td>User</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------</td>
<td>------</td>
<td>-----------</td>
<td>------</td>
</tr>
<tr>
<td><em>Cissus hastata</em> Miq.</td>
<td>Som khao</td>
<td>Food</td>
<td>Leaves : cooked in sour curry</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td>ส้มข้าว</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Miscellaneous</td>
<td>Young shoots : put in palm wine for sour taste.</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td><em>Cissus quadrangularis</em> L.</td>
<td>Phet sangkhat</td>
<td>Medicine</td>
<td>Stems : treatment of hemorrhoids</td>
<td>B</td>
</tr>
<tr>
<td><strong>Zingiberaceae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Alpinia conchigera</em> Griff.</td>
<td>Kha ling</td>
<td>Food</td>
<td>Shoots : eaten raw as a vegetable , as a condiment in local dishes.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Alpinia javanica</em> Blume</td>
<td>Put nu</td>
<td>Food</td>
<td>Flowers : eaten raw as a vegetable</td>
<td>M</td>
</tr>
<tr>
<td><em>Alpinia mutica</em> Roxb.</td>
<td>Put, Kae nae</td>
<td>Food</td>
<td>Shoots, fruits : eaten raw as a vegetable.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td>ปุ๋ย, แกแน</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medicine</td>
<td></td>
<td>Rhizomes : treatment of urinary stones</td>
<td>M</td>
</tr>
<tr>
<td><em>Amomum testaceum</em> Ridl.</td>
<td>Krawan</td>
<td>Food</td>
<td>Shoots : cooked in curries.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td>กระวาน</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medicine</td>
<td></td>
<td>Seeds : as a condiment in various dishes.</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Boesenbergia plicata</em> (Ridl.) Holtt.</td>
<td>Maha prap</td>
<td>Medicine</td>
<td>Rhizomes : as a cardio tonic</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>มหาปราบ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Boesenbergia rotunda</em> (L.) Mansf.</td>
<td>Kra chai</td>
<td>Food</td>
<td>Tubercous roots : as a condiment in various dishes.</td>
<td>B , M</td>
</tr>
<tr>
<td></td>
<td>กระชาย</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medicine</td>
<td></td>
<td>Roots : treatment of swelling</td>
<td>B</td>
</tr>
<tr>
<td><em>Curcuma longa</em> L.</td>
<td>Khamin</td>
<td>Food</td>
<td>Rhizomes : as a spice in various dishes ; as a yellow dye for food.</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td>ข้ามิ้น</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medicine</td>
<td></td>
<td>Rhizomes : as an ingredient in various traditional remedies.</td>
<td>B, M</td>
</tr>
</tbody>
</table>

Table continues
<table>
<thead>
<tr>
<th>Family and species name</th>
<th>Vernacular</th>
<th>Uses</th>
<th>Part used</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Elettariopsis curtisii</em> Baker</td>
<td>Put sing ปุดสิง</td>
<td>Food</td>
<td>Rhizomes, young leaves: eaten raw as a vegetable</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Whole plant: treatment of flatulence, stomach ache</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Etlingera elatior</em> (Jack) R.M.Sm.</td>
<td>Kala กาหลา</td>
<td>Food</td>
<td>Shoots, inflorescences: eaten raw as a vegetable</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Whole plant: treatment of helminthes</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Inflorescences: treatment of hypertension</td>
<td>M</td>
</tr>
<tr>
<td><em>Etlingera littoralis</em> (Koenig) Giseke</td>
<td>Put khang khok ปุดคางคก</td>
<td>Food</td>
<td>Shoots: cooked in curries</td>
<td>B</td>
</tr>
<tr>
<td><em>Hedychium ellipticum</em> Hamm ex Smith</td>
<td>Khing haeng ขิงแหง</td>
<td>Medicine</td>
<td>Rhizomes: as a stomachic; treatment of bodily discomfort</td>
<td>B</td>
</tr>
<tr>
<td><em>Scaphochlamys biloba</em> (Ridl.) Molt.</td>
<td>Sala thang ซาลาทัง</td>
<td>Medicine</td>
<td>Whole plant: as a contraceptive</td>
<td>M</td>
</tr>
<tr>
<td><em>Zingiber montanum</em> (Koenig) Theilade</td>
<td>Phlai dam ไพลดํา</td>
<td>Medicine</td>
<td>Rhizomes: treatment of urticaria</td>
<td>B</td>
</tr>
<tr>
<td><em>Zingiber ottensii</em> Val.</td>
<td>Phlai dam ไพลดํา</td>
<td>Food</td>
<td>Inflorescences: eaten raw or steamed as a vegetable</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Rhizomes: as a carminative; treatment of numbness</td>
<td>B, M</td>
</tr>
<tr>
<td><em>Zingiber spectabile</em> Griff.</td>
<td>Dak ngo ดาเกะ</td>
<td>Food</td>
<td>Shoots: cooked in curries</td>
<td>B, M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Inflorescences: eaten blanched</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Miscellaneous</td>
<td></td>
</tr>
<tr>
<td><em>Zingiber zerumbet</em> (L.) Sm.</td>
<td>Thue phrao ทือพราว</td>
<td>Food</td>
<td>Rhizomes: cooked in curries</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Whole plant: treatment of helminthes</td>
<td></td>
</tr>
</tbody>
</table>

Table continues
Table 7 The formulae of traditional medicines including their indications, ingredients, preparation and application.

<table>
<thead>
<tr>
<th>Formula</th>
<th>Indication</th>
<th>Ingredients, preparation and application</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>As a blood circulation tonic; treatment of bodily discomfort.</td>
<td>Stems of <em>Goniothalamus macrophyllus</em> (Blume) Hook.f. &amp; Th. and <em>Alstonia macrophylla</em> Wall. ex G.Don together with the whole plant of <em>Cleome viscosa</em> L., <em>Solanum involucratum</em> Blume, <em>Rubus moluccanus</em> L. in equal proportion, and a small piece of wood of <em>Excoecaria oppositifolia</em> Griff. are chopped, dried in shed for 3 days, and boiled in water. Then 1/3 glass of a decoction is taken 3 times a day.</td>
</tr>
<tr>
<td>F2</td>
<td>As a blood circulation tonic; treatment of bodily discomfort.</td>
<td>A combination of whole plant of <em>Thottea tomentosa</em> (Blume) Ding Hou, <em>Tacca integrifolia</em> Ker Gawl. (or <em>Tacca chantrieri</em> Andre.), <em>Trevesia arborea</em> Merr, <em>Mimosa pudica</em> L. and <em>Piper sarmentosum</em> Roxb. are boiled in water, and then this water is drunk as a substitute of drinking water.</td>
</tr>
<tr>
<td>F3</td>
<td>As a tonic</td>
<td>A combination of the whole plant of <em>Gomphostemma scortechinii</em> Prain, <em>Apostasia nuda</em> L. and <em>Dracaena umbratica</em> Ridl. in equal proportion is coarsely chopped and boiled in water. Then a decoction is drunk as a substitute of drinking water.</td>
</tr>
<tr>
<td>F4</td>
<td>As a tonic</td>
<td>Roots of <em>Glochidion perakense</em> Hook.f., <em>Alstonia spathulata</em> Blume and tubers of <em>Lasia spinosa</em> (L.)Thw. in equal proportion are boiled in water, and then a decoction is drunk as a substitute of drinking water.</td>
</tr>
<tr>
<td>F5</td>
<td>As a tonic; treatment of lumbago</td>
<td>Rhizome of <em>Angiopteris evecta</em> (G.Forst.) Hoffm. together with the whole plant of <em>Hydnophytum formicarum</em> Jack and tubers of Lek fag khai (an unknown species) in equal proportion are sliced, dried, and then macerated in local whisky. The resultant macerate is then decanted and taken.</td>
</tr>
<tr>
<td>F6</td>
<td>As a tonic for potency</td>
<td>Whole plant of <em>Mussaenda wallichii</em> G.Don, <em>Desmos chinensis</em> Lour., <em>Alstonia macrophylla</em> Wall. ex G.Don and stems of <em>Eurycoma longifolia</em></td>
</tr>
<tr>
<td>Formula</td>
<td>Indication</td>
<td>Ingredients, preparation and application</td>
</tr>
<tr>
<td>---------</td>
<td>------------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>F7</td>
<td>As a tonic for potency</td>
<td>The whole plant of <em>Apostasia nuda</em> L., <em>Lophatherum gracile</em> Brongn. and <em>Gomphostemma scortechinii</em> Prain together with roots of <em>Lepionurus sylvestris</em> Bl. and tubers of <em>Smilax myosotiflora</em> A. DC. are dried, boiled in water, and then a decoction is taken daily.</td>
</tr>
<tr>
<td>F8</td>
<td>As a tonic; treatment of lumbago</td>
<td>Stems of <em>Grammatophyllum speciosum</em> Blume, <em>Rhinacanthus nasutus</em> (L.) Kurz and <em>Smilax perfoliata</em> Lour. together with roots of <em>Eurycoma longifolia</em> Jack and tubers of <em>Smilax myosotiflora</em> A. DC. are dried, boiled in water, and then a decoction is drunk daily as a substitute of drinking water.</td>
</tr>
<tr>
<td>F9</td>
<td>As an antidote</td>
<td>A handful of roots of <em>Thunbergia laurifolia</em> Ridl., <em>Cyperus involucratus</em> Rottb. and three fruits of <em>Averrhoa carambola</em> L. are chopped, boiled in water, and then a decoction is taken.</td>
</tr>
<tr>
<td>F10</td>
<td>Treatment of allergy</td>
<td>Whole plant of <em>Aerva lanata</em> (L.) Juss together with stamens of <em>Nelumbo nucifera</em> Gaertn. and rhizomes of <em>Tradescantia spathacea</em> Stearn are chopped, boiled in water, and then a decoction is taken.</td>
</tr>
<tr>
<td>F11</td>
<td>Treatment of cancer</td>
<td>A combination of the whole plant of <em>Lygodium microphyllum</em> (Cav.) R.Br. and <em>Lygodium salicifolium</em> C. Presl, rhizomes of <em>Nymphaea lotus</em> L. and <em>Nymphaea stellata</em> Willd., stems and leaves of <em>Ipomoea aquatica</em> Forsk. and thickened stems of <em>Hydnophytum formicarum</em> Jack in equal proportion are coarsely chopped, boiled in water, and then a decoction is taken daily as a substitute of drinking water.</td>
</tr>
<tr>
<td>F12</td>
<td>Treatment of chest complaint</td>
<td>A combination of the whole plant of <em>Hemionitis artifolia</em> (Burm. f.) Moore and <em>Elephantopus scaber</em> L. in equal proportion. are boiled in water, and then a decoction is taken 3 times a day.</td>
</tr>
<tr>
<td>Formula</td>
<td>Indication</td>
<td>Ingredients , preparation and application</td>
</tr>
<tr>
<td>---------</td>
<td>------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>F13</td>
<td>Treatment of diabetes</td>
<td>Half a handful of <em>Acacia concinna</em> (Willd.) DC. leaves together with a handful of <em>Tamarindus indica</em> L. leaves and three internodes of <em>Saccharum officinarum</em> L. are boiled in 1 liter of water, and then a decoction is drunk daily as a substitute of drinking water.</td>
</tr>
<tr>
<td>F14</td>
<td>Treatment of diabetes</td>
<td>One handful of leaves of <em>Mitragyna speciosa</em> (Roxb.) Korth. and a young shoot of <em>Nypa fruticans</em> Wurmb. are boiled in water, and then a decoction is taken daily as a substitute of drinking water.</td>
</tr>
<tr>
<td>F15</td>
<td>Treatment of diabetes</td>
<td>A combination of the roots of <em>Parkia speciosa</em> Hassk., <em>Parkia timoriana</em> Merr. and <em>Archidendron jiringa</em> (Jack) L.C.Nielsen in equal proportion is boiled in water, and then a decoction is drunk daily as drinking water.</td>
</tr>
<tr>
<td>F16</td>
<td>Treatment of diarrhea</td>
<td>Roots of <em>Melastoma malabathricum</em> L., <em>Syzygium polyanthum</em> (Wight) Walp. and stem barks of <em>Anacardium occidentale</em> L. in equal proportion are boiled in water, and then a decoction is drunk frequently during the day.</td>
</tr>
<tr>
<td>F17</td>
<td>Treatment of dysmenorrhea, hemorrhage</td>
<td>One handful of roots of <em>Lepisanthes rubiginosa</em> (Roxb.) Leenh., <em>Streblus taxoides</em> (Heynes) Kurz together with the whole plant of <em>Antidesma montanum</em> Blume and <em>Cyclea barbata</em> Miers. in equal proportion are chopped, dried, and then boiled in water. A decoction is then taken 3 times a day, daily.</td>
</tr>
<tr>
<td>F18</td>
<td>Treatment of elephantiasis</td>
<td>A combination of the whole plant of <em>Fagraea fragrans</em> Roxb., <em>Senna siamea</em> (Lam.) Irwin &amp; Barneby and Khi lom (an unknown species) together with branches of <em>Zanthoxylum nitidum</em> (Roxb.) DC., stem bark of <em>Plumeria rubra</em> L. and <em>Anacardium occidentale</em> L., and roots of <em>Fibraurea cf. tinctoria</em> Lour. in equal proportion are chopped, boiled in water, and then a decoction is taken 3 times a day, for 15 days.</td>
</tr>
</tbody>
</table>
Table 7 (continued)

<table>
<thead>
<tr>
<th>Formula</th>
<th>Indication</th>
<th>Ingredients, preparation and application</th>
</tr>
</thead>
<tbody>
<tr>
<td>F19</td>
<td>Treatment of fever; as a refrigerant</td>
<td>A combination of a handful of the roots of <em>Tiliacora triandra</em> (Colebr.) Diels, <em>Clerodendrum petasites</em> (Lour.) S. Moore and <em>Sauropus androgynus</em> (L.) Merr. are boiled in water, and then a decoction is taken.</td>
</tr>
<tr>
<td>F20</td>
<td>Treatment of fever</td>
<td>A combination of the roots of <em>Lepionurus sylvestris</em> Bl., <em>Donax arundastrum</em> Lour., <em>Donax grandis</em> (Miq.) Ridl., <em>Prismatomeris tetandra</em> (Roxb.) K. Schum and <em>Desmos chinensis</em> Lour. in equal proportion are boiled in water, and then a decoction is taken.</td>
</tr>
<tr>
<td>F21</td>
<td>Treatment of chronic fever</td>
<td>Leaves of <em>Syzygium polyanthum</em> (Wight) Walp., <em>Callicarpa longifolia</em> Lam. and <em>Dendrophthoe incarnata</em> (Sack) Miq. are boiled in water, and then this water is used to bath a patient; this treatment is done once a day in the morning, for 3 days.</td>
</tr>
<tr>
<td>F22</td>
<td>Treatment of fever associated with menstruation</td>
<td>Whole plant of <em>Mimosa pudica</em> L. and <em>Sida alnifolia</em> L. together with a handful of green mesocarp of <em>Cocos nucifera</em> L. fruit and three rice ears are boiled in water, and then this water is drunk frequently during the day.</td>
</tr>
<tr>
<td>F23</td>
<td>Treatment of fever associated with menstruation</td>
<td>Stems and roots of <em>Sida alnifolia</em> L. together with roots of <em>Imperata cylindrica</em> (L.) P. Beaur., <em>Cordyline fruticosa</em> (L.) Gopp. and the whole plant of <em>Mimosa pudica</em> L. in equal proportion are boiled in water, and then a glass of decoction is taken.</td>
</tr>
<tr>
<td>F24</td>
<td>Treatment of fever, nausea</td>
<td>A combination of roots of <em>Callicarpa longifolia</em> Lam., <em>Lepisanthes rubiginosa</em> (Roxb.) Leenh., <em>Citrus aurantifolia</em> (Christm.) Swingle, <em>Citrus hystrix</em> DC. and <em>Averrhoa carambola</em> L. in equal proportion are rubbed against an earthen ware pot, using a washing from uncooked rice as a solvent. Then a suspension is given to a patient to drink before taken to hospital.</td>
</tr>
<tr>
<td>Formula</td>
<td>Indication</td>
<td>Ingredients, preparation and application</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>F25</td>
<td>Treatment of hemorrhoids</td>
<td>A combination of fruits of <em>Piper chaba</em> Hung., stems of <em>Tinospora crispa</em> (L.) Miers ex Hook.f. &amp; Thomson, roots of <em>Plumbago indica</em> L., branches and leaves of <em>Andrographis paniculata</em> (Burm.f.) Wall. ex Nees. in equal proportion is coarsely chopped and then macerated in local whisky. A resultant macerate is then taken before bed time and in the morning.</td>
</tr>
<tr>
<td>F26</td>
<td>Treatment of insect bites and contusion</td>
<td>A handful of leaves of <em>Pterocarpus indicus</em> Willd., <em>Hedyotis capitellata</em> Wall. ex G.Don, the whole plant of <em>Lindernia crustacea</em> (L.) F.Muell. and a small amount of rice grains are pounded, and then a poultice obtained is applied over the affected areas.</td>
</tr>
<tr>
<td>F27</td>
<td>Tonic for longevity; treatment of diabetes</td>
<td>A combination of 1 kg of the whole plant of <em>Andrographis paniculata</em> (Burm. f.) Wall. ex Nees, one handful of whole plant of <em>Orthosiphon aristatus</em> (Blume) Miq., three branches and leaves of <em>Senna alata</em> (L.) Roxb., one handful of leaves of <em>Senna siamea</em> (Lam.) Irwin &amp; Barneby, one handful of leaves of <em>Acanthus ebracteatus</em> Vahl; and one gram of fruits of <em>Piper chaba</em> Hunt, <em>Piper nigrum</em> L. is dried, and then pounded. A mixture obtained is then mixed with honey, shaped into round balls or pills, and then taken 3 pills a day, daily.</td>
</tr>
<tr>
<td>F28</td>
<td>Treatment of lumbago</td>
<td>A handful of the whole plant of <em>Prismatomeris tetrandra</em> (Roxb.) K. Schum, <em>Fagraea fragrans</em> Roxb. and <em>Senna siamea</em> (Lam.) Irwin &amp; Barneby are chopped, boiled in water, and then a decoction is taken.</td>
</tr>
<tr>
<td>F29</td>
<td>Treatment of lumbago</td>
<td>A handful of the whole plant of <em>Myrme-cophila sinuosa</em> (Wall. ex Hook.) Nakai ex H. Ito, <em>Adiantum flabellulatum</em> L. and few leaves of <em>Andrographis paniculata</em> (Burm.f.) Wall. ex Nees. are grounded, and then eaten; sometimes they are boiled in water, and a decoction is taken.</td>
</tr>
<tr>
<td>Formula</td>
<td>Indication</td>
<td>Ingredients, preparation and application</td>
</tr>
<tr>
<td>---------</td>
<td>------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>F30</td>
<td>Treatment of lumbago</td>
<td>A handful of the whole plant of <em>Andrographis paniculata</em> (Burm.f.) Wall.ex Nees and <em>Cyperus rotundus</em> L. together with 15 leaves of <em>Mitragnya speciosa</em> (Roxb.) Korth and a little amount of camphor are boiled in water, and then a decoction at a dose of 1/3 glass is taken 2 times a day.</td>
</tr>
<tr>
<td>F31</td>
<td>Treatment of malarial fever</td>
<td>Whole plant of <em>Phyllanthus amarus</em> Schumach. &amp; Thonn. together with stem bark of <em>Azadirachta indica</em> A. Juss and <em>Senna siamea</em> (Lam.) Irwin &amp; Barneby, heart wood of <em>Fagraea fragrans</em> Roxb. and fresh eggs with shells are boiled. They are boiled until the eggs are cooked, and then these eggs are given to the patient to eat.</td>
</tr>
<tr>
<td>F32</td>
<td>Treatment of post partum</td>
<td>A combination of roots of <em>Cajanus cajan</em> (L.) Millsp., leaves of <em>Breynia vitis-idaea</em> (Burm.f.) C.E.C. Fisch and <em>Acacia concinna</em> (Willd.) DC. in equal proportion is boiled in water, and then a decoction is given to women to drink after giving birth to treat dizziness caused by consuming food forbidden for women in the post partum stage.</td>
</tr>
<tr>
<td>F33</td>
<td>Treatment of post partum</td>
<td>A combination of roots of <em>Cajanus cajan</em> (L.) Millsp., <em>Citrus hystrix</em> DC. and <em>Citrus aurantifolia</em> (Christm.) Swingle in equal proportion is rubbed against an earthenware pot, using water as a solvent. Then a suspension is given to women after childbirth to relieve dizziness.</td>
</tr>
<tr>
<td>F34</td>
<td>Treatment of post partum</td>
<td>A combination of one handful of leaves of <em>Rhodomyrtus tomentosa</em> (Aiton) Hassk., <em>Piper sarmentosum</em> Roxb., <em>Cymbopogon citratus</em> Stapf. and <em>Clerodendrum paniculatum</em> L. together with a young fruit of <em>Areca catechu</em> L. are finely crushed, slightly heated, and then shaped into round balls with a diameter of approximately 1 cm. Then the balls are taken at a dose of 1 ball.</td>
</tr>
<tr>
<td>Formula</td>
<td>Indication</td>
<td>Ingredients , preparation and application</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>F35</td>
<td>Treatment of ringworm</td>
<td>Seeds of <em>Entada rheedii</em> Spreng, <em>Caesalpinia major</em> (Medik.) Dandy &amp; Exell and fruits of <em>Pandanus humilis</em> Lour. in equal proportion are finely crushed, and boiled in coconut oil. Then this oil is applied onto the ringworm.</td>
</tr>
<tr>
<td>F36</td>
<td>Treatment of venereal diseases</td>
<td>A combination of roots of <em>Phyllanthus pulcher</em> Wall. ex Mull. Arg., <em>Pandanus amaryllis folius</em> Roxb., <em>Urena lobata</em> L., <em>Chrysopogon aciculatus</em> (Retz.) Trin and <em>Carica papaya</em> L. together with rhizome of <em>Musa</em> sp. in equal proportion are rubbed against an earthenware pot, using water as a solvent. Then a suspension is taken orally and also applied externally onto the affected skin.</td>
</tr>
<tr>
<td>F37</td>
<td>Treatment of herpes infection</td>
<td>Stamens of three flowers of <em>Melastoma malabathricum</em> L. together with roots of three plants of <em>Polygonum odoratum</em> Lour. and few pepper seeds are chewed with a betel quid, and then spat onto the affected areas.</td>
</tr>
<tr>
<td>F38</td>
<td>Treatment of herpes infection</td>
<td>One handful of the whole plant of <em>Vernonia cineria</em> (L.) Less together with ten branches and leaves of <em>Barleria lupulina</em> Lindl., <em>Clinacanthus nutans</em> (Burm.f.) Lindau and <em>Mimosa pudica</em> L. are crushed, mixed with local whisky, and then an extract is applied onto the affected areas.</td>
</tr>
<tr>
<td>F39</td>
<td>Treatment of dropsy</td>
<td>A combination of heart wood of <em>Dialium cochinchinense</em> Pierre, <em>Artocarpus heterophyllus</em> Lam., <em>Fagraea fragrans</em> Roxb. and <em>Cinnamomum porrectum</em> (Roxb.) Kosterm. in equal proportion are boiled in water, and then a decoction is taken 3 times a day.</td>
</tr>
</tbody>
</table>
Descriptions of the used plant species, presented alphabetically by families and genera

Acanthaceae

_Acanthus ebracteatus_ Vahl

**Vernacular** Kaem mo (แก้มหมอ)  
**Figure 19 D**

Shrub, 1 – 2 m tall; stem terete, hollow. **Stipules** absent. **Leaves** simple, opposite; petioles 0.5 – 1.5 cm long; blades coriaceous, oblanceolate, elliptic or slightly obovate, 7 – 17 by 2 – 6 cm, apex acute with apical spine, margins entire or sinuately dentate-pinnatifid with spiny teeth, base cuneate, shining, glabrous on both sides; nerves 7 – 9 pairs. **Inflorescences** spike, 12 – 20 cm long, erect, terminal or upper axillary; bract 1, caducous; bracteoles 2, persistent. **Flowers** bisexual, white or violet, subsessile, 4 – 5 cm long. **Calyx** deeply 4-lobed, upper and lower lobes largest. **Corolla** bilabiate, with a short tube closed by a ring of hairs inside the top; upper lip none; lower lip large, 4.3 by 2.5 cm, obovate shallowly 3-lobed at apex, pubescent inside, deflexed. **Stamens** 4; filaments hard, thick, 2 cm long; anthers 1-celled, 1 cm long, densely longitudinally hairy. **Ovary** superior, ovoid, glabrous, 2-loculed; ovules 2 in each locale; style terete, bifid. **Fruit** capsule, ovoid-oblong, 2 – 3 by 1 cm wide, green to light brown, leathery, glabrous. **Seeds** 2 – 4, reniform, rugose, flattened.

**Locality** Ban Ta Se, Hat Samran Subdistrict, Trang Province.

**Distribution** India, SE.Asia, Malesia to N.Australia.

**Ecology** In the mangroves and on the muddy banks of tidal rivers. Flowering and fruiting January – May.

**Uses** The flowers are eaten raw to treat abscesses, (M). The leaves are used as an ingredient in the formula F27 taken as a tonic for longevity and for the treatment of diabetes,(B).

**Material studied** UBON 1078, 1079 ; BKF 71785


_Justicia gendarussa_ Burm. f.

**Vernacular** Chiang phra (เจียงพร้า)

Shrub, 100 – 180 cm tall; with upright branches, dark violet when young, thickened on the nodes, glabrous. **Stipules** absent. **Leaves** simple, opposite; petioles 5 – 8 mm long; blades thinly coriaceous, narrowly lanceolate, 5 – 20 by 1 – 3.5 cm, apex acuminate, margins entire, base narrow, glabrous on both surfaces, dark green above, pale green beneath; nerves 6 – 7 pairs, dark violet. **Inflorescences** spike, terminal or upper
axillary, erect, 7 – 12 cm long; bracts triangular-subulate, 4 – 5 mm long. **Flowers** bisexual, subsessile, rather crowded in groups along the spikes. **Calyx** cup-shaped, deeply 5-lobed; lobes narrowly lanceolate, 4 – 5 mm long, purplish-green. **Corolla** bilabiate, 1.8 – 2 cm long, white, blotched and veined with violet, upper lip triangular, acute, with a style-channel; lower one obovate, with 3-rounded lobed. **Stamens** 2, inserted in corolla tube, exerted. **Ovary** superior, ovoid, glabrous, 2-loculed; ovules 2 in each locule; style filiform, sparsely pubescent at the base. **Fruit** capsule. **Seeds** 4.

**Locality** Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution** E.Asia.

**Ecology** In open places, rather humid habitat; often cultivated in villages; altitude 100 m. Flowering and fruiting throughout the year.

**Uses** Branches and leaves are commonly used to sprinkle a holy water in a ritual performed to get rid of evil spirits, (B, M). In rural areas, some masseurs usually mingle the leaves of this plant with their hands before massaging; it is believed to strengthen the hands, (M).

**Material studied** UBON 1010, BKF 60462


**Thunbergia fragrans** Roxb.

**Vernacular** Tan pakka (ตานปากกา)

Slender twiner; stem slender, terete, green, pubescent. **Stipules** absent. **Leaves** simple, opposite; petioles 1 – 2 cm long, pubescent; blades thinly coriaceous, oblong or elliptic, 6 – 7 by 2 – 3 cm, apex mucronate, base round or slightly hastate, margins entire, pubescent on both surfaces; tri-nerved at base. **Flowers** solitary, axillary, bisexual, white; peduncles 4 cm long, pubescent; bracts 2, ovate acute, 2 by 1 cm, pubescent outside, pale green. **Calyx** obsolete, with 12 teeth. **Corolla** campanulate, tube 1.5 – 2.0 cm long, 5-lobed; lobes obovate emarginate, 1 cm, pubescent outside. **Stamens** 4, didynamous, inserted near base of corolla tube. **Ovary** superior, 2-loculed, ovules 2 per locule; style glabrous; stigma-lobes triangular. **Fruit** capsule, subglobeose, 1 cm long, with beak 2 cm long. **Seeds** 4.

**Locality** Ban Ton Sai, Srinakharin Subdistrict, Phattalung Province.

**Distribution** E.India.

**Ecology** Twining on trees in the forest, often on limestone; altitude 80 m. Flowering and fruiting throughout the year.
**Uses**

The plant combined with *Vernonia elliptica* DC., *Schizaea digitata* (L.) Sw. and two unknown species are boiled in water. The water is used as a bath for children to relieve chronic gastrointestinal ailments, (B).

**Material studied**

UBON 502

**Reference**


---

**Thunbergia laurifolia** Lindl. (Figure 76 D)

**Vernacular**

Rang chuet thao (รางจืดเถา)

Woody climber; stem with longitudinal ridges, swollen at node, sparsely pubescent. **Stipules** absent. **Leaves** simple, opposite; petioles 1.5 – 2.0 cm long; blades coriaceous, glabrous on both surfaces, oblong-lanceolate, 7 – 10 by 2.5 – 4 cm, apex obtuse, base truncate, margins entire, with small lobe at the base; 5-nerved at base. **Inflorescences** terminal cyme, few-flowered; peduncles 2 – 4 cm long; pedicels 3 cm long; bracts 2, ovate, glabrous, 3 by 2 cm. **Flowers** bisexual, showy. **Calyx** a mere rim. **Corolla** broadly campanulate, blue-violet, 5 – 7 cm across; tube yellowish inside, 3 – 4 cm long, 5-lobed. **Stamens** 4, didynamous, inserted near base of corolla tube; anther-cells 2, basally spurred. Disk annular, yellowish-white. **Ovary** superior, 2-loculed; 2 ovules per locule; style thin, apically curved forward; stigma broad, lobed. **Fruit** a capsule, cylindrical, base swollen, 3 – 4 by 1 – 2 cm, with a beak, ripening black. **Seeds** 4, triangular, 10 by 7 mm.

**Locality**

Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution**

Burma, Malaysia.

**Ecology**

Climbing high on tree in the edges of secondary forest; altitude 70 – 100 m. Flowering and fruiting February – April.

**Uses**

Decoction of the whole plant is taken for intoxication effect in case of digestion poisonous food or chemical compounds, (B). The roots are used as an ingredient in the formula F 9 taken as an antidote against food poisoning in the case associated with black magic, (B). The roots are crushed and mixed with lime juice or local whisky, applied externally as a poultice to treat snakes bites, (M). The crushed leaves are used as a poultice applied externally to treat contusion, (M). A poultice of leaves is used as a lactifuge applied to the breast, around the nipples of mothers to stop the secretion of milk, (M).

**Material studied**

UBON 506, BKF 124997

**Reference**

Agavaceae

**Cordyline fruticosa** (L.) A.Chev.

Vernacular  Mak phu mak mia (หมากผู้หมากเมีย)

Erect shrub, 2 m tall, sparingly branched, glabrous. **Leaves** simple, spirally arranged on the top of the branches; petioles channelled, 5 – 20 cm long, basally broaden into a sheath; blades herbaceous, lanceolate, 20 – 65 by 8 – 10 cm, apex acuminate, margins entire, base attenuate, glabrous on both surfaces, green with yellow and pink or red streaks. **Inflorescences** panicle, upper axillary, 30 – 70 cm long, widely branched; rachis and rachilla reddish-violet; bracteoles small, membranous, pale violet. **Flowers** bisexual, sessile, solitary along the rachilla. **Tepals** 6, oblong, subequal, 12 – 14 mm long, basally connate, higher up free, reflexed at anthesis, white tinged with violet. **Stamens** 6, slightly shorter than the perianth. **Ovary** superior, 3-loculed, many-ovuled; style filiform, violet at the upper part; stigma minute, 3-lobed.

**Locality**  Ban Huay Ngo, Khok Pho District, Pattani Province.

**Ecology**  Often cultivated as ornamental, hedges. Altitude 40 m. Flowering and fruiting throughout the year.

**Uses**  The basal parts of the stems are used as an ingredient of the formula F23 taken to relieve fever associated with menstruation, (B). The leaves are commonly used as a tool for sprinkler holy water during ceremonial occasions. They are also used in magical treatment of fever; to do so, the leaves of this plant together with those of **Codiaeum variegatum** Blume, and the leaves of 7 kinds of citrus plants are crushed, mixed with water. Then this water is used to bath patients with chronic fever. This treatment is accompanied by traditional music and traditional dance; it believed that, the patients will get well soon after bathing, (M).


**Dracaena umbratica** Ridl.

**Vernacular**  Kamlang hanuman (ก้ามลำหนูนมา)

Herb, 60 – 100 cm tall, few-branched. **Leaves** simple, spirally arranged; petioles 2 – 3 cm long; blades thinly coriaceous, elliptic to elliptic lanceolate, 16 by 6 cm, apex cuspidate, margins entire, base narrowed, glabrous. **Inflorescence** a terminal raceme, 18 – 23 cm long, the lower half flowerless, rachis stout. Bracts triangular, 4 by 5 mm. **Flowers** bisexual, white, 5 or 6 in a tuft; pedicels 3.5 – 4.0 mm long. **Perianth** 2 cm long, 6-lobed; lobes linear, blunt. **Stamens** 6, as long as perianth lobes, filaments long filiform, anthers narrow, versatile. **Ovary** superior, ovoid, 3-loculed, ovule 1 per locule; style 1, long filiform. Fruit not found.
Locality: Ban Ton Sai, Srinakharin Subdistrict, Phattalung Province.

Distribution: Malaysia, Singapore.

Ecology: In tropical rain forest; often cultivated for medicinal purposes; altitude 80 m. Flowering January – February.

Uses: The tuberous roots are either eaten raw or boiled with water or macerated in spirit, and then drunk as a tonic. It’s said to increase potency in men, (B).

Material studied: UBON 1034, BKF 108996


Alismataceae

Caldesia oligococca (F. Muell.) Buchenau

Vernacular: Khi tai (ขี้ไต)

Annual marsh herbs, glabrous, up to 80 cm tall. Leaves simple, basal, floating; petioles to 70 cm long, prominently septate, ribbed; blades herbaceous, pellucid-dotted, ovate, 10 – 12 by 4 – 6 cm, apex blunt, margins entire, base cordate; nerves 9 – 17, veins connecting the nerves parallel and perpendicular to them, 1 – 5 mm space. Inflorescence a terminal panicle; panicles pyramidal, 70 – 75 cm long, branches and pedicels on the branches in whorls of 3. Bracts oblong-lanceolate, connate at the base. Flowers bisexual, white, 1 cm across; pedicels 1 cm long. Sepals 3, elliptic, 1.5 – 4.0 by 1.0 – 2.5 mm, reflexed and revolute after flowering. Petals 3, elliptic, 2.0 – 6.0 by 3.5 – 4.0 mm. Stamens 6, filaments very thin, dilated towards the base; anthers bright yellow. Ovaries superior, 6, free, obovate, 1-ovuled; styles inserted ventrally halfway down. Fruit achene, kidney-shaped, laterally compressed, 3 by 2 mm, with 4 – 5 longitudinal ribs densely set with blunt spiny warts. Seed bean-shaped, 1.5 by 0.5 mm.

Locality: Ban Hua Pa Khiao, Khuan Khanun District, Phattalung Province.

Distribution: W.Africa, SE.Asia, to N.Australia.

Ecology: In pools and ditches, and along river-banks; altitude near sea level. Flowering in February.

Uses: The young shoots are eaten raw as a vegetable, or cooked, (B).

Material studied: UBON 335

Amaranthaceae

Aerva lanata (L.) Juss.

Vernacular Klet pla khao (เกล็ดปลาขาว)

Erect herbs, 60 cm tall, stem terete, densely white hairy. Stipules absent. Leaves simple, spirally arranged; petioles 0.5 – 1.0 cm long; blades thinly coriaceous, obovate, 1–5 by 1–3 cm, apex rounded, margins entire, base attenuate, tomentose on both sides, denser on the lower side; nerves 4 –5 pairs. Inflorescences axillary, cylindrical spike, 1–2 cm long; spikes solitary or fascicled. Flowers bisexual, white, small 1.8 mm diam., densely packed together. Tepals 5, membranous, oblong acute, 1.0 by 0.5 mm, white-wooly outside. Stamens 5, half as long as perianth; filaments basally united into a cup, alternating with subulate pseudo-staminodes; anthers2-celled. Ovary superior, compressed, glabrous, 1-loculed, ovule 1 per locule; style short; stigmas 2, distinct. Fruit utricle, irregularly splitting. Seed 1, reniform, shining black.

Localities Ban Huay Ngo, Khok Pho District, Pattani Province.

Distribution Africa to Asia.

Ecology In dry localities, open places, along roadsides, waste places; altitude 40 –100 m. Flowering and fruiting throughout the year.

Uses The whole plant together with stamens of Nelumbo nucifera Gaertn. and the rhizome of Tradescantia spathacea Stearn are chopped and boiled in water. Then this decoction is taken as an anti-allergic agent. A decoction of the whole plant alone is taken for the treatment of diabetes, (B).

Material studied UBON 1304, BKF 125820


Alternanthera sessilis (L.) DC.

Vernacular Phak pet (ผักเป็ด), Kue moh (กือโมะ)

Perennial herb; stem terete, creeping to decumbent, rooting at the nodes, many branches; young part white hairy, green turning dull red with 2 opposite longitudinal lines of hairs. Stipules absent. Leaves simple, opposite; petioles short; blades subcoriaceous, elliptic, 2 – 4 by 1 – 2 cm, apex acute, margins entire or finely serrate ear the tip, base attenuate, glabrous, dark green above, paler beneath; nerves 7–9 pairs, inconspicuous. Inflorescences capitate, axillary, sessile, 5 mm across; bracts and bracteoles ovate, glabrous, shorter than the flowers. Flowers bisexual, small, numerous, 1.5 mm long. Tepals 5, ovate, acute, shining white, glabrous. Stamens 3, filaments connate at the base into staminal cup producing teeth alternating with the stamens. Ovary superior, obovoid, laterally compressed, 1-loculed, 1-ovuled; style
very short; stigma capitate. **Fruit** utricle, obovoid, laterally compressed, deeply emarginate, 2 mm long. **Seed** 1, orbicular, flattened, brown.

**Locality** Ban Po No, Su-ngaipadee District, Narathiwat Province.

**Distribution** Pantropical.

**Ecology** On marshy ground, open places, also along waysides. Altitude 30 – 40 m. Flowering and fruiting throughout the year.

**Uses** The crushed whole plant is mixed with a small amount of lime juice, then it is applied onto the abdomen of children to treat diarrhea and also to relieve abdominal pains, (M).


**Amaryllidaceae**

**Crinum asiaticum** L.  
**Vernacular** Ba wae ba kong (บาแวบากง)

Small herb, 30 – 40 cm tall, with subterraneous bulb. **Leaves** simple, rosulate, sessile; blades herbaceous, linear, 60 – 70 by 3 – 4 cm, apex acute, margins entire, sheathing at base, glabrous, distinctly longitudinally nerves. **Inflorescence** umbel, axillary, 35 cm long; peduncle compressed, 30 by 1 cm, apically with 2 large bracts and a number of small ones between the flowers. **Flowers** 6 – 8 per umbel, bisexual, white, sessile; **perianth** salver-shaped, with slender and straight tube 3 – 5 cm long, 6-segmented; segments linear-lanceolate, acute at the apex, 7 by 0.9 cm. **Stamens** 6, inserted in the throat; filaments filiform, 5.5 cm long, violet at the tip, white below; anthers 9 mm long, violet. **Ovary** inferior, ovoid, 3-loculed; stigma small, capitate. **Fruit** capsule, irregularly rounded.

**Locality** Ban Ro Tan Ba Tu, Muang District, Narathiwat Provincece.

**Distribution** Sumatra, Philippines, New Guinea.

**Ecology** In open, wet and grassy areas; altitude near sea level. Flowering and fruiting June – August.

**Uses** The young leaves together with a small amount of turmeric rhizome and rice grains are pounded. Then it is used as a poultice applied externally to treat corns twice a day until cure, (M).

**Material studied** UBON 1329

Anacardiaceae

*Bouea oppositifolia* (Roxb.) Meisn.  

**Vernacular** Ma pring (มะปริง), Pring (ปริง)

Tree, 10 – 20 m tall, with a clear resin which turn black on exposure, poisonous; polygamous. **Stipules** absent. **Leaves** simple, opposite; petioles 0.5 – 1.0 cm; blades coriaceous, elliptic to elliptic-oblong, 4 – 12 by 1 – 5.5 cm, apex blunt acuminate, margin entire, base cuneate, glabrous on both surfaces, deep green; nerves 10 – 15 pairs. **Inflorescences** terminal or axillary panicle; 3 – 6 cm long, peduncle 1 – 2 cm long. **Flowers** small, numerous, white to pale yellow. **Calyx** lobes 4, broadly ovate pubescent, 0.5 – 0.8 mm long. **Petals** 4, oblong, 2 by 0.5 mm. **Stamens** 4, free; filaments subulate, glabrous; anthers apiculate. Disk small, thin. **Ovary** superior, ovoid, 1-loculed, 1-ovuled; style short; stigma round and flat. **Fruit** a drupe, broadly ellipsoid, 2.5 by 1.5 cm, fleshy, yellow when ripe. **Seed** 1, subglobose, cotyledon dark violet.

**Localities** Ban Hau Yang, Rattaphum District, Songkhla Province.  
Ban Nai Wang, Kongra District, Phattalung Province.

**Distribution** Burma, Andaman Islands, Laos, Vietnam, Cambodia, China, Malay Peninsula, Sumatra, Borneo.

**Ecology** In lowland forest, edges of evergreen rain forest; often cultivated for its fruits; altitude 20 – 100 m. Flowering January – February; fruiting March – May.

**Uses** The sourish immature fruits (in half ripe state) are eaten raw or pickled, and also used as a condiment to give sour flavor to the food. The ripe sweet ones are eaten fresh. The young leaves are eaten raw as a vegetable, (B, M). The timber which is hard and durable is very useful for house building and for various purposes, (B, M).

**Material studied** UBON 490, BKF 100211


*Dractylodracontomelon dao* (Blanco) Merr. & Rolfe  

**Vernacular** Ko (โก)

Tree up to 35 m tall. Stem often with buttress; bark grayish-brown, scaly; branches tomentose. **Stipules** absent. **Leaves** imparipinnate, spirally arranged, with 4 – 9 pairs of leaflets; petioles 3 – 15 cm, rachis 6 – 40 cm long, both pubescent; blades chartaceous, ovate-lanceolate, 11–18 by 5 – 7 cm, apex acuminate, margins entire, base obliquely rounded, glabrescent above, lower surface puberulous especially on the midrib; nerves prominent. **Inflorescences** terminal panicle, and sometimes also in the uppermost leaf axils, pyramidal, up to 30 cm long, pubescent; pedicels 1–2 mm long; bracts ovate, 1.0 – 1.5 mm long, puberulous on both surfaces. **Flowers** bisexual, white or greenish-white, 7
mm long. **Calyx** 5-lobed, ovate-oblong, 4 – 5 mm long, densely pubescent outside, thinly finely pubescent inside. **Petals** 5, valvate but imbricate at the apical part, elliptic-lanceolate, 7 – 10 by 1.5 – 2 mm, puberulous on both surfaces. **Stamens** 10, those opposite the calyx lobes longer than those alternate with them; filaments glabrous; anthers dorsifixed, ovoid-oblong, 1.0 – 1.2 mm long. Disk intrastaminal, shortly cupular, puberulous. **Ovary** superior, 5-loculed, ovule 1 in each locule; stigma capitate. **Fruit** a drupe, globose, 2.5–3.0 cm diam., glabrous, yellowish-brown when ripe, with style-scars on its periphery. **Seed** 1, conical, 7 – 10 mm long.

**Localities** Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province. Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** India, Burma, Cambodia, S.China, Malesia.

**Ecology** Only in high-rainfall areas, in evergreen forest, on well-drained to poorly drained soil; altitude near sea level to 80 m. Flowering and fruiting January – December.

**Use** The ripe fruits are eaten fresh, (B, M).

**Material studied** UBON 492, BKF 087250


*Mangifera caesia* Jack

**Vernacular** Lam ya (ล้ำยา), Lam yai (ล้ำไย)

Tree, up to 30 m tall glabrous; bark greyish brown, fissured. **Stipules** absent. **Leaves** simple, spirally arranged, sometimes seemingly verticillate towards the end of the twigs; petioles 1 – 2 cm. long, flattened; blades coriaceous, oblong-lanceolate, 15 – 40 by 5 – 10 cm, apex short-acuminate, margins entire, base attenuate, glabrous; midrib thick, raised on both surfaces; nerves about 40 pairs, obscure on both surfaces. **Fruit** a drupe, broadly ellipsoid, 12 by 7 cm. ripening brownish - yellow, juicy, sour. **Seed** 1, reniform, 6 by 3 cm.

**Locality** Ban Plak Plue, Mae Lan District, Pattani Province.

**Distribution** Malay Peninsula, Sumatra.

**Ecology** In primary and secondary forest, swamp forest. Altitude near sea level to 20 m. Fruiting in October.

**Uses** The ripe fruits are locally used to give sour flavor to various kinds of dishes, (B, M).

**Material studied** UBON 1047

**Mangifera foetida** Lour

Vernacular  Mut (มุด)

Tree, 10 – 40 m tall, glabrous; bark rough, fissured. Polygamous. **Stipules** absent. **Leaves** simple, spirally arranged; petioles 3 – 6 cm long; blades coriaceous, elliptic-oblong, 14 – 22 by 6 – 10 cm, apex subacute, margins entire, base narrowed, dark green, glabrous on both surfaces; nerves 16 – 22 pairs. **Inflorescences** panicle, terminal or upper axillary, pyramidal, large, 10 – 30 cm long, red, erect. **Flowers** bisexual and male, small, red; pedicels 1 – 2 mm long. **Sepals** 5, ovate, 2 – 3 mm long. **Petals** 5, linear-oblong, acute, 4 – 6 mm long, with 3 longitudinal ridges. **Stamens** 5, 1 fertile, 2 – 5 mm long. **Ovary** superior, subglobose, 1-loculed; ovule 1; style excentric, 2 – 3 mm long; stigma slightly thicker than the style. **Fruit** drupe, broadly ellipsoid, 8 – 10 by 6 – 7 cm, ripening greenish-yellow, juicy, sweet, with strong smell. **Seed** 1, reniform.

**Locality** Found in every study sites.

**Distribution** Burma, Vietnam, Malay Peninsula, Borneo, Sumatra, Philippines.

**Ecology** In evergreen rain forest, often cultivated in villages; altitude near sea level to 70 m. Flowering March – April; fruiting May – July.

**Uses** The unripe fruits are eaten raw after the rinds are peeled in thick slices; it also cooked in sour curry and used to give sour flavor to various kinds of dishes. The ripe sweet ones are eaten fresh, (B, M). A handful of the mature leaves are cut at the tip and base, mixed with a small amount of rice grains, and then crushed, into which water is added. Then it is squeezed, a juice obtained is taken for the treatment of hemorrhage, (B).

**Material studied** UBON 1108 , BKF 089516


---

**Semecarpus curtisii** King

Vernacular  Rak (รัก)

Tree, 5 – 10 m tall, often unbranched. **Stipules** absent. **Leaves** simple, spirally arranged; petioles 1.5 – 6 cm long; blades leathery, oblongate or spathulate, 10 – 25 by 4 – 10 cm, apex obtuse, margins entire, base attenuate, glabrous above; sparsely pubescent on midrib, nerves and veins beneath; papillae distinct, covering the lower surface; nerves 15 – 22 pairs. **Inflorescences** panicle, terminal and upper axillary, 40 – 50 cm long; rachis and rachilla pubescent; bracts minute; pedicels 3 – 5 mm long.
long. **Flowers** unisexual. Female ones small, pale green. **Calyx** campanulate, 5-lobed; lobes triangular, acute, 0.5 mm long. **Petals** 5, free, lanceolate, 3 – 3.5 by 2 mm, with several longitudinal veins, sparsely pubescent outside. Disk annular, yellow, hairy above. **Ovary** superior, subglobose, densely hairy, 1-loculed; ovule1; styles 3, 1 mm long, bifid. Staminodes present. **Fruit** a drupe, subglobose or transverse oblong, 1 by 1.5 – 2 cm, sparsely pubescent, yellow, seated on distinct and fleshy hypocarp; hypocarp cupular, green.

**Locality** Ban Hua Yang, Rattaphum District, Songkhla Province.

**Distribution** Malay Peninsula.

**Ecology** In lowland forest, forest edges; altitude 40–100 m. Flowering January – February; Fruiting June – July.

**Uses** This plant species has an irritant sap which is of a powerful caustic nature and blisters the skin. Susceptibility to such irritant sap varies according to the sensitivity of the person involved. The local people who have to go into forest become immune to this sap by eating the young leaves of this plant in adequate amount before the beginning of the trip, (B).

**Material studied** UBON 497, BKF 57525


**Ancistrocladaceae**

**Ancistrocladus tectorius** (Lour.) Merr.

**Vernacular** Khon ti ma (ค่อนติหมา)

Scandent shrubs, erect in youth; branchlets with circinate and woody hooks. **Stipules** absent. **Leaves** simple, spirally arranged, often in terminal tufts, subsessile; blades coriaceous, elliptic-lanceolate, 15 – 22 by 5 – 7 cm, apex obtuse, margins entire, base decurrent, glabrous on both surfaces; nerves 4 – 8 pairs. **Inflorescences** panicles, axillary, very slender, 10 – 15 cm long. **Flowers** bisexual, red. **Calyx** campanulate, tube short, 5-lobed; lobes ovate, unequal, imbricate, enlarged and winged-like in fruit. **Petals** 5, united at the base, slightly contorted in bud, 3.5 by 2 mm, oblique oval. **Stamens** 10, epipetalous. **Ovary** for the greater part inferior, 1-loculed, 1-ovuled; styles 3, erect; stigma punctiform. **Fruit** a nut, crowned by the enlarged calyx; the calyx segments unequal, oblong to spatulate, apex blunt to rounded.

**Locality** Ban To Daeng, Su-ngaikolok District, Narathiwat Province.

**Distribution** Burma, Malesia, S.China.
Ecology  In secondary forest, slightly shady places, often near the sea, on the margin of the beach.

Uses  The young leaves are cooked in Thai-style vegetable soup, (B). A decoction of the roots is taken as a blood circulation tonic, and for the treatment of bodily discomfort, (B, M). The crushed leaves are used as a poultice applied externally to treat dog bites before taking a patient to hospital, (B). The leaves are sometimes used in magical ritual performed by local people to drive off bad spirits from their houses, (B).

Material studied  UBON 469, BKF 134119


Annonaceae

Desmos chinensis Lour.

Vernacular  Sao yud (สาวหยุด)

Scandent shrub; young twigs slender, the tip densely hairy, glabrous lower down. Stipules absent. Leaves simple, alternate; petioles 5 mm long; blades thinly coriaceous, oblong to oblanceolate 10 – 15 by 3 – 6 cm, apex acute or rounded and then abruptly bluntly acute, margins entire or slightly undulate, base rounded, glabrous above except on the midrib, sparsely appressed hairy and glaucous beneath; nerves 7 – 9 pairs, prominent beneath. Flowers solitary, leaf-opposed, bisexual, 5 – 6.5 cm long; pedicels 3 – 5 cm, slender, finely pubescent; with a median, acute bract, 5 mm long. Sepals 3, free, ovate-lanceolate, valvate, 8 – 9 by 3 – 4 mm, sparsely pubescent. Petals greenish-yellow, 6, in two rows, valvate, narrowly lanceolate, claw at the base, 6 – 7 by 1 – 1.7 cm, sparsely appressed pubescent. Stamens numerous, closely packed, oblong, 1 mm long, appendages truncate. Ovaries many, oblong, 1.5 mm long, densely hairy; ovules 5 – 7 per ovary; stigma oblong, bent. Fruit of many carpels, moniliform, with 5 – 7 segments, ripening dark red. Seed 1 in each segment.

Locality  Ban Yai, Su-ngaipadee District, Narathiwat Province.

Distribution  E.Himalaya, Malay Peninsula to the Malay Islands, China, Philippines.

Ecology  In open places, border of woods and thickets; often cultivated in villages; altitude 30 m. Flowering and fruiting throughout the year.

Uses  The whole plant is used as an ingredient in the formula F6 taken as a tonic for potency, (B). The stems are used as an ingredient in the
formula F1 taken orally as a blood circulation tonic, and also used to relieve bodily discomfort, (B). The roots are used as an ingredient in the formula F20 taken to relieve fever. The roots are also used to treat numbness; in this case, their stems are cut into 108 pieces of 2 cm long. All of these pieces are marked with special holy letters, accompanied by an incantation, and then boiled in water. Then this decoction is drunk daily; it is said to cure numbness. During the treatment period, the patients are prohibited from eating papaya fruit, seeds of *Archidendron firinga* (Jack) I.C.Nielsen and not allowed to drink alcoholic beverage either, (B).

Material studied UBON 470, 973


**Friesodielsia desmoides** (Craib) Steenis

Vernacular Sao yud (สาวหยุด)

Climber; branchlets rusty-tomentose. **Stipules** absent. **Leaves** simple, alternate; petioles 5 – 8 mm long, tomentose; blades subcoriaceous, oblong-elliptic, 10 – 14 by 3 – 5 cm, apex shortly acuminate, base rounded, margins entire, glabrous above except on the midrib of both sides, glaucous pubescent beneath; nerves 9 – 12 pairs. **Flowers** bisexual, solitary, extra-axillary. **Sepals** 3, slightly connate at base, ovate, 8.5 by 6.0 mm, green, pubescent on both sides, veins distinct. **Petals** 6, in 2 whorls; outer ones thinly coriaceous, yellow, oblong-lanceolate, pubescent on both sides, 6 – 6.5 by 1.8 – 2 cm; inner ones thickly coriaceous, ovate, connivent, pubescent outside, 1.3 by 0.8 cm. **Stamens** many, linear-oblong. **Ovaries** superior, 10 – 11 carpels, free, oblong, strigose, 1-loculed; ovule 1 per locule; style oblong; stigma capitate. **Fruit** berry, ellipsoid, mucronate, pubescent, 1.2 – 1.5 by 0.7 – 0.8 cm, ripening red.

Locality Ban Ton Panun, Khuan Kalong District, Satun Province.

Ecology In lowland forest, edges of forest; altitude 80 m. Often cultivated as ornamental plant and for medicinal purposes. Flowering and fruiting throughout the year.

Uses Decoction of the whole plant is drunk frequently during the day as a blood circulation tonic and also for the treatment of fever associated with menstruation, (M).

Material studied UBON 485

Goniothalamus macrophyllus (Blume) Hook. f. & Th.

Vernacular         Ching dok diao (ชิงดอกเดียว)

Shrub, 1 – 2 m tall, bark and wood fragrant, young twigs glabrous. Stipules absent. Leaves simple, distichous; petioles stout, 1.5 – 2.5 cm long, glabrous; blades coriaceous, obovate-lanceolate, 30 – 40 cm by 8 – 9 cm, apex acuminate, margins entire, base acute, glabrous on both surfaces; nerves 16 – 20 pairs, prominent beneath. Flowers solitary, axillary or on the older branches, bisexual; pedicels short, bearing 2 minute bracts. Sepals 3, broadly ovate acute, connate at base, forming a short cup, 10 mm long, puberulous, green. Petals fleshy coriaceous, 6 in 2 whorls of 3, free, valvate; the outer ones glabrous, ovate-lanceolate, 2.5 – 4.0 by 1 – 1.5 cm long, yellowish-white, with a red spot at base inside; the inner ones shorter, half as long, and thicker, ovate acuminate, shortly clawed, hooded, yellowish-pink, densely plumose on the inner side. Stamens numerous, free, linear-oblong, connective apiculate with red spots. Ovaries superior, numerous, ellipsoid. Style linear, grooved on the anterior side. Stigma more or less funnel-shaped, two-lobed. Fruits fleshy, ellipsoid, bright red, glabrous. Seeds 1– 2.

Locality Ban Ton Panun, Khuan Kalong District, Satun Province.
Ban La Lo, Su-ngaipadee District, Narathiwat Province.

Distribution Borneo, Java, Sumatra.

Ecology Evergreen rain forest, humid shaded places; altitude 50 – 100 m. Flowering March – April; fruiting June – July.

Uses The whole plant is used as an ingredient in the formula F1 taken orally as a blood circulation tonic, and for the treatment of bodily discomfort. A decoction of the whole plant of this species alone is also taken as a blood circulation tonic, and to normalize menstruation, (B). A decoction of the roots is given to mother to drink as a tonic for the treatment of post partum, (B, M). The crushed stems are soaked in water, and then this water is used as a mouthwash. A fresh stem is cut into pieces (6 – 10 cm long), then a tip of a piece is finely smashed and then used as a toothbrush, (M).

Material studied UBON 497


Melodorum siamensis Scheff.

Vernacular Nom maew (นมแมว)

Scandent shrub, much branched, up to 10 m long; young twigs densely pubescent. Stipules absent. Leaves simple, distichous; petioles 5 mm long, densely
pubescent; blades chartaceous, oblong-lanceolate, 8 – 18 by 3 – 5 cm, apex obtuse, margins entire, base rounded, glabrous and shining dark green above, paler and sparsely pubescent beneath; nerves 6 – 8 pairs. **Flower** solitary or 2 – 3 together, extra-axillary or opposite the leaves; pedicels 1.5 cm long, with a small bract. **Sepals** 3, broadly ovate, 5 by 9 mm, green, pubescent outside. **Petals** 6, in 2 rows, imbricate, thick, yellow, densely silky hairy on both surfaces; outer ones slightly larger than inner ones, broadly ovate, blunt, 1.5 by 1.5 cm; inner ones elliptic-ovate, with narrow claw, 12 by 8 mm. **Stamens** numerous, short. **Ovary** superior, few-carpeled, free, oblong, densely hairy, 1-loculed; ovules 6 – 10; stigmas sessile, conspicuous. **Fruit** berry, subglobose, 1 cm across, pubescent, shortly stipitate, radiating from a short woody stalk, ripening yellow, pulpy. **Seeds** 3 – 4, oblong, slightly flattened, 8 by 4.5 mm, shining black.

**Locality** Found in every study sites.

**Ecology** In damp slightly shaded places, forest edges; altitude 20–120 m. Flowering and fruiting throughout the year.

**Uses** A handful of the leaves are cut at the tip and the base, mixed with a green fruit of *Musa* sp. which is cut into 3 pieces, then boiled in water, and then a decoction is taken to treat diarrhea, (M).

**Material studied** UBON 1258


**Polyalthia bullata** King

*Vernacular* Phalang changsarn (พลังชางสาร), Tu ka a li (ตุกะอาลี)

Shrub, 2 – 3 m tall; young twigs covered with golden yellow hairs, Stipules absent. Leaves simple, distichous; petioles 3 – 5 mm long, stout; blades chartaceous, bullate, oblong-lanceolate, the sides nearly parallel, 20 – 35 by 4 – 7 cm, apex acuminate, margins entire, base deeply cordate and auricled, medium green and shining above, paler beneath, glabrous except the sunk midrib above, sparsely hirsute below on the midrib and the nerves; veins 20 – 25 pairs, sunken above, prominent beneath. Flowers solitary, terminal, opposite the leaves, pendulous; pedicels 1.5 cm long, slender, pubescent. Sepals 3, free, valvate, triangular, 5 by 4 mm, pubescent outside, spreading. Petals 6, free, valvate in two whorls, yellow, linear-oblong, apex subacute, 3 – 3.5 by 0.5 cm, subequal, slightly concave, sparsely pubescent on both sides. Stamens numerous, connective orbicular. Ovaries 5 – 7, superior, oblong, pubescent. Fruit a drupe, globose, pendulous, 7 – 8 mm diam. Seeds 2, plano-convex.

**Locality** Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution** Malaysia.
Ecology: In tropical rain forest, slightly shaded places; altitude 90 m. Flowering and fruiting September – January.

Uses: A decoction of the whole plant is taken to treat bodily discomfort, (M).

Material studied: UBON 482


*Polyalthia suberosa* (Roxb.) Thwaites

**Vernacular:** Si nai (ซีไหน)

Shrub, 2 – 5 m tall, young twigs sparsely pubescent. **Stipules** absent. **Leaves** simple, alternate; petioles 3 mm long, pubescent; blades coriaceous; elliptic-oblong or oblong-obovate, 8.0 – 11.0 by 2.5 – 3.5 cm, apex acute, base cuneate, slightly oblique, margins entire, glabrous above except the pubescent midrib, sparsely pubescent beneath; nerves 8 – 10 pairs. **Flowers** solitary, bisexual, opposite the leaves; pedicels red, slender 1.8 – 2.0 cm long, with small bract at 5 mm from the base. **Sepals** 3, triangular, green, 2 by 3 mm. **Petals** 6, in 2 whorls; the inner ones ovate-lanceolate, 1.0 by 0.6 cm, yellow; the outer ones slightly smaller, yellow. **Stamens** numerous. **Ovary** superior, many, pubescent, 1-loculed; ovules 2. **Fruits** globose drupe, 8 mm diam, shortly stalked, green becoming red to dark violet. **Seed** 1.

**Locality:** Ban Ton Panun, Khuan Kalong District, Satun Province.

**Ecology:** Edges of the forest, roadsides, rather humid places; altitude 40 m. Flowering and fruiting throughout the year.

**Uses:** The ripe fruits are eaten fresh, (M). A decoction of the whole plant is taken of to relieve fever and it is also used as a bath for a mother after giving birth, (B).

Material studied: UBON 937


*Uvaria grandiflora* Roxb. ex Hornem

**Vernacular:** Kluai mu sang (กลวยมูสัง), Pe sae ka yu (ปีเจาะยู่)

Woody climber, 6 – 15 m long; bark black; young parts stellate-pubescent. **Stipules** absent. **Leaves** simple, alternate; petioles 3 – 4 mm long, hairy; blades coriaceous, oblong-lanceolate or elliptic, 1 – 18 cm by 5 – 7 cm, apex acute, margins entire, slightly cordate-rounded base, upper surface glabrous, deep green, stellate-pubescent beneath; nerves 15 – 17 pairs. **Flowers** solitary, extra-axillary, bisexual, showy, 7 cm across; bracts 2, ovate, 10 by 7 mm, puberulous; peduncles 2 – 4 cm long. **Calyx** pale green, hairy, entirely closed before anthesis, afterward irregular 3-fided. **Petals** 6, free, in 2 whorls, imbricate, spreading flat, coriaceous, obovate-oblong, 4 by 2 cm, dark red, pale yellow at
base, densely short-hairy on both surfaces. **Stamens** numerous, 8 mm long, connective broad, appendages conspicuous. **Ovaries** numerous on depressed hemispheric torus, terete, 7 mm long, pubescent, 1-loculed with numerous marginal ovules; stigmas sessile with a waxy yellow gum. **Fruits** aggregate of berries, fleshy, numerous, stalked, terete, apex obtuse, 3 – 8 cm long, 2 – 2.5 cm diam., yellow, densely brown-hairy. **Seeds** 5 – 21, orbicular, flattened.

**Locality** Ban Don Sai, Pa Pha Yom District, Phattalung Province.

**Distribution** India, Sri Lanka, Burma, Indo-China, Philippines, Malay Islands, New Guinea.

**Ecology** In tropical rain forest, edges of the forest; altitude 70 m. Flowering September – December; fruiting February – May.

**Uses** The ripe fruits are eaten fresh, (B, M). A decoction of the whole plant is taken for the treatment of back pain, (M).

**Material studied** UBON 969, BKF 132438


**Uvaria rufa** L.

**Vernacular** Nom khwai (นมควาย)

Woody climber, up to 15 m long, stellately hairy. **Stipules** absent. **Leaves** simple, distichous; petioles 0.5 – 1 cm long, densely brown pubescent; blades coriaceous, elliptic-oblong, 6 – 15 by 2 – 5 cm, apex acuminate, margins entire, base obtuse; upper surface scabrid by minute stiff hairs; lower surface densely covered with soft stellate hairs; nerves 10 – 13 pairs. **Flowers** bisexual, opposite the leaves, 2 – 3 together; pedicels 4 mm long; bracts ovate, pubescent on both surfaces. **Sepals** 3, valvate, connate at base only, green, shortly pubescent on both surfaces. **Petals** 6, free, imbricate in 2 series, oval oblong, 8 – 10 by 6 – 7 mm, bright red turning dark red. **Stamens** numerous, the outer ones sterile, dorsally flattened, 2 mm long; the inner ones fertile, 3 mm long, connective broad. **Ovaries** 7 – 10, free, ovules c. 15 in each ovary; stigma sessile, capitate. **Fruit** aggregate of berries, ovoid-ellipsoid, 8 by 2.5 cm, fleshy, bright red, densely stellate-pubescent. **Seeds** many.

**Locality** Found in every study sites.

**Distribution** Tropical Asia

**Ecology** Edges of the forest, evergreen forest; altitude near sea level to 110 m. Flowering April–June; Fruiting August–October.

**Uses** The ripe fruits are eaten fresh, (B, M).
Material studied UBON 965


**Apocynaceae**

*Aganosma marginata* (Roxb.) G. Don

Figure 20 B

Vernacular Dueai din (เดือยดิน)

Climbing shrub, glabrous; young twigs brownish-red, with white latex. **Stipules** absent. **Leaves** simple, opposite; petioles 4 mm long, red; blades papery to sub-coriaceous, oblong or elliptic to sub-ovate, 4 – 8 by 2 – 3 cm, apex acuminate margins entire, base rounded or slightly cordate, glabrous on both surfaces, shining dark green above, paler beneath; nerves 8–18 pairs, intramarginal vein conspicuous, prominent beneath. Flower and fruit not found.

**Locality** Ban Hua Yang, Rattaphum District, Songkhla Province.

**Distribution** China, India, Bangladesh, Burma, Laos, Vietnam, Cambodia, Malaysia, Indonesia, Philippines.

**Ecology** In primary or secondary evergreen forest; altitude 70 m.

**Uses** The young leaves are cooked in Thai-style vegetable soup, or blanched and eaten as a side dish with rice, (B). The boiled leaves are eaten for the treatment of abscesses, (B).

Material studied BKF 091019

Reference Middleton, Fl. Thail. 7(1) : 106. 1999.

*Alstonia macrophylla* Wall. ex G.Don

Figure 22 D

Vernacular Thung fa (ทุ่งฟ้า)

Tree, up to 30 m tall; young branches sparsely pubescent, with white latex. **Stipules** absent. **Leaves** simple, in whorls of 3; petioles 2 – 3 cm long, pubescent; blades coriaceous, pubescent on lower surface and on midrib above, oblong-ovate, 20 – 25 by 7 – 10 cm, apex acuminate, base cuneate; nerves 22 – 25 pairs, widely spaced, ascending. **Inflorescence** terminal, umbel-like, 3 – 10 cm long, glabrous. **Flowers** bisexual, fragrant, 1.2 cm long, 1 cm across; pedicels 5 – 7 mm long. **Sepals** 5, free, ovate, 1 by 1 mm, apex rounded, edges ciliate. **Corolla** white, salver-shaped, tube 5 – 6 mm long, pubescent inside, 5-lobed; lobes overlapping to the right in bud, oblong, 7 by 3 mm, apex rounded, edges ciliate, base pubescent inside. **Stamens** 5, inserted in upper half of the corolla tube, free filaments very short. Disk
annular, short. **Ovary** of 2 carpels, glabrous, ovate, 1-loculed; ovules many; style including pistil head 3 mm long. **Fruit** a pair of follicles 30 cm long, 4 mm wide, glabrous. **Seeds** many, oblong, pointed at one end, with long cilia around margin.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** China, Vietnam, Cambodia, Malaysia, Philippines, Indonesia, New Guinea.

**Ecology** In evergreen forest; altitude 90 m. Flowering September – October; fruiting November – May.

**Uses** The branches and leaves are dried, grounded, and then used as an ingredient of the formula F6 taken as a tonic to increase potency, (B). The stems are chopped, dried in shade, and then used as an ingredient of the formula F1 taken as a blood circulation tonic, and to relieve bodily discomfort, (B).

**Material studied** UBON 1195, BKF 70090


*Alstonia scholaris* (L.) R.Br. 

**Vernacular** Tin pet (ตีนเป็ด), Pu le (ปูเละ)

Tree, 40 m tall, branches whorled, glabrous, with white latex. **Stipules** absent. **Leaves** simple, in whorls of 4 – 7; petioles 7–15 mm long; blades coriaceous, elliptic or spatulate, 9 – 25 by 4 – 7 cm, apex blunt, margins entire, base cuneate or decurrent, bright green above; paler beneath; nerves 20 – 40 pairs. **Inflorescences** terminal, panicle of umbel-like, 4 – 9 cm long. **Flowers** numerous, bisexual, white. **Calyx** tubular, 5-lobed; lobes ovate, unequal, short pubescent, ciliate. **Corolla** salver-shaped, tube 6 – 8 mm long, hairy inside, 5-lobed; lobes overlapping to the left in bud, broadly ovate, 6 by 5 mm, pubescent on both surfaces, edges undulate. **Stamens** 5, inserted in upper half of the corolla tube, included. **Ovary** of 2 carpels, superior, villous, ovules numerous in each carpel; style slender; stigma capitate. **Fruit** a pair of follicles, 25 – 50 by 3 mm, glabrous. **Seeds** many, oblong, 4 – 8 by 1.5–2 mm, with a tuft of hairs at each end.

**Locality** Ban Huay Ngo, Khok Pho District, Pattani Province.

**Distribution** From India, Sri-Lanka to S.China, SE.Asia, Malesia, Queensland, Bismarck Archipelago and the Solomon Islands.

**Ecology** In evergreen forest, in scrub or on forest margins, especially in
Uses

The latex is applied locally to the hollow of an aching tooth to soothe toothache, (M). A handful of the leaves together with a small amount of turmeric rhizome and rice grains are crushed, into which a little amount of water is added; a squeezed extract obtained is drunk once a day in the morning, for 3 days, to promote vagina contraction, (M). A decoction of stems and roots is taken 3 times a day, for 3 – 4 days, to treat influenza, (B).

Material studied

UBON 1200, BKF 083622

Reference

Middleton, Fl. Thail. 7(1) : 45. 1999.

Alstonia spatulata Blume

Vernacular

Thia (เที๊ยะ), Kabui (กะบุย)

Small tree, 5 – 10 m tall; branches whorled, glabrous, with white latex. Stipules absent. Leaves simple in whorls of 3 – 5; petioles 1 cm long with glands in the axils; blades coriaceous, spatulate, 5 –10 by 2 – 4 cm, apex broadly rounded, margins entire, base decurrent, glabrous on both surfaces; nerves 20 –30 pairs, close together, at right angle to the midrib. Inflorescence a terminal cyme or umbel-like, 5 – 8 cm long, lax, glabrous, few-flowered; pedicels 5 mm long. Flowers white, bisexual, fragrant, 2.5 cm long. Sepals 5, sub-orbicular, 1.5 mm long, glabrous, ciliate. Corolla salver-shaped, tube 5 mm long, dilate above, 5-lobed; lobes overlapping to the left in bud, oblong, 6 – 8 by 2.5 – 4 mm, apex rounded; glabrous outside, densely pubescent inside except at base of the tube. Stamens 5, included, inserted in upper half of the tube, free filaments very short. Ovary of 2 carpels, glabrous, ovate, 1 mm long; style and pistil head 5 – 6 mm long; ovules numerous. Fruit a pair of follicles, cylindric, 12 – 20 cm long, 3 mm wide, glabrous. Seeds many, oblong, ciliate with tuft of hairs at both end.

Locality

Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

Distribution

Vietnam, Cambodia, Malaysia, Indonesia.

Ecology

Along the edges of peat swamp forest; altitude near sea level. Flowering April – June; fruiting July-August.

Uses

The roots are used as an ingredient of the formula F4 taken as a blood circulation tonic, (M). Its very light wood is used for planks and making small objects such as knife handles. The local people use the wood to rub a knife just after it’s being rubbed against stone in order to prevent rust forming on it, (M).

Material studied

UBON 1013 , BKF 110901

References

**Alyxia reinwardtii** Blume

**Vernacular** Nut (ผัก)

Slender woody twiners, glabrous, laticiferous, with fragrant bark; young branches strongly 3-angled. **Stipules** absent. **Leaves** simple, in whorls of 3 – 4; petioles 4 – 5 mm long; blades thinly coriaceous, elliptic to obovate, 4 – 10 by 2.5 – 4 cm, apex acuminate to obtuse, base cuneate, glabrous, upper surface glossy; midrib slender; nerves 20 – 25 pairs, faint. **Inflorescence** axillary cyme, 1 – 3.5 cm long, peduncles 2 – 3 cm, pedicels 0.5 – 4 mm. **Flowers** bisexual, 8 – 9 mm long, 3 mm across at anthesis. **Sepals** 5, free, lanceolate, apex acuminate, 2 by 1 mm. **Corolla** white, salver-shaped, tube cylindrical, 6 – 7 mm long, widened and pubescent at the insertion of the stamens, 5-lobed; lobes overlapping to left in bud, ovate, 1 – 3 mm long, apex acute to rounded. **Stamens** 5, completely inclosed, inserted above the middle of the corolla tube, filaments short. **Ovary** of 2 separate carpels united into a common style, pubescent at the base; style filiform 4 mm long; stigma capitate. **Fruit** a drupe, subglobose or ellipsoid, 7 by 6 mm, pulpy, purple black. **Seed** 1, ovoid, 6 by 3 mm.

**Locality** Ban Khao Phra, Rattaphum District, Songkhla Province.

**Distribution** Burma, China, Vietnam, Laos, Cambodia, Malaysia, W. Indonesia.

**Ecology** Primary or secondary evergreen, deciduous forest, or in thickets; altitude 110 m. Flowering and fruiting June – July.

**Uses** The aromatic wood was commonly used as a firewood in cremation in the past. A small piece of wood is sometimes used to perfume clothing in a wardrobe. The dried stems are pounded. The powder obtained is used as an ingredient in making talcum powder, (B).

**Material studied** UBON 1202, BKF 118129

**Reference** Middleton, Fl. Thail. 7(1) : 55. 1999.

**Parameria laevigata** (Juss.) Moldenke

**Vernacular** Som yen (ซอมเยน)

Climbers, with white latex; branchlets finely pubescent. **Stipules** absent. **Leaves** simple, opposite; petioles 2 – 3 mm long blades thinly coriaceous, glabrous, elliptic to ovate, 5 – 10 by 2 – 4 cm, apex acuminate, base cuneate, margins entire; nerves 3 – 5 pairs; densely hirsute in some of the underside nerve axils. **Inflorescences** terminal panicle and in upper leaf-axils, 2 – 5 cm long; rachis pubescent. **Flowers** small, white; pedicels pubescent, 2 – 4 mm long. **Calyx** deeply devided, 5-lobed; lobes ovate, 0.5 – 1.0 by 0.4 – 0.7 mm, puberulous. **Corolla** campanulate, tube 1.5 – 2.0 mm long, puberulous outside, glabrous inside, 5-lobed; lobes overlapping to the left in bud, 1.5 – 3.0 mm long. **Stamens** 5, inserted at the base of corolla-tube; anthers lanceolate,
sagittate, connivent and adhering to stigma. Disk of 5 separate lobes. Ovaries 2, free, short-hairy at the top, united into a common style; style short; stigma obconical. Fruit of paired follicles, pendulous, moniliform, 12.0 – 27.0 cm long, 0.4 – 0.7 cm wide, glabrous, dark brown. Seeds fusiform, light brown, pubescent, 6 – 7 by 2 mm, with an apical coma; coma white; 2 – 3 cm long.

Locality Ban Hua Yang, Rattaphum District, Songkhla Province.

Distribution China, Burma, Malaysia, Indonesia, Philippines, Cambodia, Vietnam.

Ecology In evergreen forest or thicket; altitude 40 m. Flowering and fruiting January – March.

Uses The climbing stems are usually used as cordage.(B).

Material studied UBON 466, BKF 106080


Tabernaemontana peduncularis Wall.

Vernacular Ai saek (ไอสัก)

Shrub, 1 – 3 m tall, with white latex; branchlets slender, terete, glabrous. Stipules absent. Leaves simple, opposite; petioles 5 – 10 mm long; blades thickly membranous, glabrous on both surfaces, elliptic to obovate, 10 – 20 by 3 – 5 cm, apex acuminate or caudate, base cuneate, margins entire; nerves 12 – 13 pairs. Inflorescences terminal or axillary cyme, 7 – 17 cm long; branches wide spreading, many-flowered, lax. Peduncles slender 5 – 10 cm long. Flowers bisexual, white. Sepals 5, ovate acute, ciliate, 1.5 mm long. Corolla salver-shaped, tube 1–2 cm long, glabrous outside, pubescent inside around the insertion of the stamens; lobes 5, linear-oblong, 5 mm long. Stamens 5, inserted in the upper half of the corolla tube; filaments short. Ovary superior, of two free carpels united into a common style, 15 mm long; carpel 1-loculed; ovules few. Fruit of paired follicles, obliquely ellipsoid, 1.0 – 1.5 by 0.5 – 1.0 cm. Seeds 1–2, ellipsoid.

Locality Ban Ton Sai, Srinakharin Subdistrict, Phattalung Province.

Distribution Burma, Cambodia, Malay Peninsula.

Ecology Cultivated for medicinal purpose; altitude 100 m. Flowering and fruiting throughout the year.

Uses The roots and the whole plant of Elephantopus scaber L. in equal proportion are chopped, boiled in water. A decoction is drunk daily as a tonic, (B).
**Urceola rosea** (Hook. & Arm.) D. J. Middleton

Vernacular Som kiap (ส้มเกียบ)

Climber, branches terete, glabrous, laticiferous. **Stipules** absent. **Leaves** simple, opposite; petioles 1 – 2 cm long, with glands in leaf axils; blades sub-coriaceous, elliptic, 3 – 8 by 1.5 – 4 cm, apex acuminate, margins entire, base cuneate, with domatias in the axils of the nerves; nerves 4 – 6 pairs. **Inflorescences** terminal cymes forming a panicle, 10 – 17 cm long, many branches; rachis and branches pubescent; pedicels 4 mm long, finely pubescent. **Flowers** many, bisexual, pink. **Sepals** 5, ovate, 2 by 1 mm, pink, pubescent outside. **Corolla** urceolate, tube 2.5 mm long, 5-lobed; lobes overlapping to the right in bud, ovate, 3.5 by 2 mm, papillose outside, pubescent inside. **Stamens** 5, included, inserted near the base of the corolla tube; filaments short; anthers narrowly triangular, base sagittate, 2 mm long, yellow. Disk annular, as long as ovary. **Ovary** of 2 separate carpels united into a common style, pubescent on top, 1 mm long; ovules numerous; style and stigma 1.2 mm long. **Fruit** of paired follicles; follicles fusiform, divergent; 8 – 9 cm long, 7 – 8 mm diam. **Seeds** numerous, narrowly elliptic, flattened, 13 by 3 mm, brown with a terminal white coma 3 – 3.5 cm long.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** India, S.China, Vietnam, Cambodia, Laos, Malaysia, Indonesia.

**Ecology** In evergreen forest, by the streams; altitude 100 – 120 m. Flowering April – May; fruiting July – August.

**Uses** The young leaves are cooked in various ways as a vegetable, (B, M). The climbing stems are used as cordage, (M).

Material studied UBON 463, BKF 073904


---

**Willughbeia edulis** Roxb.

Vernacular Khui (คุย)

Large woody climber, glabrous, laticiferous. **Stipules** absent. **Leaves** simple, opposite; petioles 1 – 2 cm long; blades thinly chartaceous to coriaceous elliptic, obovate, oblong, 8 – 13 by 3 – 4 cm, apex acuminate or obtuse, base cuneate, glabrous on both surfaces, shining dark green above, pale green beneath; nerves 10 – 20 pairs. **Inflorescences** axillary cymes, 2 cm long; peduncles and pedicels short, sparsely...
pubescent; bracts triangular 1 mm long. **Flowers** bisexual, 1.3 cm long, 1.3 cm across. **Calyx** deeply divided, segments 5, ovate, apex rounded, glabrous, ciliate, 2 mm long. **Corolla** yellow, salver-shaped; tube 5 mm long, outside glabrous, inside pubescent around stamens; lobes 5, overlapping to the left in bud, oblong, ciliate, 8 by 2 mm. **Stamens** 5, inserted in corolla tube, at c. 3 mm from the base, completely included. **Ovary** superior, ovoid, glabrous, 0.8 mm long, 1-loculed; ovules numerous. **Fruit** berry, pear-shaped, 6 – 7 by 4 – 4.5 cm, ripening yellowish-orange, fleshy, glabrous. **Seeds** 10 – 12, sub-orbicular or ellipsoid, compressed, 9 – 10 by 6 – 8 mm, 5 – 6 mm thick, brown.

**Locality** Ban Plak Plue, Mae Lan District, Pattani Province.

**Distribution** Malay Peninsula, Java, Sumatra, Borneo.

**Ecology** In evergreen forest; altitude 20 m. Flowering February – March; fruiting in April.

**Uses** The ripe fruits are eaten fresh. The stem bark is rubbed against an earthenware pot, using the washing from uncooked rice as a solvent. The suspension obtained is applied over the cuts or affected areas for the treatment of wounds, herpes infection. The latex from the stem bark or from the young parts is used for the treatment of aphthous ulcer; it is applied to the affected areas 3 times a day, (B).

**Material studied** UBON 997, BKF 128517


**Apostasiaceae**

*Apostasia nuda* R. Br.

**Vernacular** Lek nang yong (เหล็กนั่งยอง)

Erect rhizomatous herbs, entirely glabrous; aerial stems slender, 30 – 60 cm tall. **Leaves** simple, spirally arranged; blades linear-lanceolate, 17 – 20 by 0.5 – 1.5 cm apex acute, margins entire, base cuneate; nerves 10 – 20, 5 of which are more prominent beneath. **Inflorescence** a pendulous raceme, 6 – 10 cm long, with tuff of sterile bracts at the base; bracts narrowly triangular to lanceolate, acute. **Flowers** bisexual, slightly zygomorphic, white, 1.0 – 1.5 cm long, perianth recurved. **Sepals** 3, lanceolate, 3 – 4 by 0.5 – 1 mm. **Petals** 3, lanceolate, 3 – 4 by 0.5 mm. **Stamens** 2; filaments adnate to the style at the base; anthers oblong, clasping the style. Staminode absent. **Ovary** inferior, cylindric, triangular in cross section, 3-loculed; ovules numerous.

**Localities** Ban Ton Sai, Srinakharin Subdistrict, Phattalung Province.

**Distribution** Burma, Cambodia, S.Vietnam, Malay Peninsula, Indonesia, Java and Borneo.
Ecology Primary forest, hills and mountains, often cultivated for medicinal purposes; altitude 40 m. Flowering January – February; fruiting April – May.

Uses The whole plant is used as an ingredient of the formula F3 and F7 taken as a tonic. The whole plant of this species alone can be used for this purpose as well, (B, M).

Material studied UBON 334, BKF 109029

Reference Larsen & De Vogel, Fl. Thail. 2 (2) :137. 1972.

Araceae

Alocasia denudata Engl.

Vernacular O nok (อ๊อกนก), Kla di cha nae (กล้าดีจานา)

Herb, up to 60 cm tall, with short erect stem, glabrous, tuber absent. Leaves simple, few on each plant; petioles slender, 50 – 60 cm long, mottled; blades herbaceous, hastate, 40 – 50 by 18 – 20 cm, dark green above, paler beneath, with pale green or white along the nerves, on lower surface light green; apex acuminate, margin slightly undulate, base 2-lobed; basal lobes basally connate, narrowly triangular, 15 by 5 cm, apex obtuse; above the base with 3 widely distant primary nerves. Inflorescence a spadix surrounded by a spathe; peduncle slender, 30 cm long, mottled. Spathe constricted, 10 – 13 cm long; base convolute, swollen, 2 – 3 cm long, constricted above; limb dilate, cymbiform, 8 – 10 cm long, greenish-white. Spadix slightly shorter than the spathe; appendage cylindric, 4 – 5 cm long, pale yellow. Flowers unisexual; perianth absent. Male flowers at upper portion; female flowers at lower portion; female portion cone-shaped, slightly shorter than the male one, 1 cm long; neuter portion slightly constricted, 0.5 cm long, between male and female ones. Staments 4. Ovary subglobose, 1-loculed; ovules few. Stigma sessile, 3- to 4-horned, conspicuous. Fruit globose, 4 – 6 mm diam., bright orange. Seeds 1 – 3, black.

Localities Ban Ton Panun, Khuan Kalong District, Satun Province. Ban Toh Wo, Su-ngaikolok District, Narathiwat Province.

Distribution Tropical Asia.

Ecology Common in secondary forest; rubber plantations; moist areas; at altitude near sea level to 80 m. Flowering and fruiting throughout the year.

Uses A juice from the crushed tubers or petioles is applied to a fresh circumcised cut 3 times a day for 3 days to accelerate wound healing, (M).

Material studied BKF 23458
Alocasia macrorrhizos (L.) G.Don

Vernacular O khao (เอาะขาว)

Herb, up to 2 m tall, with stout erect stems, tuber absent. Leaves simple, peltate, spirally arranged near the stem–apex, erect; petioles 60 cm long, green, glaucous. Blades herbaceous, ovate-triangular, 25 – 70 by 20 – 45 cm, apex acuminate, margins slightly undulate, base sagittate; basal lobes ovate, with rounded apex. Inflorescence a spadix at apex of leafy plant, surrounded by a spathe, few together; spathe constricted, 26 cm long; lower part 4 cm long, tubular, ellipsoid, pale green; upper part 22 cm long, expand, pale yellow. Spadix narrowly cylindric, slightly shorter than the spathe, creamy white, with sterile appendage; appendage narrowly cylindric, obtuse, 13 cm long, 2 cm wide. Flowers unisexual; the female ones at the lower part, the male ones above on the spadix, with a number of neuters between male and female parts. Perianth absent. Staments 10, united into obpyramidal synandria; synandria with a flat, angular apex. Ovary superior, subglobose, white, 1-loculed, ovules many; stigma sessile, stellate, 3-to 4- lobed, orange.

Locality Ban Nai Wang, Kongra District, Phattalung Province.

Distribution Tropical Asia.

Ecology Cultivated; in moist places; altitude 110 m.

Uses The central part of the stem is used in cooking or boiled and eaten as substitute for taro, (M).

Material studied UBON 1049, BKF 128708


Amorphophallus paeoniifolius (Dennst.) Nicolson

Vernacular Buk khang khok (บุกคางคก)

Perennial herb with tuber; tuber depressed globose, up to 30 cm diam. or more, pinkish orange inside. Leaf solitary, at first erect, afterwards patent; petiole solid, stout, 100 – 150 cm long, scabrid, green mottled. Blades suborbicular in outline, 100 – 150 cm across, tripartite; each segments divided into many oblong, oval or elliptical leaflets about 5 – 20 cm long. Inflorescence produced after fall of the leaf, spadix, solitary on subterraneous tuber, partly enveloped by a well-developed spathe; peduncle solid, smooth, up to 30 cm long. Spathe broadly campanulate, on one side free and with overlapping margins, 20 – 30 cm long, 30 cm across, with wavy drooping margin; the tube pinkish and greenish outside, purplish and papillose at the base inside; the upper part reddish-brown on both side. Spadix 30 cm long, with a large conic appendage; appendage blunt, deeply wrinkled, dark purple.
**Flowers** unisexual; perianth absent. **Male flowers** white, 5 mm long, at upper portion of the spadix; stamens 4. **Female flowers** at lower portion; ovary superior, depressed ovoid, 2 by 3 mm, dark purple, glabrous, 2-loculed; ovule 1 in each locule; style slender, 7 mm long; stigma large, bilobed, yellow. **Fruit** a berry, oblong, 1.5 cm long and 8 mm across, shining bright red. Seeds 2.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** Andaman, Sumatra, Java.

**Ecology** In slightly shady places, secondary forest, edges of the forest in The lowland; altitude 100 m. Flowering April – May; fruiting during August – September.

**Uses** The young leaves and the inner part of leaf stalks are used in a similar way as with *Amorphophallus prainii* Hook. f., (B).

**Material studied** UBON 1207, BKF 35691


**Amorphophallus prainii** Hook.f.  

**Vernacular** Buk ngu lueam (บุกงูเหลือม)

Perennial herb with tuber; tuber depressed globose, up to 15 cm across, pale orange inside. **Leaves** solitary, at first erect, afterwards patent; petioles solid, stout, 100 – 180 cm tall, green, smooth mottled. Blades light green, 100 – 120 cm across, tripartite; each of the 3 segments multifid, side-lobes oblong-lanceolate, 20 by 6 cm. **Inflorescence** a spadix, solitary on subterraneous tuber, partly enveloped by a well-developed spathe, produced after the fall of the leaf. Peduncle solid, smooth mottled like the petiole, 10 – 20 cm long. Spathe broadly funnel-shaped, on one side free and with overlapping margins, 18 – 25 cm long, 15 – 20 cm across, yellowish-pink, deep maroon purple at the base, wavy and slightly spreading margin. Spadix 20 – 35 cm long, 4 – 8 cm diam., with a large conic appendage; appendage pale pinkish- yellow, with shallow groove, 10-15 cm long and 5 – 8 cm diam. **Flowers** unisexual; perianth absent. **Male flowers** at upper portion of the spadix; stamens 4. **Female flowers** at lower part; ovary superior, ovoid, 2-loculed; ovule 1 in each locule. Stigma subsessile, nearly as broad as the ovary, 2-lobed, yellow. **Fruit** berry, oblong, 1.5 cm long, bright red when ripe. **Seeds** 2.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** Sumatra.

**Ecology** In evergreen forest, humid and slightly shady places; altitude 80 m. Flowering March – May; fruiting August – October.
Uses

The young petioles are eaten after the outer surfaces are peeled off, cut into small pieces, soaked in salt water, and then boiled or cooked in curries, (B, M). Flowers are used for the treatment of aphthous ulcer; the spadix and benzoin are rubbed against an earthenware pot, then a mixture obtained is applied onto the affected areas 1 – 2 times a day, (M).

Material studied

UBON 1209

Reference


Cryptocoryne cordata Griff.

Vernacular

Wa nam (วาน้ํา), Chuap (ชูบ)

Submerged herb, 20 – 25 cm tall, with short creeping rhizome. Leaves simple, few, rosulate; petioles 15 – 23 cm long, 4 mm diam., fleshy; blades herbaceous, ovate, 6 – 11 by 5 – 10 cm, apex blunt, margins entire or slightly undulate, base cordate, olive green above, dark purple beneath, glabrous on both surfaces; pinnately nerved; nerves 4 – 5 pairs. Inflorescence solitary, scape 2 – 3 cm long and hidden within leaf-sheaths; spathe tubular 15 cm long, pale violet; limb lanceolate, apex caudate acuminate, yellow, 5.0 by 1.3 cm. Spadix very short, 1 cm long, in the dilated base of the spathe. Male portion cylindric, at the upper part of the spadix yellow, flowers numerous, perianth absent. Female portion at the base, flowers few in a single whorl, 4 mm long; perianth absent; ovary flask-shaped, 1-loculed; ovules numerous.

Locality

Ban Cho Kot, Su-ngaipadee District, Narathiwat Province.

Distribution

Malaysia, Java, Borneo.

Ecology

Along streams in forests, peat swamp forest; altitude near sea level. Flowering during April – May.

Uses

The young leaves are eaten raw as a vegetable; it is also said to decrease high blood pressure, (B).

Material studied

UBON 358, BKF 089456

Reference

**Homalomena pendula** (Blume) Bakh.f.

Vernacular  
Bon tao  (บอนทโอ)

Herb, 1 m tall; stem short, erect; tuber absent. **Leaves** simple, spirally arranged near stem apex; petioles 30 – 70 cm long, lower half widened into a firm sheath; blades herbaceous, broadly triangular or oblong-lanceolate, 25 – 36 by 20 – 27 cm, apex acuminate, margins entire, base cordate; basal lobes rounded at apex. **Inflorescence** spadix, surrounding by a spathe; peduncle 20 – 30 cm long, 5 – 6 mm diam; spathe ellipsoid, without constriction, 7 cm long, margins overlapping almost the whole length, apex pointed, greenish-white turning pinkish, persisting in fruit. Spadix cylindric, slightly longer than the spathe, 7 – 7.5 cm long, many-flowered; **flowers** unisexual, perianth absent. Male flowers at the upper portion of the spadix, and the female ones at the lower. The upper portion cylindric, tapering towards apex, 4 cm long. The lower portion cylindric, 2 – 2.5 cm long. **Stamens** 2, connective very broad, irregularly 4 – 5 angular, concealing the anther-cells. **Ovary** ovoid, pale green, 2 by 1.5 mm, 3-loculed; ovules many; stigma sessile, discoid; staminode 1, club-shaped, 2 mm long.

**Locality**  
Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Ecology**  
In lowland rain forest, secondary forest, watersides; altitude 80 – 120 m. Flowering and fruting throughout the year.

**Uses**  
The young leaf stalks are cooked in curries, (B, M).

**Material studied**  
UBON 1392, BKF 104765

**Reference**  

---

**Homalomena sp.**

Vernacular  
Bon som  (บอนซ้ม)

Herb, 30 cm tall, glabrous; stem short, erect, tuber absent. **Leaves** simple tufted at the base of plant; petioles slender, 20 cm long, green. Blades herbaceous, triangular, 15 – 17 by 8 – 10 cm, apex acuminate, margin entire, base truncate or slightly heart-shaped, pinnately nerved. **Inflorescence** a spadix surrounded by a spathe; spathe without constriction, 3.5 cm long, cuspidate, margins overlapping throughout the whole length, green. Spadix slightly shorter than the spathe, white, without appendage. **Flowers** unisexual; the male portion at the top of the spadix, 2.5 cm long; the female portion at the base, 0.8 – 1 cm long, with few abortive flowers between them; **perianth** absent. **Stamens** 2; anther-cells oblong, opening by slit. Female flowers mixed with clubbed staminodes. **Ovary** superior, ovoid, 3-loculed; ovules numerous; stigma sessile, discoid, creamy white. Fruit berry, white.

**Locality**  
Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.
Distribution Borneo.

Ecology In evergreen forest, secondary forest, humid and slightly shady places; altitude 80 m. Flowering and fruiting throughout the year.

Uses The young leaf stalks are cooked in curries, (B, M).

Material studied UBON 899


*Lasia spinosa* (L.) Thw.

Vernacular Phak nam (ผักหนาม), Ka li (กาลี)

Perennial herb, 50 – 100 cm tall; stem erect, stout, green, prickly. Leaves simple, several, crowded at stem apex; petioles 20 – 45 cm long, prickly; blades herbaceous, sagittate-hastate in outline; pedately pinnatifid, 10 – 30 by 7 – 20 cm, smooth above, prickly on main nerves beneath. Inflorescence spadix, solitary in leaf-axils; peduncles 30 – 40 cm long, green, prickly. Spathe 10 – 25 cm long, constricted, purplish-brown, when still inrolled ovoid-caudate, twisted, entirely including the spadix, at last falling off. Spadix cylindrical, yellow, 3 – 5 cm long, without sterile appendage. Flowers bisexual, numerous; tepals 4, 1.5 – 2 mm long; stamens 4; ovary superior, 1-loculed; ovule 1 in each locule; style very short; stigma sub-orbicular.

Locality Ban Lu Bo Sa Ma, Su-ngaiklok District, Narathiwat Province.

Distribution India, China, Malaysia.

Ecology In marsh or swamp areas, riverbanks; altitude near sea level.

Uses The young leaves are eaten blanched or cooked as a vegetable, (B, M). Leaves are used as an anthelmintic in cattle: 5 leaves are boiled, to which a handful of sugar is added, and then fed to the cattle, (M).


*Schismatoglottis calyptrata* (Roxb.) Z. & M.

Vernacular Bon ya rat (บอนยารัด)

Herb, up to 1 m tall, short-stemmed; tuber absent. Leaves crowded; petioles slender, 45 – 50 cm long, 0.8 – 1 cm diam; petiolar sheaths 15 cm long, clasping each other; blades herbaceous, deeply green, ovate-lanceolate, 20 – 25 by 15 – 20 cm, apex acuminate, margins entire, base deeply cordate; basal lobes 3 – 4 cm long, 4 – 5 cm wide;
pinnately nerved, with numerous secondary nerves; intramarginal vein 1.5 – 2 mm from the leaf margin. **Inflorescence** a spadix surrounded by a spathe, several together; peduncles 13 – 15 cm long, 6 mm diam.; spathe greenish-white, partly expanded, constricted above the female part of the spadix, portion below the constriction persistent. Spadix white, elongate, 9 cm long, with club-shaped sterile appendage at top; the lowermost portion female, broadly cylindric, 2.5 – 3 cm long; upper portion male, 2.5 cm long, falling off later than the upper part of the spathe. **Flowers** white, perianth absent; male flowers with 2 stamens, anther-cells dehiscent by terminal pore; female flowers with flask-shaped ovary; ovary 1-loculed; ovules numerous; stigma very small. Fruit berry, globose. Seed 1.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** Burma, Malay Peninsula.

**Ecology** In evergreen rain forest, shady and humid places, along stream; altitude 110 m. Flowering and fruiting July – August.

**Uses** The young leaf stalks are eaten cooked as a vegetable, (B).

**Material studied** UBON 1364, BKF 084466


**Araliaceae**

**Aralidium pinnatifidum** (Jungh & de Vriese) Miq.  

**Vernacular** Khwan khao (ขวัญข้าว)

Shrub or small tree up to 10 m tall, glabrous in its vegetative parts. **Stipules** absent. **Leaves** simple, alternate; petioles 10 – 12 cm long, broadly channelled above, clasping the stem with a slightly dilated base; blades fleshy coriaceous, drying chartaceous, upper surface dark shiny green, lower surface paler fleshy green, broadly obovate in outline, 25 – 40 by 17 – 25 cm, deeply pinnately lobed; lobes 5 – 7, subopposite, oblong or obovate, 11 – 20 by 4 – 6 cm, all lobe apices minutely acuminate. **Fruit** a drupe, ellipsoid or subglobose, 3 – 4 by 2.5 – 3 cm, pericarp fleshy, ripening purple-black, glabrous. **Seed** 1, broadly ellipsoid, 2.0 – 2.5 cm long, with the surface patterned with deep ruminations.

**Localties** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** Malay Peninsula, Sumatra, Borneo.

**Ecology** In evergreen primary rain forest, along stream; altitude 110 m. Fruiting in January.
Used

The leaves are used by the local farmers in a ritual performed at the beginning of rice-harvesting season; they believe that it will bring a good luck in the harvesting, (B).

Material studied  UBON 453, BKF 085368


*Polycias cumingiana* (Presl) F.-Vill.

Vernacular Lep khrut (เล็บครุฑ)

Shrub, 3 – 4 m tall, with few branches bearing spirally arranged leaves towards the ends, glabrous. **Stipules** absent. **Leaves** imparipinnate, 50 cm long; petioles 12 cm long, with sheathing base 3 cm long; leaflets 4 – 6 pairs, ovate-oblong or elliptic, 10 – 15 by 2 – 5 cm, apex acuminate, base rounded, truncate or broadly cuneate, often oblique, margins entire or minutely and distantly dentate (sometimes pinnatifid or most pinnatifid). **Inflorescence** a compound umbelliform, terminal or in axils of the upper leaves, 35 – 70 cm long, with verticillate, and often very long branches. **Flowers** 10 – 20 per umbellule; pedicels 8 – 10 mm long, articulate. **Calyx** cupular 2 mm long, 5-toothed. **Petals** 5, valvate, oblong-lanceolate, acute, 2.5 by 1.0 mm. **Stamens** 5, 2 mm long. **Ovary** inferior, 5-loculed; ovule 1 per locule; styles 5, free, at first erect then spreading, persistent. **Fruits** subglobose drupe, fleshy, dried deeply furrowed, 3 – 5 mm diam.

Locality Ban Ko Wiharn, Khok Pho District, Pattani Province.

Ecology Cultivated plant; in slightly shady places, humid places; altitude 40 m. Flowering and fruiting throughout the year.

Uses Stem is used for the treatment of snake (the Malayan pit viper) bites: it is cut into pieces of 10 cm long, and then rubbed against an earthenware pot, using the washing form uncooked rice as a solvent. The suspension is applied over the wound daily until cured, (B).

Material studied UBON 458


*Trevesia arborea* Merr. Figure 77 A – B

Vernacular Nam suae (หนามเสือ)

Tree, up to 15 m tall; stem usually unbranched, trunk spiny. **Leaves** simple, spirally arranged, crowned at the top of stem; petioles terete, 50 cm, sparsely stellately hairy; blades large, sub-orbicular in outline, 30 – 35 cm by 35 – 40 cm, palmately 7- to 12-lobed; lobes ovate-oblong, 12 – 18 by 6 – 8 cm, apex acuminate, margins
serrate, narrowed at the base, stellately hairy on both surfaces. **Inflorescence** axillary, raceme of umbellules, at first reddish pubescent, glabrescent, with a few spines below; rachis stout 1 cm diam., 35 cm long, bearing branches along its length, and ending in an umbel. Umbellules of 20 – 30 flowers; pedicels 1 cm, reddish tomentose; basal bracts triangular, 5 mm long, with densely red stellate hairs. **Calyx** a small rim, lobes 6 – 7, minutely dentate, with densely stellate hairs outside. **Petal**s 6 – 7, free, valvate in bud, triangular, with broad base, apex acute, 6 mm long, densely rusty pubescent outside, falling at anthesis as a calyptra. **Stamens** 6 – 7, surrounding the disk, incurved in bud, leaving on the disk depressions caused by the anthers; anthers large, ovoid, 3 mm long; filaments stout, strap-like. **Ovary** inferior, subglobose, 7- to 8-loculed, ovule 1 in each locule; style connate; stigma slightly swollen. **Fruit** not found.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** N.Sumatra.

**Ecology** Scattered in primary rain forest, especially in humid and shady localities; in lowland tropical forest to montane forest; altitude 90 m. Flowering September – October.

**Uses** The young inflorescences are eaten after steamed, (B). A glass of decoction of the roots is taken daily for the treatment of fever with yellow body, debility, (M). The whole plant is used as an ingredient in the formula F2 taken as a blood circulation tonic and also for the treatment of bodily discomfort, (B).

**Material studied** UBON 460


**Aristolochiaceae**

**Thottea tomentosa** (Blume) Ding Hou

**Vernacular** Hu me (หูหมี)

Perennial herb, woody at the base, erect, 30 cm tall, bearing 1 – 5 leaves at the apical part; branches rather slender, 5 mm diam., tomentose. **Stipules** absent. **Leaves** simple, alternate; petioles 0.5 – 1.0 cm long, grooved above, pubescent; blades chartaceous, ovate, broadly ovate, elliptic or broadly elliptic, glabrous above, densely tomentose beneath, 10 – 13 by 5 – 11 cm, apex acute to obtuse, margins entire, base rounded; nerves 7 – 8 pairs, venation closely reticulate, smooth above, prominent below. **Inflorescence** raceme, in the axils of not well-developed leaves, near the base of the stem, sometimes hidden under fallen leaves, 5 – 9 cm long; bracts lanceolate to linear, 3 – 5 by 0.5 – 1.5 mm, tomentose, many along the axis. **Flowers** bisexual, purplish-brown, with 0.5 – 0.8 cm long pedicel; flower buds distinctly triangular in top view; **perianth** urceolate-campanulate, 3-lobed; lobes triangular, valvate, patent; floral tube pubescent outside, glabrous inside, 3 – 5 mm long.
with thin disk adnate to the inner side. **Stamens** 6, adnate to the style column; filaments glabrous, 1 – 1.5 mm long. **Ovary** inferior, 4-loculed; ovules many in each locule; stigma 3-lobed, elongate, apical part hooked hairy. **Fruit** capsule, elongate, 4-angular and twisted, dehiscing apically towards the base, 3.5 – 4.5 by 0.3 – 0.4 cm, dark purple, glabrescent. **Seeds** many, broadly ovoid, 3-angular in cross-section, 3 by 2 mm.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** India, Bangladesh, Burma, Vietnam, Malesia.

**Ecology** In evergreen forest, humid and shaded places; also in secondary forest, rubber plantations; altitude 100 m. Flowering and fruiting throughout the year.

**Uses** The whole plant is used as an ingredient in the formula F2 taken as a blood circulation tonic, and also used to treat bodily discomfort. Sometimes, a decoction of the whole plant of this species alone is taken as a blood circulation tonic as well, (B, M).

**Material studied** UBON 958


---

**Asclepiadaceae**

**Hoya parasitica** Wall.

**Vernacular** Ta ba (ตาบา)

Twining epiphytic herb; all parts with milky latex. Stem slender; **stipules** absent. **Leaves** simple, opposite; petioles 1–1.5 cm long, 3 mm diam; blades fleshy, ovate to elliptic, 9 – 15 by 4 – 7 cm, apex acute, margins entire, base cuneate, glabrous on both surfaces; nerves 3 from the base, conspicuous. **Inflorescences** umbel-like racemes, axillary; peduncles stout 5 cm long; pedicels slender 1.5 cm long. **Flowers** 30 – 40, bisexual, white, 1 cm across at anthesis. **Sepals** 5, small, 1.2 by 1.0 mm, pubescent outside. **Corolla** rotate, 5-lobed; lobes ovate, glabrous, with corona-scales 5; scales fleshy, white, pink at the centre, inserted on the staminal tube, horizontal. **Stamens** 5; pollinium single in each anther cell, erect, oblong, 0.5 mm long. **Ovaries** 2, superior; ovules numerous. **Fruit** follicle. **Seeds** many.

**Locality** Ban Ro Tan Ba Tu, Muang District, Narathiwat Province.

**Distribution** India.

**Ecology** On trees in edges of forest; altitude near sea level. Flowering March – May.
Uses The leaves are used for the treatment of colic in young children; the leaves and pulps of *Garcinia atroviridis* Griff. ex T.Anderson are finely sliced, roasted until dry, and then pounded and mixed with coconut oil. The mixture obtained is applied over the abdomen, (M).

Material studied UBON 1403


**Athyriaceae**

*Diplazium esculentum* (Retz.) Sw.

Vernacular Phak kut (ผักกูด)

Terrestrial fern, 50 – 100 cm tall; rhizome erect, scaly; scales dark brown, 10 by 1 mm, edges finely toothed. **Stipes** up to 50 cm long, smooth, glabrescent. **Fronds** bipinnate, large, often 1 m long or more. Pinnae up to 40 cm long and 25 cm wide at the base, rather abruptly narrowly towards acute apex, bearing numerous pinnules; pinnules thin chartaceous, varying much in size, the lowest largest, 12 by 2.5 cm, linear-triangular, apex acuminate, margins crenate or lobed, base truncate or broadly cuneate, subsessile, glabrous; veins pinnate, with 8 – 10 pairs of side veins. **Sori** elongate on nearly the whole length of veinlets, indusiate.

Locality Ban Nai Wang, Kongra District, Phattalung Province.
Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

Distribution Tropical Asia, north to central China and S. Japan, east to S. Pacific Islands.

Ecology Usually on moist ground, in paddy field, along stream in open places; altitude near sea level to 100 m.

Uses The young leaves are eaten as a vegetable after blanched or cooked, (B, M).

Reference Tagawa & Iwatsuki, Fl. Thail. 3(3) : 466. 1988.

**Balsaminaceae**

*Impatiens mirabilis* Hook.f.

Vernacular Wan din yen (วันดินเย็น)

Succulent herbs, 100 – 150 cm tall; stems large and swollen at the base, hardly branched, glabrous. **Stipules** absent. **Leaves** simple, spirally arranged at the apex of branches only; petioles 15 – 20 cm long, 1 cm diam. at the base; blades
herbaceous, ovate or obovate, 20 – 25 by 4 – 6 cm, apex acute, margins serrate, base narrowed, glabrous; nerves 5 – 6 pairs. **Inflorescence** terminal raceme, up to 30 cm long, with few flowers at the top, opening singly. **Flowers** bisexual, irregular, 4 cm long, pale pink with yellow marking. **Sepals** 5, posterior ones a large petaloid spurred; spur incurved. **Petals** 3, the upper one free, the other ones pairwise connate. **Stamens** 5, filaments short thick, anthers cohering. **Ovary** superior, oblong, 4- to 5-loculed; ovules many; stigma sessile, minute. **Fruits** loculicidal capsule, ellipsoid, 2 cm long, 0.5 cm wide, dehiscing elastically into 4 – 5 valves.

**Locality** Ban Ton Sai, Srinakharin Subdistrict, Phattalung Province.

**Distribution** Malaysia.

**Ecology** On limestone cliffs, open places; altitude 80 m. Flowering and fruiting throughout the year. Often cultivated as ornamental plant and for medicinal purposes.

**Uses** The stems and leaves are used to treat centipede bites; they are crushed and then used as a poultice applied to the bites until the poultice become dry, and then change for the new one, (B).

**Material studied** UBON 452


**Bignoniaceae**

*Dolichandrone columnaris* Santisuk

**Vernacular** Khae na (กะเน่)

Evergreen tree, 15 – 30 m tall, glabrous; crown cylindric, narrow. **Stipules** absent. **Leaves** imparipinnate, spirally arranged, 10 – 30 cm long, 2 – 4 jugate, leaflets opposite; petioles 3 – 6 cm long; petiolules 1.0 – 2.5 cm; blades chartaceous, elliptic, ovate, 3 – 13 by 1–5 cm, apex acuminate, margins entire, base oblique, under surface with few hairy domatias at nerves axils, upper surface with scattered peltate scales; nerves 6 – 7 pairs. **Inflorescence** a terminal raceme, few-flowered; peduncles very short. **Flowers** bisexual on slender pedicels, pendulous; pedicels 2–3 cm long. **Calyx** closed in bud, later spathaceous, caducous, 4.0 – 5.0 by 1.0 – 1.8 cm. **Corolla** white, funnel- shaped, tube 12 – 14 cm long, basal part long and narrow cylindric; upper part campanulate with 5 crisped lobes; lobes irregularly, suborbicular, 2 by 3 cm. **Stamens** 4, didynamous, inserted in throat, not exserted. **Ovary** superior, 2-loculed, ovules numerous; styles 10 cm long; stigma terminal, bi-lobed. **Fruits** capsule, linear compressed, 26 – 60 by 1.5 – 2 cm, twisted, with tapering end. **Seeds** many, sub-orbicular, 2.5 – 3.0 by 0.5 – 0.8 cm, thin, with hyaline-membranous winged.

**Localities** Ban Hua Pa Khiao, Khuan Khanun District, Phattalung Province. Distribution Cambodia, S.Vietnam, N.Malaysia.
Ecology  
In open places, along roadsides, near rice field; altitude near sea level. Flowering January – February; fruiting March – May.

Uses  
The light weight wood is used in making furniture, small implements, planks, toys, etc., (B, M).

Material studied  
UBON 447

Reference  

_Oroxylum indicum_ (L.) Kurz

Vernacular  
Phe ka (เพกา), Be ka (เบกา)

Tree, 6 – 20 m tall, glabrous, hardly branched; twig thick. Stipules absent. 

Leaves  
Tufted at twig-ends, 3-pinnate, decussate, 150 cm long and wide; petioles 60 – 170 cm. Leaflets numerous, elliptic or ovate to oblong, 4 – 11 by 3 – 9 cm, apex acuminate, margins entire, base unequal except the terminal ones cuneate; with scattered glands near the nerve axils underneath. Inflorescence terminal raceme, erect, stout, 30 – 150 cm long. Flowers bisexual, large; pedicels 2 – 4 cm long, with a few bracteoles in lower part. Calyx campanulate, truncate, coriaceous, 2 – 2.5 cm long. Corolla funnel-shaped, 7 – 8 cm long, 4 cm wide, thickly coriaceous, tube widely ventricose, 5-lobed; lobes wrinkled, undulate-crenate, dull brownish-pink outside, creamy inside. Stamens 5, subequal, inserted near the base of corolla tube, villous at the insertion. Ovary superior, 2-loculed; ovules numerous; style filiform, violet; stigma 2-lobed. Fruit capsule, sword-shaped, pendent, 40 – 120 by 5 – 9 cm, woody. Seeds numerous, sub-rectangular, thin, papery, with broadly hyaline-winged, 7 by 4 cm.

Locality  
Ban Toh Wo, Su-ngaikolok District, Narathiwat Province.

Distribution  
India, Sri Lanka, Burma, S.China, Indo-China, Malesia, Philippines, Celebes and Timor.

Ecology  
Along the edges of evergreen forest, by rivers and in lowland swampy; altitude near sea level. Flowering and fruiting April – December.

Uses  
The young fruits or pods are eaten after boiling or roasting, (B, M). Stem bark is widely used as traditional medicine; the stem bark and benzoin are rubbed against an earthenware pot, and then a mixture obtained is used for the treatment of burns by applying it as a poultice onto the affected areas, (M). The stem bark of this species combined with those of *Mangifera indica* L. are pounded, into which a small amount of lime juice pepper seeds and water are added, and then boiled. Then a mixture is pasted on abdomen of a woman after giving birth, and it is kept in place by a cloth wrapped around the abdomen. It is said to firm and to regain a youthful body, (M). The stem
bark is also used for the treatment of scald; it is rubbed against an earthenware pot, to which a little amount of water and lime juice are added. Then a mixture obtained is applied onto the affected areas, (B). The roots of this plant species and those of *Metroxylon sago* Rottb., and garlic bulbs are boiled in water. Then a decoction is taken daily for the treatment of diabetes, (M).

Reference

**Capparaceae**

*Cleome viscosa* L.

**Vernacular** Phak sian phi (ผักเสี้ยนผี)

Erect annual herb, up to 1 m tall; stem and branches terete, straight, densely brownish glandular, pubescent and viscid throughout. **Stipules** absent. **Leaves** palmately compound, spirally arranged; petioles 2 – 6 cm long; leaflets 3 – 5, subsessile, thinly chartaceous, obovate to elliptic, 1.5 – 4.5 by 1–1.5 cm, the terminal one largest, apex acute or obtuse, margins entire, base cuneate; nerves 5–6 pairs. **Inflorescence** raceme, terminal, 8 – 20 cm long. **Flowers** bisexual, slightly zygomorphic, yellow; pedicels 9 – 14 mm long. **Sepals** 4, free, subequally oblanceolate, glabrous inside, 6 – 7 by 1 – 2 mm. **Petals** 4, free, oblanceolate, apex rounded, glabrous, 7 – 10 by 3 – 5 mm. **Stamens** 16, free, unequal; filaments slender, 5 – 7 mm long; anthers linear, blackish–olive. **Ovary** superior, cylindric; densely covered with minute, capitulate hairs, 1 mm long, 1-loculed; ovules numerous; style short, glabrous; stigma capitate. **Fruit** capsule, cylindric, 5 – 6 by 0.4 – 0.5 cm, tapering at both ends, ripening light brown. **Seeds** numerous, orbicular, flattened, dark brown, small.

**Locality**
Found in every study sites.

**Distribution**
Tropical Africa, Asia and Australia.

**Ecology**
Common weed along edges of fields, in sunny places. Flowering and fruiting throughout the year.

**Uses**
A decoction of the whole plant is taken for the treatment of epilepsy, (M). The whole plant is dried, pounded, and then mixed with honey and made into pills, and a pill is ingested daily to treat numbness, (B). The whole plant combined with *Heliotropium indicum* L. are chopped, boiled in water; then a decoction is taken to relieve flatulence, (B). The whole plant is also used as an ingredient in the formula F1 taken as a blood circulation tonic and to relieve bodily discomfort, (B).

**Material studied**
UBON 1123

Reference
**Crateva magna (Lour.) DC.**

**Vernacular** Kum (กุ้ม)

Small tree, 4–15 m tall. **Stipules** absent. **Leaves** 3-foliolate, alternate; petioles 5–15 cm long, glabrous. Leaflets shortly stalked, subcoriaceous, the terminal ones largest, the lateral ones oblique, elliptic or lanceolate, 10 – 22 by 4 – 6 cm, apex gradually acuminate with acute tip, base acute to cuneate; nerves 10 – 20 pairs, prominent beneath, reticulation conspicuous. **Inflorescence** terminal, raceme, 10 – 15 cm long. **Flowers** large and showy, to 5 cm across; pedicels 4 – 5 cm. **Sepals** 4, free, green, ovate acute, 4 by 2 mm. **Petals** 4, free, white turning yellow, elliptic-ovate, 3 by 1.7 cm, with stalked 1 cm long. **Stamens** numerous, purple, thread-like, 5 – 6 cm. **Gynophore** 6 – 8 cm long. **Ovary** superior, cylindric, 5 – 6 by 2 mm, green, 1-loculed, placenta 2; ovules numerous; stigma subsessile, knob-like. **Fruit** berry, subglobose, 4 cm across. **Seed** numerous, horseshoe-shaped, 6 – 10 mm diam., dark brown.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** India, S.China, Burma, Indo-China, Malesia.

**Ecology** Common along river, in evergreen forest; altitude 80 m. Flowering August – September; fruiting December – February.

**Uses** The young leaves are eaten pickled as a vegetable, (B).

**Material studied** UBON 1224


---

**Celastraceae**

**Salacia macrophylla** Blume

**Vernacular** Khop nang (ขอบนาง)

Scandent shrub, 3 – 8 m long, glabrous. **Stipules** absent. **Leaves** simple, opposite; petioles 8 mm long; blades subcoriaceous, elliptic, oblong-lanceolate, 15 –18 by 4.5 – 5.5 cm, apex caudate sub-acute, base cuneate, margins quite entire; nerves 7 – 8 pairs. **Flowers** in fascicle of 2 – 6, axillary, orange, 6 mm across. Pedicels 3 mm long. **Calyx** deeply 5-lobed; lobes triangular, 1 mm long, acute. **Petals** 5, free, ovate, 4 by 2 mm, orange. Disk channel-shaped, yellowish-orange. **Stamens** 3, filaments flat triangular, 1 mm long, entirely cover the ovary when young. **Ovary** superior, 3-loculed, ovules 4 in each locule. **Fruits** globose drupe, 3 – 5 cm diam., thick-walled, smooth, ripening bright orange. **Seeds** 3 or more, ellipsoid, 2 by 1 cm, covered with sweet pulp.

**Locality** Ban Pa Ye, Su-ngaiapadee District, Narathiwat Province.
Distribution India, Burma, Indo-China, Malay Peninsula, Sumatra.

Ecology Scattered in lowland evergreen forest, on limestone rock, peat swamp forest; altitude 20 m. Flowering February – March; fruiting April – June.

Uses The ripe fruits are eaten fresh, (B, M). Alcoholic maceration or a decoction of the roots is taken for the treatment of diabetes and for the treatment of bodily discomfort as well, (B, M).

Material studied UBON 443

Reference Hou, Fl. Mal. Ser.1. 6(3) : 412. 1964.

Combretaceae

Terminalia calamansanai (Blanco) Rolfe Figure 76 A

Vernacular Chod (ชด)

Deciduous tree, 30 m tall; young branchlets pubescent. Stipules absent. Leaves simple, spirally arranged, usually crowded towards the ends of the twigs; petioles 2 – 3 cm long, sparsely pubescent, with 2 lateral glands above the middle; blades chartaceous, narrowly obovate to elliptic, 7.0 – 15.0 by 3.5 – 5.5 cm, apex short cuspidate, margins entire, base narrowly wedge-shaped, glabrous on both surfaces; nerves 5 – 7 pairs. Inflorescence axillary spike, 6 – 15 cm long; rachis tomentose. Flowers bisexual, greenish-yellow, sessile, 3 mm across. Calyx campanulate, tube 1 mm long, 5-lobed; lobes triangular, 1 by 1 mm, tomentose on both sides. Petal absent. Stamens 10, 2.5 mm long, exserted. Disk hairy. Ovary inferior, 1-loculed; ovules 2 per locule; style simple, as long as the stamens. Fruit drupe, ellipsoid, with two broad wings, 1.0 – 2.5 by 2.0 – 5.0 cm. Seed 1.

Locality Ban Nai Wang, Kongra District, Phattalung Province.

Distribution Burma, Indo-China, Malay Peninsula, Philippines, New Guinea.

Ecology In lowland forest, roadsides, rice field, on limestone cliffs; altitude 80 m. Flowering August – December, fruiting December – April.

Uses The bark is soaked in water, and then this water is used as an antidiarrheic fed to poultry, (B). A juice from the crushed leaves is fed to poultry with cold, (M). The wood is used in house building, (B).

Material studied UBON 646, BKF 115165

Compositae

*Ageratum conyzoides* L.  

**Vernacular** Sap raeng sap ka (สาบแร่งสาบกา), Bue da (บือดะ)

Erect annual herb, 30 – 50 cm tall, stem terete, younger part tomentose. **Stipules** absent. **Leaves** simple, opposite below, alternate above; petioles 1 – 3 cm long; blades herbaceous, triangular-ovate, 2 – 5 by 2 – 4 cm, apex acute or obtuse, margins serrate-crenate, base rounded or acute or subcordate, pubescent on both sides; nerves 2 – 3 pairs. **Inflorescence** a terminal head, violet or white, several together on long or short stalk. Heads homogamous, 6 by 4 mm; involucre cupular, bracts 3-seriate, lanceolate, acute, green. **Flowers** bisexual, not or scarcely exerted from the involucre. **Corolla** campanulate, 2 mm long, 5-lobed; lobes short triangular, violet or white. Pappus 5, lanceolate, awn-tipped scales, with serrate margins, white, slightly longer than the corolla. **Stamens** 5; anthers with obtuse base and subacute apex. **Ovary** inferior, 1-loculed, ovule 1. Style bifid, arms long, filiform, far exserted, concolourous with the corolla, giving the colour of the flower-head. **Fruit** an achene, black, 5-angled, 1.5 – 2.0 mm long.

**Locality** Ban To Wo, Su-ngaikolok District, Narathiwat Province.

**Distribution** Pantropical.

**Ecology** Common in waste places, agricultural field, roadsides; altitude near sea level. Flowering and fruiting throughout the year.

**Uses** The crushed leaves are mixed with lime juice, and then applied externally to the neck of babies to relieve cough, (B). They are also used as a poultice applied onto the wound to stop bleeding and to accelerate wound healing, (M).

**Material studied** UBON 638, BKF 61844


*Blumea balsamifera* (L.) DC.  

**Vernacular** Nat (หน้าด)

Shrub,1–3 m tall, tomentose, smelling strongly of camphore when bruised. **Stipule** absent. **Leaves** simple, alternate; petioles 3 – 4 cm long, with 1–3 pairs of patent appendages; blades membranous, lanceolate to elliptic, 10 – 30 by 5 – 10 cm, apex acute, margins serrate, base narrow, lower surface densely coated with a shining velutinous-felty indumentum; nerves 16 – 18 pairs. **Inflorescence** terminal panicle, composing of numerous pedunculate heads; heads 6 mm diam., with peduncle 7 – 10 mm long, yellow, heterogamous; branches of the panicle densely felty; involucral bracts linear acuminate, tomentose. **Ray flowers** female, numerous, in several rows; corolla tubular, slender, shortly 3-lobed; pappus red. **Disk flowers** 8 – 25, bisexual;
corolla funnel-shaped, 5–lobed; lobes acute; stamens 5, anthers exerted; ovary inferior, 1-loculed, 1-ovuled; style filiform, bifid. Fruit an achene, 1 mm long.

Locality Ban Hua Yang, Rattaphum District, Songkhla Province.

Distribution India, Burma, S. China, Taiwan, Malaysia, Indonesia, Philippines.

Ecology In open places, roadsides, agricultural field; often cultivated for medicinal purposes; altitude 20 m. Flowering and fruiting September–October.

Uses A leaf is eaten raw as a remedy to cure diarrhea. The leaves are also used to treat a swelling; in this case, the leaves are laid on a board which used as bed for a patient with a swelling to lay down, and a fire is made under the board. The leaves are also used to get rid of helminthes in cattle; in this case, they are combined with those of Plumbago indica L., pickled with salt water, and then fed to the cattle with helminthes, (B).

Material studied UBON 1043, BKF 136632


**Chromolaena odoratum** (L.) R.M. King & H. Rob.

Vernacular Sap suea (สาบเสือ), Sub ruk (สับรุก)

Annual herb, erect, 1.5 m tall; young parts densely pubescent, older ones glabrescent. Stipules absent. Leaves simple, opposite; petioles 0.5 – 1.5 cm long, pubescent; blades thinly herbaceous, ovate, 5 –11 by 2 – 6 cm, apex acute, margins coarsely serrate-dentate, base cuneate or rounded, sparsely pubescent on both surfaces; venation pinnate, tri-plinerved near the base; midrib distinct. Inflorescence terminal, small head, combined into paniculiform corymbs; heads homogamous, 7–8 by 3 – 4 mm; pedicels 6 – 8 mm long. Involucral bracts many, in 3 whorls, linear-lanceolate, pale green, sparsely pubescent. Flowers numerous in each head, bisexual; corolla white to light violet, glabrous, funnel-shaped, 5-lobed; lobes triangular; pappus a single whorl of rigid, erect hairs; stamens 5, included; anthers connate; stigmas 2, slender, far exerted, 5 mm long, white; ovary inferior, 1-loculed, 1-ovuled. Fruit an achene, linear, flattened, 3 mm long.

Locality Found in every study sites.

Distribution Tropical America, India, Java.

Ecology Common in open places, waste places, dry rice-field, roadsides; altitude 20 – 350 m. Flowering November – January; fruiting December – February.
Uses

The young leaves are eaten raw daily for the treatment of Pneumonosis, (M). The crushed leaves are applied as a poultice onto the fresh wounds to stop bleeding and to accelerate the wound healing, (B, M). The young leaves are finely crushed, mixed with a little amount of lime juice. Then a squeezed juice is applied to an umbilicus of a new born baby to speed the drying and removing of its umbilical cord, (M). Water extract of the leaves is used to repel insects in the agricultural field, (M).

Material studied

UBON 1393, BKF 075213

Reference


**Crassocephalum crepidioides** (Benth.) S.Moore

Vernacular

Ya hua ngok (หญ้าหัวหงอก)

Erect, annual herb, up to 1 m tall. Stems slightly succulent, terete, light green; young parts pubescent. **Stipules** absent. **Leaves** simple, spirally arranged; petioles to 2 cm long, finely pubescent; blades thin, herbaceous, elliptic or obovate, 6 – 15 by 2 – 6 cm, apex acute to acuminate, margins irregularly serrate to pinnatifid, base cuneate and decurrent, finely and sparsely pubescent on both surfaces; nerves 5 – 7 pairs. **Inflorescence** terminal, compactly cymose, 3 – 5 cm long, consisting of several heads; head 13 – 16 by 5 – 6 mm, homogamous, during anthesis nodding, afterward erect. Peduncles and rachis finely pubescent. Outer involucral bracts linear, sparsely ciliate, light green; inner ones connate into a cylindrical tube, green with dark brown pubescent, tips free, acute. **Flowers** numerous, bisexual. **Corolla** tubular; tube 11 – 12 mm long, 5-lobed; lobes triangular, reddish-brown. Pappus 9 – 12, hair-like, white, soft and erect. **Stamens** 5, included in the corolla tube; anthers connate, violet; filaments free, shorter than the anthers. **Ovary** inferior, 1-loculed; ovule 1; style slender; stigmas 2, divergent, violet. **Fruit** achene, cylindric-linear, 2 mm long.

Locality

Found in every study sites.

Distribution

Pantropical.

Ecology

In evergreen forest, forest edges, river and roadsides, waste places, open places; altitude 20 – 100 m. Flowering and fruiting September – March.

Uses

The young leaves are eaten raw or blanched as a vegetable, (B)

Material studied

UBON 640, BKF 41608

Reference

**Eclipta prostrata** (L.) L.

Vernacular: Ka meng (กะเม็ง), Mong meng (มงเม็ง)

Annual herb, erect-ascending, up to 50 cm tall, glabrescent, usually much branched and rooting from the lower nodes. **Stipules** absent. **Leaves** simple, opposite; petioles very short; blades subcoriaceous, lanceolate, 3 – 5 by 1.5 – 2.5 cm, apex obtuse, margins shallowly and irregularly serrate, base narrowed, strigose to hispid on both surfaces; nerves 3 pairs. **Inflorescence** a head 10 mm diam., solitary or two or three together in the upper leaf-axils, heterogamous; peduncle 3 cm long, slender. Involucral bracts several, in 2 whorls, free, oblong, apex acute, sparsely strigose, green, 4 – 6 by 2 – 3 mm. **Flowers** numerous, white. Ray flowers many, 1-seriate, female; corolla ligulate, tube short, limb linear with 2 obtuse apical teeth c. 2 mm long; pappus minute, bristly rim; ovary inferior, 1-loculed, 1-ovuled, stigmas 2, spreading, short, yellow. Disk flowers numerous, bisexual; corolla campanulate, tube 1.5 mm long, 4-lobed; lobes triangular acute, 0.5 mm long; pappus minute; **stamens** 4, minute; anthers connate; pistil as in the ray flowers. **Fruit** an achene, oblong-turbinate, laterally compressed, apex truncate, black.

**Locality** Ban Hua Yang, Rattaphum District, Songkhla Province.

**Distribution** Tropics and subtropics.

**Ecology** In open waste places, wet places and swamp areas; altitude 20 m.

**Uses** A decoction of the whole plant is taken for the treatment of bodily discomfort, numbness; and also taken as an antidiarrheic, (B).

**Material studied** UBON 1343, BKF 076369


---

**Elephantopus scaber** L.

Vernacular: Do mai ru lom (โดไมรุลอม), Phang krap (พังกราบ)

Perennial herb, erect, up to 30 cm tall, pubescent. **Stipules** absent. **Leaves** simple; basal leaves in radically rosette; cauline leaves spirally arranged; petioles very short; blades thinly coriaceous, oblong-ovate, narrowed to base, 5 – 18 by 2–5 cm, apex obtuse, margins serrate, pubescent on both surfaces. **Inflorescence** terminal head, sessile, gathered into larger ones, homogamous with leaf-like bracts round them; bracts 3, broadly ovate, acute, pubescent; involucral bracts (of the single head) oblong-lanceolate, very acute, concave, membranous. **Flowers** bisexual, minute; pappus bristles 5 – 6, with broad base, rigid. **Corolla** tubular; tube 7 – 9 mm long, white, with shallowly 5-lobed; lobes violet. **Stamens** 5. Ovary inferior, style bifid, arms filiform, white. **Fruit** achene.

**Localities** Found in every study sites.
Distribution  
Pantropical.

Ecology  
In young forest, grassy field, roadsides; altitude 20 – 100 m. Flowering and fruiting throughout the year.

Uses  
The whole plant alone or combined with *Helminthostachys zeylanica* (L.) Hook. f. are dried and boiled in water. Then this water is drunk as a tonic to treat impotency in men, (B, M). The whole plant is also used as an ingredient in the formula F12 taken to relieve chest complaints, (B). It is also combined with the roots of *Tabernaemontana peduncularis* Wall., boiled with water, and then a decoction is taken as a tonic for overall health and to relieve bodily discomfort, (B).

Material studied  
UBON 645, BKF 82195

Reference  

*Gynura procumbens* (Lour.) Merr.  

Vernacular  
Kamlang khwai thuek (ก้าลังควายถึก)

Climbing herb; stem terete, glabrous, fleshy. **Stipules** absent. **Leaves** simple, alternate; petioles 1 cm long; blades herbaceous, ovate or oblong-lanceolate, 7 – 9 by 3 – 5 cm, apex acuminate, margins acutely dentate, base rounded, subglabrous. **Inflorescences** terminal panicle, composing of heads 2 – 7 together, lax, drooping; head homogamous; peduncle 5 – 7 cm long, purple; inner involucral bracts 1 – 2 seriate, during anthesis cohering into a cylindrical tube, purple; outer ones much shorter. **Flowers** bisexual, numerous, deep yellow. Pappus numerous, white, linear, caducous. **Corolla** narrowly campanulate, 5-lobed. **Stamens** 5, filaments short, inserted at the corolla tube; anthers connate. **Ovary** inferior, 1-loculed; ovule 1 in each locule; style bifid, arms tapering to the apex, hairy.

Locality  
Ban Khao Phra, Rattaphum District, Songkhla Province.

Distribution  
Borneo, Java, Philippines.

Ecology  
In secondary forest, forest edges, roadsides; altitude 80 m. Flowering April – May.

Uses  
The young leaves are eaten raw as a vegetable or cooked in Thai-style vegetable soup, (B). The flowers are dried and then made into infusion, and drunk as substitute for tea with the side benefit to increase potency in men, (B).

Material studied  
UBON 1003, BKF 33964

Reference  
**Mikania cordata** (Burm.f.) B.L.Rob.

Vernacular: Khi kai yan (ขี้ไก่ยน), La po tu ngu (ลาโปตูงุ)

Climbing herb, 3 – 6 m long, young parts sparsely pubescent. Stem slender, ribbed. **Stipules** absent. **Leaves** simple, opposite; petioles 3 – 6 cm long; blades herbaceous, cordate or triangular-ovate, 4 – 9 by 3 – 7 cm, apex acute, margins crenate-dentate, base broadly cordate, glabrous, gland-dotted on lower surface; venation pinnate, tri-plinerved near the base, midrib distinct. **Inflorescence** axillary, small head; heads homogamous, oblong, 4 – 5 mm long, 4-flowered, combined into small dense corymbs. Involuteral bracts 4, 2-seriate, lanceolate acute, equal, with 1 additional small outer ones. **Flowers** bisexual, white. **Corolla** campanulate, 3 mm long, 5-lobed. Pappus a row of scabrid hairs, white. **Stamens** 5, slightly longer than the corolla; anthers connate, greyish-black. **Ovary** inferior, 1-loculed, 1-ovuled; style white, 2-branched, far exserted. **Fruit** achene, narrowly oblong, 5-angled, truncate, dark brown, with a tuft of bristles on top.

**Locality** Found in every study sites.

**Distribution** Malay Islands, Africa.

**Ecology** Common in open places, forest edges, thickets, roadsides; often forming a dense tangled mass; altitude 20–180 m. Flowering and fruiting November – February.

**Uses** The whole plant alone or combined with leaves of *Leucaena leucocephala* (Lam.) de Wit and *Clidemia hirta* (L.) D. Don are boiled in water, then this water is used as a bath for 3 days in the morning for the treatment of helminthes in children, (M). The crushed leaves mixed with a little amount of lime juice, and then applied on the abdomen of young children to relieve flatulence. In addition, the crushed leaves of this species, *Alpinia mutica* Roxb. and *Piper betle* L. are soaked in water. Then this water is used as a bath to relieve fever in children, (M).

**Material studied** UBON 1261


---

**Spilanthes paniculata** Wall. ex DC.

Vernacular: Phak khrat (ผักคราด)

Annual herb, erect, 30 – 40 cm tall, glabrous. **Stipules** absent. **Leaves** simple, opposite; petioles 1.5 – 3 cm long; blades thinly herbaceous, ovate to ovate-lanceolate, 3 – 6 by 2.5 – 7 cm, apex acute, margins shallowly serrate, base truncate, glabrous on both surfaces; nerves 1–2 pairs. **Inflorescence** a head, terminal and upper axillary; peduncles 3 – 6 cm long, slender; heads heterogamous, yellow,
ovoid, 5 – 8 by 4 – 5 mm, tip obtuse. Involucral bracts in 1 or 2 rows, ovate, ciliate. **Flowers** numerous. Ray flowers few, 1-serial, female; corolla ligulate, tube slender, 1 mm long, sparsely finely pubescent; limb obovate, apex truncate, irregularly 2- to 3-lobed; pappus none; ovary inferior, 1-loculed, 1-ovuled; stigmas 2, spreading, recurved. Disk flowers numerous, bisexual, 1.3 mm long, each embraced by chaff; corolla salver-shaped, 5-lobed; lobes triangular acute; stamens 5, included in the corolla tube; anthers linear, laterally connate; ovary and stigma as in the ray flowers; pappus 1. **Fruit** an achene, obovate, flattened, smooth, black, margins membranous and ciliate, 2 by 1 mm.

**Localities**
Ban Huay Ngo, Khok Pho District, Pattani Province.
Ban To Wo, Su-ngaikolok District, Narathiwat Province.

**Distribution**
India, S. China, SE. Asia, Java.

**Ecology**
Common in waste ground, humid grassy, rice-field, riverbanks; altitude 10 – 40 m. Flowering and fruiting throughout the year.

**Uses**
The young leaves are eaten raw as a vegetable, with the side benefit to relieve flatulence, (B). The fresh flowers are chewed to soothe toothache, (B, M).

**Material studied**
UBON 1368, BKF 128729

**Reference**

**Struchium sparganophorum** (L.) O.K.

**Vernacular**
Sudu e-de (ซูดูอีเดะ)

Erect, annual herb, up to 30 cm tall. Stem often branched at the base; on the younger parts finely pubescent and glandular. **Stipules** absent. **Leaves** simple, spirally arranged; petioles 1 cm long, glabrescent; blades herbaceous, elliptic or oblong-obovate, 8 – 10 by 2 – 4 cm, apex acute, base narrowed into a petiole, margin shallowly serrate. **Inflorescences** axillary head, semi-globose, homogamous, 3 – 5 mm diam., sessile, 1 – 3 together; involucre disciform; bracts numerous. **Flowers** bisexual, small, white; pappus consisting of a pale, thick-walled, soft, and irregularly dentate cup; corolla tubular, 3-lobed. **Stamens** 10. **Ovary** inferior, 1-loculed, 1-ovuled; style-arms violet. **Fruit** a small achene, 3 – 5 angular, brown.

**Locality**
Ban Ro Tan Ba Tu, Muang District, Narathiwat Province.

**Distribution**
Tropical America.

**Ecology**
In slightly shady and humid localities; along watersides, waste places; altitude near sea level. Flowering and fruiting throughout the year.
Uses

The crushed leaves mixed with a little amount of lime juice, then a mixture is applied externally to cure wounds and burns, (M).

Material studied

UBON 643, BKF 990336

Reference


*Vernonia cinerea* (L.) Less.

Vernacular

Ya dok kao (หญ้าดอกขาว), Ya la ong (หญ้าละออง)

Erect annual herb, 15 – 80 cm tall; stem ribbed, finely pubescent, slightly branched. **Stipules** absent. **Leaves** simple, alternate; petioles 3 – 12 mm long; blades membranous, ovate, obovate, narrowly spatulate, or oblong, 1 – 3 by 1 – 1.5 cm, tapering to each end, margins sub-entire; the upper leaves sometimes without petioles. **Flowers** small, bisexual, combined into heads; heads turbinate 5 mm long, numerous, homogamous, purple, mostly combine into corymbs. Involucre campanulate, 4-seriate; bracts pubescent, linear-lanceolate acuminate. Flowers much exceeding the involucre; pappus filiform, white, numerous; corolla tubular, violet, 3 – 4 mm long, shortly 5-lobed. **Stamens** 5, anthers with sagittate base and acute apex; style-arms subulate. **Ovary** inferior, 1-loculed. **Fruit** achene, cylindric, 1.5 – 2 mm long, with 4 – 5 ribs, densely white-adpressed-hairy, 1.5 – 2.0 mm long, crowned by pappus.

Locality

Found in every study sites.

Distribution

Pantropical.

Ecology

In open habitats, waste places; grows on a wide range of soils; altitude 20 – 180 m. Flowering and fruiting throughout the year.

Uses

The whole plant is crushed, mixed with a little amount of local whisky. Then a squeezed juice is taken to treat internal injury, contusion. It is also used as an ingredient in the formula F38 to treat herpes infection, (B).

Material studied

BKF 55548

Reference


*Vernonia elliptica* DC.

Vernacular

Tan mon (ตานหมอน)

Sarmentose shrub; stem and branches densely covered with white hairs. **Stipules** absent. **Leaves** simple, alternate; petioles 0.5 cm long, densely white hairy; blades subcoriaceous, elliptic or oblong to obovate, 4 – 8 by 2 – 3.5 cm, apex acute, margins coarsely dentate, base obtuse, glabrous above, whitish silky hairy beneath;
nerves 6 – 8 pairs, usually forked at tip. **Inflorescence** small head, combined into paniculiform corymb, up to 15 cm long, terminal or axillary. Heads homogamous, 5 – 6 mm long, pale violet; involucral bracts many, pale green, elliptic or ovate, 2–3 mm long, ciliate. **Flowers** many. **Corolla** salver-shaped, tube slender 4 mm long, 5-lobed; lobes linear. Pappus many. **Stamens** 5. **Ovary** superior, 1-loculed, 1-ovuled. **Fruit** achene, ovoid, 1 mm long, black, truncate at top, with a tuft of pappus.

**Locality** Ban Hua Yang, Rattaphum District, Songkhla Province.

**Distribution** India, Burma, Laos, Cambodia, Vietnam, Malaysia, Singapore.

**Ecology** In open places, edges of forest, river-banks; altitude 20 m. Flowering and fruiting February – March.

**Uses** The whole plant combined with Thunbergia fragrans Roxb., Schizaea digitata (L.) Sw. and two unknown plant species are boiled in water. Then this decoction is used as a bath for children with chronic gastrointestinal ailments. The whole plant alone is fed to cattle to cure diarrhea, (B).

**Material studied** UBON 694, BKF 49124

**Connaraceae**

*Cnestis palala* (Lour.) Merr. Figure 33 F – G

**Vernacular** Ngon kai (หงอนไก่)

Woody climbers, at first a shrub; young branches tomentose. **Stipules** absent. **Leaves** imparipinnate, alternate, pink when young; 20 – 25 cm long; petioles 4 – 7 cm; petiolules 1 – 2 mm; leaflets 19 – 31, subopposite, increasing in size from basal pair upwards; blades coriaceous, elliptic-oblong to lanceolate, 3.5 – 7.5 by 2.0 – 3.5 cm, apex obtuse to subacute, margins entire, base rounded to cordate, oblique, tomentose on both surfaces; nerves 5 – 6 pairs. **Inflorescences** panicle, 2 cm long, solitary or fascicled, arising from knobs on branches, tomentose. **Flowers** bisexual, small 8 mm across at anthesis, shortly pedicellate. **Sepals** 5, linear-lanceolate, 4–5 mm, pubescent on both sides, pale green. **Petals** 5, ovate-oblong, 5 mm long, pale green, pink at margin and base, glabrous except a hair tuft just above the base outside. **Stamens** 10, free, unequal, glabrous. **Ovary** of 5 carpels, free, superior, densely hairy, 1-loculed; ovules 2. **Fruit** follicles, 1–5 per flower, beaked, 3.0 – 4.0 by 1.0 – 1.5 cm, ripening red.

**Localities** Found in every study sites.

**Distribution** Burma, Andaman Islands, Laos, Vietnam, Malay Peninsula.

**Ecology** In thickets, secondary evergreen forest; altitude near sea level to 100 m. Flowering November – February; fruiting February – April.
Uses

The poisonous seeds are pounded and mixed into foodstuffs, and then used for poisoning dogs, (B).

Material studied

UBON 635, BKF 135263

Reference


Convolvulaceae

Aniseia martinicensis (Jacq.) Choisy

Vernacular Chingcho (จิงจํอ), Lidah batong (ลีดะบ่าง)

Twining or prostrate herbs, to 1.5 m long; stem terete, slender, 2 mm diam., sparsely pubescent. Stipules absent. Leaves simple, alternate; petioles 1.0 –1.5 cm long; blades herbaceous, glabrous above, pubescent on midrib and nerves beneath, narrowly oblong, 3 –7 by 1–3 cm, apex emarginate and mucronate, margin entire, base attenuate; nerves 4 –5 pairs. Flowers solitary, axillary or in cymose; peduncles 2 – 3 cm long, pubescent. Bracts small, narrowly lanceolate. Sepals 5, free, imbricate, unequal, herbaceous. Corolla white, funnel-shaped, 2 – 3 cm long; limb shallowly 5-lobed, mid-petaline bands hairy. Stamens 5, adnate to corolla tube, filaments hairy at base. Ovary superior, globose, glabrous, 2-loculed; ovules 2 per locule. Style 1, filiform; stigmas 2, thick, globlar. Fruit capsule, globose, brown outside, silvery white inside, seated on enlarged sepals. Seeds 4, black.

Localities

Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

Distribution

Pantropical.

Ecology

In marshy grasslands, fresh water swamps, along river-banks, edges of pools; altitude near sea level. Flowering and fruiting throughout the year.

Uses

The young leaves are eaten cooked, (B, M).

Material studied

UBON 634

Reference


Operculina turpethum (L.) S. Manso

Vernacular Chingcho yan (จิงจ็อยแยน)

Perennial twiner, with milky latex. Stems longitudinally 3-winged; wing purplish, sparsely pubescent. Stipules absent. Leaves simple, alternate; petioles, 3–6 cm long, terete; blades thinly coriaceous, broadly ovate, 8 –11 by 9 –12 cm, apex acute, margin entire, base cordate, upper surface pilose, lower surface pubescent;
venation pinnate, nerves 8–10 pairs. **Inflorescences** axillary, cymose with few-flowered; peduncles 6 cm long, terete, pubescent; pedicels 3 cm long, pubescent. Bracts elliptic-oblong, 1.5–2.0 cm long, green, pubescent, caducous. **Flowers** bisexual, 4–5 cm long. **Sepals** 5, free, imbricate, broadly ovate acute, subequal; outer ones 2.0–2.3 cm long, pubescent outside; inner ones 1.8–2.0 cm long, glabrous, enlarged in fruit. **Corolla** thin, white, broadly funnel-shaped, 4 cm long, shallowly 5-lobed, glabrous. **Stamens** 5, included; filaments adnate to corolla-tube, parsely pubescent below. Disk annular, yellow. **Ovary** superior, glabrous, 2-loculed; ovules 2 in each locule; style 1, white, filiform, included; stigma biglobular, brown. **Fruit** depressed globose capsule, 1.0–1.5 cm diam., epicarp circumscissile above the middle, the upper part of it or operculum fleshy, separating from the lower part and from the endocarp. **Seeds** 4, trigonous, 5 mm diam., black.

**Locality** Ban Hua Yang, Rattaphum District, Songkhla Province.

**Distribution** Tropical E. Africa, Seychelles, SE.Asia, Malay Peninsula, tropical Australia.

**Ecology** In open waste places, along roadsides; restricted to regions with a medium or strong east monsoon; altitude 70 m. Flowering and fruiting August–September.

**Uses** The young shoots are eaten raw or cooked as a vegetable, (B).

**Material studied** UBON 945


**Costaceae**

**Costus speciosus** (Koen.) Sm. Figure 34 D

**Vernacular** Ueang mai na (เอื้องมาใน), Ueang chang (เอื้องช่าง)

Perennial herb, 2–3 m tall; stem erect. **Leaves** simple, spirally arranged; petioles very short, hairy; sheath tubular, with long fine soft hairs at top edge; blades herbaceous, elliptic-oblong, 14–18 by 4–5 cm, apex acuminate, margins entire, base narrowly rounded, dark green and glabrous above, paler and densely hairy below. **Inflorescences** spike, at apex of leafy stem, 10 by 5 cm; peduncle short; bracts broadly ovate, acute, 3.5 by 2 cm, green, flushed with red, glabrous; bracteoles linear 2 cm long, keel pale green, red at tip. **Flowers** bisexual, 6–7 cm long. **Calyx** tubular, longer than the bracts, 3-lobed; lobes subequal, red. **Corolla** tube very short, white, 3-lobed; lobes linear elliptic, 4–5 cm long, pubescent outside. Labellum 6–7 cm long, thin, trumpet-shaped with overlapping edges, with yellow haris near the base inside; edges often crisped. **Stamen** 5 cm long, white; filament
broad, petaloid, curve forwards, hairy on back, yellow at tip beneath. Staminode absent. **Ovary** inferior, 3-loculed; ovules numerous.

**Locality** Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution** Indonesia, Malaysia.

**Ecology** In lowland, peat swamp and upland evergreen forest; altitude 100 m. Flowering October – February.

**Uses** A decoction of the rhizomes is used to wash a rash due to irritant hairy caterpillars, (B); it is also used as an aphrodisiac, (M).

**Material studied** UBON 1326, BKF 59096


---

Crypteroniaceae

**Crypteronia paniculata** Blume

**Vernacular** Ku wa (กูวา)

Tree, 20 – 30 m tall; young branches pubescent, slightly quadrangular. **Stipules** absent. **Leaves** simple, opposite; petioles 5 – 8 mm long, pubescent; blades chartaceous, elliptic, ovate, 8 – 17 by 5 – 10 cm, apex acuminate, margins entire, basecunate or rounded; glabrous and glossy green above, pubescent and light green beneath. **Inflorescences** panicle, mostly terminal, also on leafless older nodes, 10 – 30 cm long, with a few to several racemes along the main axis; raceme 10 – 13 cm long, greenish-yellow; bracts triangular, 1 – 5 mm long, caducous; bracteoles narrowly triangular, 0.5 – 1 mm, persistent; pedicels 1 mm long, pubescent. **Flowers** many bisexual, small 2 – 3 mm across. **Calyx** shallowly cup-shaped, 5-lobed; lobes triangular 0.8 mm long, finely tawny pubescent outside, densely whitish-tomentose inside, persistent. **Corolla** absent. **Stamens** 5, free; filaments filiform, 2 mm long, persistent. **Ovary** superior, subglobose 1 mm long, 2-loculed, ovules numerous in each locule; style 0.5 mm long; stigma discoid. **Fruit** a loculicidal capsule, subglobose, 2 – 4 mm across, 2-valved, finely pubescent. **Seeds** many, very small, ellipsoid.

**Locality** Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

**Distribution** Burma, Cambodia, Laos, Malesia, S.Vietnam.

**Ecology** In tropical evergreen forest, lowland rain forest; altitude 10 m. Flowering and fruiting April – August.
Uses

A decoction of the bark is held in mouth as a gargle for a few minutes and then spit out to soothe toothache; this decoction is also used to wash the wounds, (B). The crushed young leaves are applied externally as a poultice to treat contusion, (M). Roots, stem bark, and leaves are used as a contraceptive; in this case, a handful of the roots, stem bark and leaves are boiled with water, sometimes a young fruit of *Ceiba pentandra* (L.) Gaertn. is added to make a decoction to be more powerful. Then a glass of this decoction is taken after breakfast every other days, (M). The timber is used for house building, (B, M).

Material studied UBON 752


**Cucurbitaceae**

*Gymnopetalum chinense* (Lour.) Merr.  

**Vernacular** Dom (ดอม)

**Climbing herbs; stems slender 5-ribbed, scabrid, hairy, with tendrils.**

**Stipules** absent. **Leaves** simple, alternate; petioles scabrid, pubescent, 2.5 – 4.0 cm long; blades membranous, pubescent on both sides, reniform to triangular, 5.0 – 8.0 by 5.5 – 8.5 cm, 5-lobed; lobes triangular acute, margin dentate; base deeply cordate. **Flowers** unisexual, white. Male flowers in axillary raceme; calyx-tube 2.5 cm long, 5-lobed; lobes lanceolate 4 – 10 mm long, pubescent; corolla entirely white, funnel-shaped, widely spreading, 5-lobed, lobes obovate 2 – 3 cm long, pubescent on both sides. **Stamens** 3, anthers united into a column, included; anther-cells S-shaped. Female flowers solitary, axillary; calyx and corolla as of the male ones. **Ovary** inferior, 1-loculed; ovules numerous; style long; stigmas 3. **Fruit** pepo, ovate-oblong, acute at both ends, 3.5 – 4.0 cm long, 2 cm across, 10-ribbed, beaked, scabrid, ripening orange. **Seeds** many, suborbicular, compressed.

**Locality** Ban Hau Yang, Rattaphum District, Songkhla Province.

**Distribution** China, Malaysia.

**Ecology** In waste places, roadsides; altitude 70 m. Flowering and fruiting throughout the year.

**Uses** The young leaves are blanched and eaten as a vegetable, (B). The young fruits are cooked after they are boiled, and the water is changed 2 – 3 times to combat bitter taste, (B).

Material studied UBON 627

Momordica cochinchinensis (Lour.) Spreng.  
Vernacular Khi phra fai (ขี้พร่าไฟ)

Climbing perennial herbs, glabrous; tendrils simple. Stipules absent. Leaves simple, alternate; petioles 3 – 6 cm long, slender; blades herbaceous, cordate in outline, deeply 3-lobed, the central lobe elliptic, apex acuminate, base cuneate, margins coarsely dentate, 7 – 11 by 3 – 4 cm; the others two smaller, ovate, base oblique, apex and margins as those of the central lobe. Flowers pale yellow, unisexual, dioecious, solitary in leaf axils, subtended by cordate-reniform bracts. Male flowers 6 – 8 cm across; peduncles 5 – 7 cm long. Calyx campanulate, tube short, 5-lobed, coriaceous, dark brown, pubescent. Corolla rotate-campanulate, deeply 5-lobed; lobes creamy yellow, each with a purple spot at base. Stamens 3, in throat, filaments free, anthers free, orange, 1-celled, conduplicate, connective hairy. Female flowers 6 – 8 cm across; peduncles 2 – 5 cm long; calyx and corolla as those of the male ones; staminodes 3, scale-like. Ovary inferior, 1-loculed, ovules numerous; style slender; stigma deeply 3-lobed. Fruit berry, subglobose, 12 by 10 cm, with conical spines all over it, ripening red. Seeds many, sub-orbicular, flattened, dark brown, 2.5 by 2.0 cm.

Locality Ban Hua Yang, Rattaphum District, Songkhla Province.
Distribution India, Malaysia, China.
Ecology River-banks, secondary forest, open places in the lowland. Flowering November – December; fruiting January – February.
Uses The young fruits are cooked in various kinds of dishes as a vegetable, (B, M). The climbing stems are tied around a neck of cattle; it is said to get rid of worms from the skin of the cattle, (B).

Material studied UBON 947

Cyperaceae

Kyllinga nemolaris (J. R. & G. Forst) Dandy ex Hutch. & Dalziel  
Vernacular Ya nuai fai (หญ้าหน้าฝ้าย)

Rhizomatous perennial herb. Culms crowded or distant along rhizome, 15 – 30 cm tall, rigidulous, triquetrous, smooth. Leaves basal, 3-ranked; blades linear, very variable in length, up to 30 cm long, 2 – 5 mm wide, apex acute, margins scabrid in the upper part; sheath 1 – 9 cm long, purplish brown. Inflorescences capitate consisting of a terminal, ovoid-globose spike, 8 by 6 mm, white, usually accompanied by 1–3 much smaller, sessile heads at the base. Involutural bracts 3 – 4, spreading, the lowest up to 30 cm long. Spikelets closely packed, spreading, obliquely ovate, strongly compressed, 3 by 1.5 mm, 1-to2-flowered. Glumes 4 – 5, membranous, elliptic to boat-
shaped, strongly compressed, apiculate; keel broadly winged, serrate. **Stamens** 3; anthers linear. **Ovary** oblong-obovate, compressed. Stigmas 2, long, slender.

**Locality** Ban Ton Sai, Srinakharin Subdistrict, Phattalung Province.

**Distribution** Pantropical.

**Ecology** In sunny or slightly shaded waste places, roadsides, edges of forest; altitude near sea level to 100 m. Flowering throughout the year.

**Uses** The flowers together with a betel quid are chewed and then spat out near the aching ears to treat earache, (B).

**Material studied** UBON 1398

**Reference** Simpson & Koyama, Fl. Thail. 6(4) : 401. 1998.

**Lepironia articulata** (Retz.) Domin

**Vernacular** Kra chut (กระจูด), Chut (จูด)

Perennial rhizomatous herb; rhizome short. Culms terete, 150 – 200 cm by 5 – 7 mm, stiff, smooth, transversely septate, crowded along the rhizome. **Leaves** reduced to bladeless tubular sheath. **Inflorescence** a single spike, from the top of the stem, overtopped by a tubular bract 3 – 8 cm long continuing the stem. Spikes elliptic 1 – 3 by 0.3 – 0.9 cm, comprising many glumes; glumes spirally arranged and very densely imbricate, chartaceous, shining brown, broadly ovate, 4 – 6 mm long and about as wide, apex obtuse and lacerate; each substend a single naked female flower and many floral bracts. The floral bracts up to 15, linear lanceolate, thin, as long as the glumes; the lower ones substend male flowers. Male flowers about as long as the floral bracts. **Stamen** 1. Female flower about as long as the glumes. **Ovary** superior, broadly obovate, 1-loculed, 1-ovuled; stigmas 2. **Fruit** nutlet, suborbicular, flattened, light brown, with longitudinal ribs. **Seed** 1.

**Locality** Ban Thale Noi, Khuan Khanun District, Phattalung Province.

**Distribution** Madagascar, India, Sri Lanka, Indo-China, China, Malesia, Australia, New Caledonia, Fiji.

**Ecology** In open swampy places, open marshes, swamp forest, along stream, often near the coast and forming extensive communities; altitude sea level. Flowering and fruiting throughout the year.

**Uses** Stems are woven into mats, baskets and other utensils, (B, M).

**Material studied** UBON 1388, BKF 26982

**Reference** Simpson & Koyama, Fl. Thail. 6(4) : 266. 1998.
Davalliaceae

*Davalia solida* (Forst.) Sw.

Vernacular **Wan nakkharat** (วานนากะร่าท์)

Epiphytic fern; rhizome long-creeping, 6 – 10 cm diam., densely scaly throughout; scales on young rhizome oblong-subtriangular, imbricate, 3 – 4 cm long, apical part caducous; old part of rhizome dark brown to nearly black, densely covered by basal part of the scales. **Stipes** greenish-brown, 15 – 20 cm long, glabrous. **Fronds** glabrous, subdeltoid, 30 cm long and wide, tripinnate at basal portion; pinnae triangular with distinct stalk, basal pinnae the largest, up to 20 cm long and 15 cm wide; pinnules subtriangular to rhomboid, apex moderately acute, base cuneate, margin shallowly lobe. **Sori** terminal on veinlets, at margin of segments; indusia cup-shaped, 1.5 mm long, 0.7 mm wide.

**Locality** Ban Huay Ngo, Khok Pho District, Pattani Province.

**Distribution** Malesia north to Indo-China and S.China.

**Ecology** On tree-trunks, rocks in half-shaded place, dense evergreen forest; altitude 40 m.

**Uses** The rhizomes are used to treat itching; they are crushed and applied over the affected areas, (M). They are also used to treat toothache; in this case, they are boiled and mixed with a small amount of salt. Then a decoction is held in mouth as a gargle for few minutes, (B).

**Material studied** UBON 1335, BKF 095325

**Reference** Tagawa & Iwatsuki, Fl. Thail. 3(2) : 163. 1985.

Dicksoniaceae

*Cibotium barometz* (L.) J.Sm.

Vernacular **Wan luk kai thong** (วานลูกไก่ทอง)

Terrestrial fern; rhizome prostrate, often large, densely covered with golden yellow long hairs, bearing a tuft of large fronds. **Stipes** to 120 cm long, thick; base densely covered with hairs like those on the rhizome; on the upper part less densely hairy, and hairs becoming shorter upwards. **Fronds** bipinnate, coriaceous, large, up to 180 cm long and more than 100 cm wide. Pinnae many, the largest ones to about 80 cm long and 25 cm wide; rachis appressed-hairy beneath. Pinnules linear-lanceolate, 5 – 10 by 1 – 2 cm, apex acuminate, margins deeply pinnatifid throughout, base broadly cuneate to subtruncate, lower surface glaucous; the lower pinnules shortly stalked, the upper ones sessile. **Sori** 1–5 pairs on each lobe of fertile pinnules, at the ends of the lower veins, protected by two indusia.
Locality Ban Ton Panun, Khuan Palong District, Satun Province.

Distribution S.China, Taiwan, W.Malesia.

Ecology In tropical evergreen forest; altitude 100 m.

Uses The hair of rhizome are heated, mixed with a little amount of coconut oil, and then applied as a poultice onto the wounds to stop bleeding and to accelerate healing process, (B, M).

Material studied UBON 1320


**Dilleniaceae**

*Tetracera indica* (Christm. & Panz.) Merr. Figure 76 B

Vernacular Pod bai luen (ปดใบลื่น)

Climber, 5 m long; branches smooth. **Stipules** absent. **Leaves** simple, spirally arranged; petioles 6 – 12 mm long; blades thinly coriaceous, elliptic, 6 – 10 by 3 – 5 cm, apex acute, margins serrate, base acute, slightly glossy above, glabrous on both surfaces; nerves 8 – 9 pairs. **Inflorescences** terminal panicle, 8 cm long, mostly 4- to 8-flowered; pedicels 8 – 15 mm long. **Flowers** bisexual, 2 – 2.5 cm across. **Sepals** 4, free suborbicular, 8 mm long and wide, green, persistent but not enlarged in fruit. **Petals** 4, free, obovate, 13 by 6 mm, white, fugacious. **Stamens** numerous, free; filaments slender, 7 mm long, white with pink at the tips. **Ovaries** 2 – 3, superior; ovules 10 – 15 in each ovary. **Fruit** follicle, globose, 10 mm across. **Seeds** 1 – 7, ovoid, with red aril.

Locality Ban Ta Re Tai, Su - ngaipadee District, Narathiwat Province.

Distribution India, Burma, S. China, Malay Peninsula, Sumatra, Java.

Ecology Common in scrub and open forest, also on waste ground; altitude near sea level. Flowering and fruiting throughout the year.

Uses The roots or stems (at node) alone or combined with benzoin are rubbed against an earthenware pot. Then a mixture obtained is applied externally to treat aphthous ulcer, (M). The young leaves are eaten raw as a diuretic, (M).

Material studied UBON 673, BKF 031262

Dioscoreaceae

* Dioscorea cf. bulbifera * L.  

Figure 40 B

Vernacular  Man loen (มันเลิน)

Slender twiner, with large tubers; tubers globose, weighing up to 1 kg. Stem slender, bearing numerous axillary bulbils which are often mistaken by the native for fruit. **Stipules** absent. **Leaves** simple, alternate, with subfoliaceous auricles occur at the base of the petiole and partly embrace the stem; petioles 8 – 9 cm long; blades herbaceous, broadly ovate, 15 – 28 by 10 – 26 cm, apex caudate acuminate, margins entire, base deeply cordate, light green, glabrous on both surfaces; 9-nerved from the base, secondary nerves very conspicuously ladder-like.

**Locality** Ban Khok Ok, Hat Samran Subdistrict, Trang Province.

**Distribution** Malaysia, China, Japan, Australia.

**Ecology** In margins of forest, waste places, wet areas; altitude 10 m. Flowering and fruiting November – December.

**Uses** The bulbils are cooked in curries, (B).

**Material studied** UBON 326


* Dioscorea hispida * Dennst.  

Figure 40 C

Vernacular  Kloi (กลอย)

Perennial herb; stem twining, at first pubescent, then glabrous, very long, woody at the base, and armed, with large tuber; tubers subglobose, lobed, flesh white to pale yellow. **Stipules** absent. **Leaves** 3-foliolate, alternate; petioles 10 – 25 cm long, densely pubescent; petiolules 0.5 – 1 cm long; blades thinly chartaceous. Middle leaflet elliptic or elliptic-oblong; the lateral ones obliquely ovate, 16 – 23 by 11 – 15 cm, apex caudate acuminate, margins entire, base oblique or acute, densely hairy on both surfaces, with 5-main nerved from near the base. **Male inflorescence** axillary panicle, to 50 cm long, pubescent. Male flowers minute, 1 mm across, pale brown, in small spikes racemously arranged along the branches of the main axis; bracts just overtopping the flowers, subsaccate and acuminate, densely hairy outside; tepals 6, in 2 whorls of 3, ovate acuminate, densely hairy outside. **Stamens** 6, shorter than the tepals; pistillode absent. Female plants not found.

**Locality** Ban Plak Plue, Mae Lan District, Pattani Province.

**Distribution** India, Malaysia to west New Guinea.
Ecology  
In light forest, brushwood; near human habitations; altitude 20m.  
Flowering  
September – October.

Uses  
The tubers are eaten after the poison is washed out by soaking the sliced ones in running water for a big while, and then they are boiled. They are usually eaten with steamed sticky rice together with coconut flakes and sugar, (B, M). The tubers are also used for the treatment of helminthes in children; a large tuber is split into two pieces; a cavity with diameter about 5 cm is made at the center of each piece, and then a fresh egg is placed in the cavity, the split pieces is jointed face to face, tied with a wire. Then it is roasted until the egg cooked. This egg is given to children with helminthes, (B). Sap from the fresh young shoots is sometimes dropped into a palm wine. It is said to accelerate severe drunk effects in person who drink it. In some areas, three rings made of roots of this plant are strung together and then worn as a necklace; it is believed to get rid of helminthes in children, (B)

Material studied  
UBON 1004

Reference  

Dipterocarpaceae

Cotylelobium melanoxylon (Hook.f.) Pierre

Vernacular  
Khiam (เคี่ยม)

Big tree, up to 25 m tall, branchlets stellately hairy. Stipules minute, linear, densely tomentose, caducous. Leaves simple, alternate; petioles 1cm long; blades stiffy coriaceous, ovate-lanceolate, 7 – 9 by 2.5 – 4 cm, apex acuminate, margins entire, base broadly cuneate, glabrous above, stellatelly hairy beneath; nerves 10 –12 pairs. Inflorescence panicle, terminal and axillary, 8 – 15 cm long; peduncle and rachis densely pubescent; bracts and bracteoles elliptic, obtuse, 4 by 3 mm, densely pubescent outside; pedicels 5 mm. Flowers bisexual, creamy white, 8 mm long, 10 mm across. Sepals 5, connate at base; lobes subequal, narrowly triangular, 2.5 – 3 mm long, densely pubescent outside, sparsely so within. Petals 5, free, contorted in bud, narrowly oblong, obtuse, sparsely pubescent on part exposed in bud. Stamens 15, subequal; filaments short; anthers narrowly ovate, with prominent setose margin. Ovary superior, ovoid, densely hairy, 3-loculed; ovules 2 in each locule; style slender, 3 times as long as the ovary, pubescent towards base, otherwise glabrous. Fruit a nut, globular, 6 mm diam., densely pubescent, winged by the accrescent calyx; 2 larger wings spathulate, obtuse, 5 – 5.5 by 1–1.2 cm; 3 shorter ones ovate, 1 – 2 by 0.4 cm.

Locality  
Ban Tung Kai, Muang District, Trang Province.

Distribution  
Malaysia, Singapore, Sumatra, Borneo.
Ecology: Locally scattered in lowland evergreen forest; altitude 20 m.
Flowering: September – October; fruiting October – November.

Uses: The bark chips are used as a preservative in a sweet fluid obtained from the cut inflorescence of *Borassus flabellifer* L.; sometimes they are put in a palm wine for good taste and for preservation (B). A hard durable timber is used for house building, (B, M).

Material studied: UBON 1396, 1397, PBG 129434


**Hopea odorata** Roxb.

Vernacular: Khian (เคียน), Takhian thong (ตะเคียนทอง)

Tree, up to 40 m tall, usually buttressed base, with transparent resin. **Stipules** small, caducous. **Leaves** simple, alternate; petioles 1 – 1.5 cm long; blades coriaceous, elliptic, 8 – 13 by 4 – 5 cm, apex rather long acuminate, obtuse, margins entire, base slightly unequal, glabrous on both surfaces; nerves 8 – 10 pairs; only a few nerves with domatia in their axils; domatia glabrous. **Inflorescence** terminal and axillary panicle, compose of unilateral racemes, 10 – 12 cm long; rachis stellate pubescent. **Flowers** bisexual, yellow, 5 – 7 mm across, fragrant. **Sepals** 5, free, unequal; 2 longer, oblong, 2.5 by 1.0 mm; 3 smaller, ovate, 1.8 by 1.5 mm, pubescent outside, accrescent. **Petals** 5, coherent at base, densely stellate-tomentose on the part exposed in bud only, contort, apex unequal, 4 – 5 by 2.5 mm. **Stamens** 15, 2-whorled, basally coherent with corolla; filaments 0.8 mm long, dilated at base. **Ovary** superior, 3-loculed; ovules 2 per locule; style very short; stigma thick. **Fruit** an ovoid nut, conspicuously winged by the accrescent sepals; 2 outer wings narrowly spatulate, 4 – 5 cm long, pubescent; 3 inner ones not longer than the fruit, closely appressed to the nut.


Distribution: Bangladesh, Burma, Andaman Islands, W. Bengal, Laos, Cambodia, Vietnam, Peninsular Malaysia.

Ecology: In lowland evergreen dipterocarp, hillside evergreen dipterocarp forest, open forest near the beach, and swamp forest; altitude 40 m. Flowering February – March; fruiting May – July.

Uses: A durable timber is used for house building, (B, M).

Material studied: UBON 671

**Vatica pauciflora** (Korth.) Blume

**Vernacular** Sak (สัก), Rue so (รือเสาะ)

Tree, 10 – 20 m tall; twigs much branched, young branches sparsely stellately-hairy. **Stipules** linear, caducous. **Leaves** simple, alternate; petioles 1 – 1.5 cm long; blades thinly coriaceous, elliptic-lanceolate, 7 – 20 by 2.5 – 6 cm, apex bluntly short acuminate, margins entire, base cuneate, glabrous on both surfaces; nerves 7–10 pairs. **Inflorescences** terminal raceme or panicle, 6–10 cm long; peduncle 2–4 cm long; pedicels 3 mm long; braets small, caducous. **Flowers** bisexual, white 1 cm long. **Sepals** 5, slightly connate at base, lobes deltoid, 2 by 1 mm, stellately-hairy. **Petals** 5, free, spirally twisted in bud, linear-oblong, apex blunt, 7 by 3 mm, pubescent outside. **Stamen** 15, free; anthers oblong, connects extended into a sterile tip to the anthers. **Ovary** superior, obconical, pubescent; 3-loculed; ovules 2 in each locule; style stout; stigma globose. **Fruit** nut, ovoid-globose, 2 by 1.5 cm, subtended by persistent calyx; wall cory, light brown, with 3 grooves from the top to base. **Seed** 1–2.

**Locality** Ban Plak Plue, Mae Lan District, Pattani Province.

**Distribution** Malaysia, Sumatra.

**Ecology** Scattered in evergreen forest, on river banks, occasionally found in peat swamp forest; altitude 20 m. Flowering March – April; fruiting May – June.

**Uses** The bark chips are used to chew with betel leaf (leaf of *Piper betle* L.) as substitute for betel nut (seed of *Areca catechu* L.), (B).

**Material studied** UBON 1294, BKF 106936


---

**Dryopteridaceae**

**Pleocnemia irregularis** (Presl.) Holtt.

**Vernacular** Kut pa (กูตป่า)

Terrestrial fern, erect, up to 2 m tall; rhizome short, stout, densely scaly; scales linear, dark brown. **Stipes** stout, to 80 cm long, densely scaly at the base; scales dark brown. **Frons** large, triangular in outline, 100 by 70 cm at base, bipinnate towards the base, with numerous opposite pinna; the lower most largest, asymmetrically subdeltoid, 70 by 20 cm. Pinnae at the base with few pairs of sessile and usually more or less adnate pinnules, the distal part deeply lobed; middle pinnae lanceolate, apex acuminate, with several free pinnules; apical portion large, pinnatifid. Rachis and rachilla glabrescent. Pinnules coriaceous, opposite, oblong-subdeltoid, falcate, 12 – 22 by 2 – 5 cm, apex long acuminate, base cuneate, margins pinnate lobed; lobes mostly falcate; glabrous above, sparsely hairy beneath. **Sori** small, rounded, scattered irregularly, exindusiata. **Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.
Diospyros buxifolia (Blume) Hiern.

**Vernacular** Sam tham (สําทํา)

**Ebenaceae**

---

**Distribution** Burma, Cambodia, Malesia throughout to Fiji.

**Ecology** In dense evergreen forest; altitude 100 m.

**Uses** The young leaves are eaten blanched as a vegetable. It is said to act as an antidote against poison food (in the case associated with black magic), (B).

**Material studied** UBON 228, BKF 33441


---

Diospyros malabarica (Desr.) Kostel.

**Vernacular** Phlap (พลับ)

---

**Distribution** India, Cambodia, Vietnam, Malay Peninsula, Indonesia.

**Ecology** In evergreen rain forest; altitude 100 m.

**Uses** The timber is used for house building. The leaves are used in the traditional ritual performed at the beginning of the rice - harvesting season, (B).

**Material studied** UBON 668

above, prominent beneath. **Flowers** unisexual; female flowers solitary in leaf axils, with short pedicels 2 mm long. **Calyx** broadly campanulate, 6–7 mm long, divided to middle; lobes broadly ovate acute, velutinous outside, sericeous inside, green. **Corolla** yellow, urceolate, 10 mm long, 4-lobed; lobes ovate acute, 3 by 4 mm, with only a line of hairs along mid-line of the lobes, glabrous inside. Staminodes 10–12, linear, pubescent at base. **Ovary** superior, ovoid, sericeous, 8-loculed; ovule 1 in each locale; style 4, short sericeous; stigma lobes 8 or more. **Fruit** a berry, globose, 3–4 cm diam., glabrous, ripening reddish-orange. Seeds 8, ovoid, flattened.

**Locality** Ban Thale Noi, Khuan Khanun District, Phattalung Province.

**Distribution** India, Burma, Malay Peninsula, Indonesia.

**Ecology** Margins of evergreen forest; altitude near sea level. Flowering March–May; fruiting May–December.

**Uses** The ripe fruits are eaten fresh. A sap from the unripe fruits is used as a sticky substance for joining pieces of paper or paper to wooden articles, (B).

**Material studied** UBON 1228, BKF 076787


**Elaeagnaceae**

**Elaeagnus latifolia** L.

**Vernacular** Som lod (ส้มหลอด)

Woody climber, up to 12 m long; branches thin, with silvery stellate scales, older parts usually armed with thorns. **Stipules** absent. **Leaves** simple, spirally arranged; petioles 1–1.5 cm; blades chartaceous, elliptic to obovate, 8–13 by 3.5–5 cm, apex acuminate, margins entire, base obtuse to acute, dark green and glabrous above, brown to silvery scaly beneath; nerves 4–6 pairs. **Inflorescences** axillary, many-flowered fascicle; bracts 2 mm long; pedicels 1–2 mm. **Flowers** bisexual, 1 cm long. **Perianth** trumpet-shaped, limb 4–5 mm long, 4-lobed; lobes valvate, broadly ovate acute, 2–2.5 by 2 mm, pale green, with densely stellate scales. **Stamens** 4, alternitepalous, inserted in the throat. **Ovary** superior, narrowly ovate, glabrous, 1-loculed, 1-ovuled; style terminal, 5–6 mm, stellate-scaly. **Fruit** a drupe, ellipsoid, 3–4.5 cm long, 2–2.5 cm wide, scaly, reddish-orange when ripe, juicy, very acid. **Seed** 1, ellipsoid, acuminate at both ends, 3 by 0.7 cm.

**Locality** Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution** SE.Asia.
Elaeocarpus robustus Roxb.

**Ecology**
Primary and Secondary rain forest; altitude 130 m. Flowering January – February; fruiting April – May.

**Uses**
The sourish ripe fruits are eaten fresh or cooked in sour curries, (B, M).

**Material studied**
UBON 1231

**Reference**

---

**Elaeocarpaceae**

_Elaeocarpus robustus_ Roxb. (Figure 42 C – E)

**Vernacular**
Pe yo (ปีเยาะ)

**Evergreen tree, up to 30 m tall; twigs glabrescent. Stipules**
minute, early caducous. **Leaves**
simple, spirally arranged; petioles 2 – 6 cm long, glabrescent, geniculate and swollen at both ends; blades coriaceous, elliptic, 8 – 25 by 4 – 13 cm, apex acuminate, margins shallowly serrate, base rounded to obtuse, hairy along midrib on both surfaces; nerves 6 – 14 pairs. **Inflorescence** raceme, 7 – 17 cm long in axils of existing leaves or axils of leaf scars behind existing leaves; rachis pubescent. **Flowers**
bisexual, white, 1 cm across; pedicels 1 cm long. **Sepals** 5, shortly connate at base, ovate-lanceolate, 5 by 2 mm, pubescent outside, hairy along limb and medial line inside. **Petals** 5, free, obovate, 6 by 4 mm, hairy in lower half, without basal ridge inside, lacinate, ½ the length of the petals. **Stamens** 40 – 50, 3 mm long; anthers linear, not aristate, opening by a terminal pore. Disk distinctly 5-lobed, yellow. **Ovary** superior, ovoid, densely hairy, 3-loculed ovules 2 in each locule; styles stiffly hairy in lower half. **Fruit**
a drupe, subglobose, 4 – 5 cm diam., sparsely pubescent, ripening yellowish-brown. **Seed** 1, subglobose.

**Locality**
Ban To Wo, Su-naikolok District, Narathiwat Province.

**Distribution**
Burma, Cambodia, Malay Peninsula, Indonesia.

**Ecology**
In evergreen rain forest, lowland forest; altitude near sea level. Flowering and fruiting April – September.

**Uses**
The ripe fruit are eaten fresh, (M). The bark combined with benzoin are rubbed against an earthenware pot, then a mixture obtained is applied to treat chronic ulcer, (M). The leaves are used for the treatment of herpes infection; in this case, the leaves which have numerous lumps appeared on their surfaces combined with the leaves of _Sandoricum koetjape_ (Burm. f.) Merr. are pounded, into which a little amount of water is added. Then a squeezed juice is applied onto the affected area, (M).

**Material studied**
UBON 723, BKF 075265

**Reference**
Ng, Tree Fl. Mal. 4 : 94. 1989.
Euphorbiaceae

*Antidesma ghaesembilla* Gaertn.

Vernacular: Mao na (มาโน้)

Shrub, 3 – 10 m tall; young twigs tomentose; dioecious. **Stipules** small, lanceolate acuminate, caducous. **Leaves** simple, distichous; petioles 1 – 1.5 cm long, pubescent; blades thinly coriaceous, elliptic-ovate, 5 – 8 by 3.5 – 4.5 cm, apex obtuse, mucronate, margins entire, base rounded, upper surface glabrous except on the midrib and the nerves pubescent, lower surface pubescent throughout; nerves 4 – 5 pairs. **Inflorescence** spike, terminal or upper axillary, unisexual, solitary or in group. Male flowers small, 1 mm across, pale yellow, sessile. Sepals 5, free, orbicular, pubescent outside. Petal none. **Stamens** 5; filaments filiform, yellow turning red; anthers yellow; disk consisting of free 5 lobes, yellow hairy; pistillodes present. Female flowers small, pale green; pedicels 1 mm long. Sepals as in male but acute. Petal none. **Ovary** superior, slightly depressed ovoid, pubescent, 1-loculed, 2-ovuled; styles terminal; stigmas 4, recurved. **Fruit** a drupe, globose, sparsely pubescent, 4 – 5 mm diam., ripening dark red. **Seed** 1, orbicular, flattened.

**Locality** Ban Thale Noi, Khuan Khanun District, Phatthalung Province

**Distribution** India, Bangladesh, Burma, Laos, Vietnam, S.China, Cambodia, Malaya, Sumatra, Java, Borneo, Philippines, Molucca.

**Ecology** In open forest, edges of mangrove, on roadsides and river-banks, on dry and swampy ground. Flowering and fruiting March – July.

**Uses** The young leaves are eaten raw as a vegetable; the ripe fruits are eaten fresh, (B, M). The young leaves combined with turmeric rhizome and rice grains are crushed, and then applied externally as a poultice to treat abscesses, (B).

**Material studied** UBON 1213, BKF 090551


*Baccaurea macrocarpa* (Miq.) Mull.Arg.

Vernacular: Lang khae (ลำคงา)

Tree, 10 – 15 m tall; young parts densely brown hairy. **Stipules** narrowly triangular, 5 mm long. **Leaves** simple, spirally arranged; petioles 8 – 10 cm long, pubescent, broadened at distal end; blades coriaceous, elliptic-oblong, 25 – 40 by 14 – 20 cm, apex acuminate, margins entire, base blunt or subcordate, glabrous above, pubescent beneath; nerves 15 – 17 pairs, prominent beneath. **Fruit** depressed
globose, 3.5 – 7.5 cm diam., pericarp thick, yellow to brown when ripe. **Seeds** 3, with white to creamy aril.

**Locality** Ban Ko Wiharn, Khok Pho District, Pattani Province.

**Distribution** Malay Peninsula, Sumatra, Borneo.

**Ecology** Evergreen rain forest, swamp forest; altitude 30 m. Flowering April – May; fruiting July – September.

**Uses** The ripe fruits are eaten fresh, (B, M).

**Material studied** UBON 600


*Baccaurea motleyana* (Mull. Arg.) Mull. Arg.

**Vernacular** Ra mai (ระไม), Ram bai (รําไบ)

Dioecious tree, 6 – 10 m tall; young parts pubescent. **Stipules** caducous. **Leaves** simple, spirally arranged; petioles 3–10 cm, pubescent; blades chartaceous, elliptic-obovate, 20 – 35 by 7 –17 cm, apex cuspidate or shortly acuminate, margins entire, base narrowly cordate, glabrous above, hairy beneath; nerves 13–16 pairs, prominent beneath, parallel. **Inflorescence** raceme, pendulous, from main branches or trunks, elongate, 13 – 35 cm long, hairy throughout. **Flowers** unisexual, small, yellowish-green. Male flowers minute, 2 – 3 mm across; pedicels up to 1.5 mm; perianth-lobes 4 – 6, ovate-oblong, acute, pubescent on both sides; **stamens** 4 – 6; rudiment of pistil short. Female flowers on longer raceme, 8 – 10 mm across; pedicels 2 mm; perianth-lobes 5, ovate, acute, persistent. **Ovary** superior, ovoid to globose, 3-loculed; ovule 1 per locule; stigma sessile. **Fruit** ovoid to globose, sparsely short hairy, 2.5 – 3.0 cm long, yellowish-brown when ripe, indehiscent. **Seeds** 2 – 3, 1.2 cm long, with transparent white sweet aril.

**Localities** Ban Lu Bo Sa Ma, Su–ngaikolok District, Narathiwat Province. Ban Bon Khuan, Rattaphum District, Songkhla Province.

**Distribution** Malaysia, Sumatra, Borneo, Molucca.

**Ecology** Primary and secondary rain forest; often cultivated; soil: clay, sand or limestone; altitude near sea level to120 m. Flowering April – May; fruiting October – November.

**Uses** The ripe fruits are eaten fresh, (B, M).

**Material studied** UBON 592, BKF 084090

**Baccaurea polyneura** Hook. f.  

*Vernacular* Cham pu ling (จําปูลิง)

Tree, 18 – 24 m tall; young twigs densely hairy. *Stipules* minute, hairy, caducous. *Leaves* simple, spirally arranged; petioles 4 – 6 cm long, slender, distinctly knee at the top, densely hairy; blades thinly chartaceous, elliptic to obovate, 14 – 20 by 6 – 10 cm, apex acuminate, margins entire, base rounded to cuneate, glabrous or sparsely pubescent above, hairy beneath; nerves 8 – 11 pairs. *Female inflorescences* ramiflora, densed racemes, pendulous, 10 cm long, 1 cm wide; peduncle 5 – 6 cm long; pedicels articulate, 2.5 mm long; bracteoles 3. *Flowers* small, yellowish-green. *Sepals* 4 – 5, ovate unequal, 2.5 – 3 by 1.5 – 2 mm, densely pubescent on both sides. *Petals* none. *Ovary* superior, ovoid, densely hairy, 3-loculed; ovules 2 in each locule; styles 3, bifid. *Fruit* capsule, globose, 2 cm diam., ripening yellowish-orange. *Seeds* 3; with a juicy, sour, pulpy aril.

*Locality* Ban Khao Khram, Srinakharin Subdistrict, Pattalung Province.

*Distribution* Malay Peninsula, Sumatra, Borneo.

*Ecology* In evergreen rain forest, swamp forest; altitude 110 m. Flowering March – April; fruiting July – August.

*Uses* The ripe fruits are eaten fresh, (B, M).

*Material studied* UBON 1022, BKF 130941


---

**Balakata baccata** (Roxb.) Esser  

*Vernacular* Yuea chong (เหยื่อจง)

Tree, 30 – 35 m tall, glabrous; bark grayish-brown and deeply fissured with age; with white latex. *Stipules* minute, caducous. *Leaves* simple, spirally arranged; petioles 3 – 5 cm long; red, slender, slightly swollen at the ends; blades thickly membranous, elliptic or oovate, 9 – 17 by 4 – 8 cm, apex long acuminate, margins entire, base rounded; young leaves red-purple, mature ones dark green and glabrous above, glaucous beneath, with 2 dark knob-like glands on underside near the base of the blades; nerves 11 – 13 pairs. *Inflorescence* unisexual, spike, terminal or upper axillary, 7 – 10 cm long, combined into panicle to 20 cm long. *Male flowers* in groups of 6 in bract-axils, flanked by 2 large glands. Calyx cup-shaped, irregularly 2- to 3-lobed, 1 mm long, green. Petals none. *Female flowers* solitary. Calyx as the male ones but larger. Petals none. *Ovary* superior, compressed-obcordate, 2-loculed; ovule 1 in each locule; style 2, recurved. *Fruits* berry, 2-lobed, 7 – 10 mm across, ripening dark purple.

*Locality* Ban Khao Phra, Rattaphum District, Songkhla Province.
Distribution  India, Malay Peninsula, Sumatra, Borneo, S.China, Laos, Vietnam, Cambodia.

Ecology  In evergreen forest; altitude 100 – 300 m. Flowering and fruiting April – June.

Uses  The wood is used as firewood. The young leaves and fallen fruits are edible and very attractive to mouse deer, so the local people use the young leaves to bait traps, (B, M).

Material studied  UBON 1216, BKF 132870


*Baliospermum montanum* (Willd.) Mull. Arg.  Figure 29 F

Vernacular  Thon di (ทนดี)

Shrubs, 1 – 2 m tall, young parts pubescent. Stipules absent. Leaves simple, spirally arranged; petioles pubescent, 1 – 8 cm long, green to red; blades herbaceous; upper ones small, lanceolate, 7 – 10 by 3 – 5 cm; lower ones broad oblong-ovate, sometimes palmately, 3- to 5-lobed, 15 – 20 by 8 – 10 cm, apex acute, margins dentate, base obtuse-subcordate, with 2 glands near to top of petiole; pinnately nerved, 7 – 8 pairs, 3- to 5-nerved at base. Inflorescence axillary panicle, 10 – 20 cm long, rachis sparsely pubescent. Flowers small, unisexual, apetalous. Male flowers above, a few female ones at base of inflorescence. The male ones on pedicels 5 – 6 mm long; sepals 5, light green, orbicular, 1.5 – 2.0 mm long; disk glands 5, free. Stamens 15 – 20; anthers sub-reniform, adnate to a broad connective. Female flowers subsessile; sepals 5, light green to reddish, fleshy, ovate, glandular serrate, 1.5 mm long, disk cup-shaped; ovary superior, pubescent, subglobose, 3-loculed; ovule 1 per locule; styles 3, bifid; stigmas widened into wing, channelled, recurved at apex. Fruit a capsule, subglobose, 1.5 cm diam. Seed oblong, smooth mottled, 6 mm long.

Locality  Ban Hua Yang, Rattaphum District, Songkhla Province.

Distribution  India to Indo-China.

Ecology  Common in evergreen forest, waste places; altitude 20 m. Flowering and fruiting January – March.

Uses  A decoction of the roots is taken as a laxative, (B).

Material studied  UBON 702, BKF 99440

Breynia vitis-idaea (Burm.f.) C.E.C. Fisch.

Vernacular Kang pla (กังปลา), Sue mama (ซือมามะ)

Shrub, 2 – 3 m tall, branches spreading, glabrous. Stipules triangular, 1 mm long. Leaves simple, alternate; petioles 2 mm long; blades thinly coriaceous, ovate, 2.5 – 3.5 by 1.5 – 2.0 cm, apex sub-acute, base rounded, margins entire, deep green above, glaucous beneath; nerves 4–5 pairs. Flowers unisexual, yellow, solitary or in clusters in leaf axils. Male flowers 2 mm long; calyx cup-shaped, with tiny 6 reflexed lobes; stamens 3, jointed in a column; pistillode absent. Female flowers pedicelled, with turbinate-shaped calyx, 1.5 mm long, 6-lobed; ovary superior, glabrous, 3-loculed; ovules 2 per locule; styles 3, erect. Fruit globose drupe, 7 – 8 mm diam., ripening red.

Locality Ban Plak Pla, Tak Bai District, Narathiwat Province.

Distribution India to Formosa, Ryukyu Is. and Philippines, south to Malay Peninsula.

Ecology Edges of forest, along path near beach forest; altitude 20 m. Flowering and fruiting throughout the year.

Uses The roots and leaves are used as an ingredient of the formula F32 given to women suffering from the harmful effects of a food they ate after giving birth, to relieve dizziness, (B). The leaves are also used in magical ritual by some Muslim Thais; they are chewed and then spat onto a patient in case of sickness due to sorcery. This magical ritual must be done in the evening, and it is also accompanied with an incantation. Sometimes, the young leaves are chewed and then spat onto a baby with colic; it is believed to drive off evil spirit.

Material studied UBON 929, BKF 111544


Claoxylon longifolium (Blume) Endl. ex Hassk. Figure 33 D

Vernacular Phak wan chang (ผักหวานช้าง), Ta mat (ตาหมัด), A yae (อาแย)

Shrub, up to 8 m tall; young part pubescent; mostly dioecious. Stipules minute, triangular. Leaves simple, spirally arranged; petioles 2 – 8 cm long; blades thin, herbaceous, ovate-lanceolate, 14 – 20 by 4 – 9 cm, apex acute, margins dentate, base acute to obtuse, dark green, sparsely pubescent on both surfaces; nerves 7 – 12 pairs. Inflorescences unisexual, axillary; male inflorescence spiciform raceme, 5 – 8 cm long, short hairy; the female ones shorter. Male flowers white, minute, in fascicles of 2 – 3 flowers, closely spaced along inflorescence axis; pedicels 2–3 mm long; perianth lobes 4, valvate, pale green, linear ovate, acute, 3 – 4 mm; stamens
numerous, on a central receptacle mixed with linear scales, filaments free; anther cells divaricate. **Female flowers** mostly solitary; pedicels 1.5 mm long; perianth lobes 3, orbicular-triangular, pale green; ovary superior, ovoid-globose, pubescent, 3-lobed, 3-loculed; ovule 1 in each locule; stigma sessile, trifid. **Fruit** a capsule, 3-lobed. Seeds 3, subglobose, black, covered with a thin orange – red aril.

**Locality** Ban Cho Kot, Su-ngaipadee District, Narathiwat Province.

**Distribution** India, Indo-China throughout Malesia to New Guinea.

**Ecology** In tropical rain forest, secondary forest; in lowlands to mountains; altitude 40 –120 m. Flowering and fruiting throughout the year.

**Uses** The young leaves are eaten raw or blanched or cooked in various ways as a vegetable, with the side benefit to cure leucorrhaea, (B, M). A handful of the roots combined with three corn cops and a handful of the black sticky rice mills within husks are boiled in water. Then this water is given to women to treat fever associated with menstruation, (B).

**Material studied** UBON 598, BKF 42080


**Croton cascarilloides** **Raeusch.**

**Vernacular** Plao ngoen (เปล่าเงิน)

Shrub, up to 4.5 m tall, with slender branches, covered with brown scales. **Stipules** subulate, 4 mm long. **Leaves** simple, spirally arranged at the end of shoots; petioles 1.5 – 4.0 cm long; blades thin, chartaceous, oblong-lanceolate or oblong-ovate or rhomboid, 10 – 15 by 4 – 7 cm, apex acuminate, margins entire, base blunt, upper surfaces of mature leaves glabrous, beneath thickly covered with silvery peltate scales with some brown ones; nerves 7 – 8 pairs. **Inflorescences** terminal raceme, bisexual, 2 – 7 cm long. **Flowers** unisexual. Male flowers small, globose, white, 3 mm diam., towards apex; sepals 5, ovate; petals 5, obovate; stamens 10 – 12, filaments pubescent on basal part. Female flowers rather bigger, towards base; sepals 5, oblong, 5 mm long, apex blunt; petals none; ovary superior, globose; covered with brown scales, 3-loculed, ovule 1 per locule. Styles 3, bifid. **Fruit** a capsule, subglobose, brown.

**Locality** Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution** Indo-China to Ryukyu Islands, Burma, W. Malaysia.

**Ecology** In evergreen forest, on limestone hill; altitude 50 m. Flowering and fruiting December – March.
Uses  A decoction of the whole plant is given to women as a tonic and also as a remedy to cure hemorrhage after giving birth, (M).

Material studied  UBON 704, BKF 109834


**Croton caudatus** Geiseler.  
Figure 36 A

Vernacular  Kura pria (กุระเปรียะ)

Scandent shrub; branches and racemes stellate-hairy, rough. **Stipules** linear, caducous. **Leaves** simple, alternate; petioles 3 – 5 cm long; blades thinly coriaceous, narrowly to broadly ovate, 5 – 15 by 3 – 7 cm, apex acuminate, margin serrulate with stalked glands, base subcordate with 2 stalked glands, scabrid, stellate-hairy on both surfaces; nerves 3 – 5 from the base, with 1 – 3 pairs from midrib and transverse nervules. **Inflorescence** a terminal raceme, 7 – 25 cm long. **Flowers** unisexual, small, white. **Male flowers** many at the top of the raceme; sepals 5, ovate, 2.5 cm long; petals 5, linear oblong, 2.5 cm long; stamens 18 – 30. **Female flowers** few at base of the raceme; sepals 5, ovate, 4 mm long, hairy; petals 5, minute, stellate-hairy on outer side, glabrous inside; ovary superior, globose, densely hairy, 3-loculed, ovule 1 in each locule; style 3, bifid, filiform. **Fruit** a woody capsule, yellowish-brown, globose, bluntly 6-ribbed, 1.5 – 2.0 cm diam., densely hairy. **Seeds** 3.

Locality  Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

Distribution  Himalayas, to Sri Lanka and S. China, SE. Asia, W. Australia.

Ecology  Common in evergreen or deciduous forest, edges of peat swamp forest; altitude 20 m. **Flowering** January – March; **fruiting** February – June.

Uses  The young leaves are eaten raw as a cardio tonic, (M). A decoction of the fruits is taken once a day, daily for the treatment of hemorrhoids, (M).

Material studied  UBON 708, BKF 134570


**Croton tiglium** L.  
Figure 36 B – C

Vernacular  Salot (สลอด)

Shrub, 3 – 6 m tall, glabrous. **Stipules** caducous, subulate, 1.5 – 3.5 mm long. **Leaves** simple, alternate; petioles 2 – 5 cm long; blades herbaceous, ovate, 7 – 12 by 3 – 7 cm, apex acuminate, margins shallowly serrate, base round with 1 gland on ...
either side, glabrous above, with few stellate hairs beneath; 3-nerved at base. **Inflorescences** terminal raceme, 5 – 10 cm long. **Flowers** unisexual, male flowers and female ones on the same plant. **Male flowers** at upper part of the inflorescence; sepals 5, triangular, 2.0 by 15 mm, sparsely stellate-hairy, tip bearded; petals 5, narrowly oblong, edges woolly, shorter than the sepals; stamens 15 – 20, free; disk glands 5, small. **Female flowers** at lower part of the inflorescence, apetalous; sepals 5, linear lanceolate, 2.5 by 1.5 mm, villous at base; ovary superior, obvoid, 2 mm long, 1.5 mm across, pubescent, 3-loculed, ovule 1 in each locule; styles 3, bifid. **Fruit** a capsule on persistent calyx, oblong-globose, 3-lobed, 2 cm long 1.5 cm wide, stellately hairy, scabrid. **Seeds** 3, oblong, smooth, light brown.

**Locality** Ban Hua Yang, Rattaphum District, Songkhla Province.

**Distribution** Malaysia, China.

**Ecology** In secondary forest; occasionally cultivated in villages; altitude 20 m. Flowering and fruiting January – March.

**Uses** A decoction of the leaves is held in the mouth for a few minutes and then pit out, to soothe tooth ache. The crushed leaves are used to treat itching by applying it on the affected areas, (B). Very little amount of pounded seeds sometimes are taken to relieve constipation, (M).

**Material studied** UBON 703, BKF 088674

**Reference** Shaw, Kew Bull. 26(2) : 250. 1971.

**Elateriospermum tapos** Blume

**Vernacular** Pra (ประ)

Tree, 10 – 20 m tall, with white latex; young part with short hairs. **Stipules** small, caducous. **Leaves** simple, spirally arranged; petioles 3 – 5 cm long; blades thinly leathery, linear-oblong, 13 – 17 by 3 – 5 cm, apex acuminate, margins entire, base acute or obtuse, glabrous, shining bright red when young; nerves 12 – 15 pairs. **Inflorescence** a terminal panicle, consisting of many cymes, 8 – 13 cm long; main branches terminated by a female flower, the others male ones. **Male flowers** 5 – 7 mm across, creamy white; pedicels 6 – 8 mm; sepals 5, ovate-triangular, obtuse, 5 by 3 mm; stamens 10 – 20, free, filaments short. **Female flowers** 5 mm across; pedicels and sepals like those of the male ones; staminodes many; ovary superior, ovate, pubescent, 3-loculed; ovule 1 in each locule; style short; stigma laciniate. **Fruit** woody capsule, broadly oblong, longitudinally 3-grooved, 4.5 – 5 by 4 cm, glabrous, dull brown flushed pink. **Seeds** 3, oblong, sub-trigonal, 4 cm long, 1.5 cm wide, with thin crustaceous brown testa.

**Locality** Ban La Lo, Su-ngaipadee District, Narathiwat Province.

**Distribution** Sumatra, Java.
Ecology In evergreen rain forests, hillsides; altitude 80 m. Flowering January – February; fruiting July – August.

Uses The seeds are eaten after roasted, boiled, or pickled, (B, M). The timber is used for house building, (B, M).

Material studied UBON 1033, BKF 106397


**Euphorbia hirta** L.

Vernacular Nam nom ratchasi (น้ำนมราชสีห์)

Erect annual herb, up to 40 cm tall, laticiferous; stem terete, young parts light green to purple, covered with yellow multicellular hairs. **Leaves** simple, opposite; petioles very short; blades thinly chartaceous, oblong-lanceolate, 20 – 30 by 6 – 12 mm, apex obtuse, margins shallowly serrate, base oblique with one rounded side and one acute side, sparsely pubescent on both surfaces. **Inflorescence** cyathia, axillary, densely clustered on a stalk 3 mm long; cyathial cup green, 4-lobed, bearing 4 glands, glabrous. **Flowers** minute, unisexual; male and female ones in the same cyathia. **Male flowers** several per cyathia, naked; stamen 1. **Female flower** solitary, naked; ovary superior, broadly ovoid, pubescent, 3-angled, 3-loculed; ovule 1 in each locale; styles 3, bifid. **Fruit** capsule, ovoid, 3-lobed, pubescent. **Seeds** 3, ovoid, dull red.

Locality Found in every study sites.

Distribution Pantropical.

Ecology In open, grassy places, roadsides; altitude 0 – 350 m. Flowering and fruiting throughout the year.

Uses A decoction of the whole plant is used as a galactogogue given to a mother after giving birth, (M).


**Euphorbia thymifolia** L.

Vernacular Nam nom ratchasi lek (น้ำนมราชสีห์เล็ก), La mo bue tae (ลาโมบือเต้)

Prostrate annual herb, laticiferous, much branched, forming a tuft about 20 cm across; stem purple, with curved white hairs on upper side. **Stipules** frimbriate. **Leaves** simple, elliptic; petioles very short; blades thinly chartaceous, oblong, 2 – 7 by 1.5 – 4 mm, apex rounded, margin at tip serrate, base rounded, slightly asymmetrical, glabrous above, sparsely pubescent beneath. **Inflorescence** cyathia, not densely clustered, in axil of one leaf at each node; cyathial cup 4-lobed,
bearing 4 glands, pubescent outside. **Flowers** minute, unisexual; male and female ones in the same cyathia. **Male flowers** several per cyathia, naked; stamen 1, anther cells globose. **Female flowers** solitary, naked; ovary superior, globose, pubescent, 3-angled, 3-loculed; ovule 1 in each locule; styles 3, bifid. **Fruit** capsule, globose, 3-lobed, pubescent, ripens within the cyathia causing it to split down one side. **Seeds** 3, ovoid, light brown.

**Locality** Ban Sa Ko, Su-ngaipadee District, Narathiwat Province.

**Distribution** Pantropical.

**Ecology** In open, grassy places, roadsides, paths; altitude 50 m. Flowering and fruiting throughout the year.

**Uses** A juice from the crushed whole plant is used as a galactogogue given to a mother after giving birth, (M).

**Material studied** UBON 565, BKF 089074


**Excoecaria oppositifolia** Griff.

**Vernacular** Fai duean ha (ไฟเดือนห้า)

Small tree, 4 –10 m tall, all parts with white poisonous latex, glabrous; dioecious or monoecious. **Stipules** absent. **Leaves** simple, opposite; petioles 3 cm long, terete; blades coriaceous, lanceolate, 15 – 30 by 5 – 10 cm, apex acuminate, margins sharply serrate, base cuneate, upper surface shiny deep green, lower surface paler; nerves 15 – 20 pairs. **Flowers** unisexual, minute 1 mm long, sessile. Male flowers in axillary spike 7 cm long; rachis thick, glabrous; tepals 3, triangular unequal, 0.6 by 0.5 mm; stamens 3, free, 1 mm long; pistillode absent. Female flowers mostly solitary, terminal, 1.0 – 1.5 mm long; tepals 3, suborbicular, 2 by 2 mm; ovary superior, 3-loculed; ovule 1 per locule; styles 3, patent. **Fruit** capsule, globose, distinctly 3-lobed, 2 – 3 cm diam. **Seeds** 3, globose.

**Locality** Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution** Burma, Indo-China.

**Ecology** In evergreen forest, on limestone; altitude 100 m. Flowering February; fruiting May.

**Uses** A glass of decoction of the roots is used for the treatment of urinary stones; it is taken once a day for 3 days, (M).

**Material studied** UBON 616, BKF 125537

**Reference** Shaw, Kew Bull. 26(2) : 270. 1971.
**Glochidion perakense** Hook. f.  

**Vernacular** Man pu (มันปู)  

Tree, up to 7 m tall; branches glabrous; young shoot reddish-brown. **Stipules** broadly triangular, 1 by 1.5 mm. **Leaves** simple, alternate; petioles 6–7 mm long; blades chartaceous, oblanceolate, 4–14 by 3–6 cm, apex sub-acute, margins entire, base narrowed, slightly oblique, glabrous on both surfaces, glossy above; nerves 7–8 pairs. **Inflorescence** axillary, fascicled. **Flowers** unisexual, male and female on the same plant. **Male flowers** yellow, 5–6 mm across; pedicels 8 mm long; sepals 3, free, ovate, 2.5 by 1.8 mm; petals 3, free, ovate, 3 by 2 mm; stamens 5, connate in oblong column; pistillode absent. **Female flowers** pale green, 3 mm across; pedicels 4 mm long; sepals 3, ovate, 1 by 1 mm; petals 3, ovate, 1 by 1 mm; ovary superior, globose, densely pubescent, 6-loculed; ovules 2 per locule; styles columnar, pubescent, lobed at tip. **Fruit** capsule, depressed-globose, pubescent, tipped by persistent style.  

**Locality** Ban Nai Wang, Kongra District, Phattalung Province.  

**Distribution** Malaysia, Indonesia.  

**Ecology** Edges of forest, open places; mainly coastal, swamp places. Altitude 80 m. Flowering and fruiting April – November.  

**Uses** The young leaves are eaten raw as a vegetable, (B, M). The roots are used as an ingredient in the formula F4 taken as a tonic, (M).  

**Material studied** UBON 607, BKF 49301  


---  

**Hymenocardia punctata** Wall. ex Lindl.  

**Vernacular** Faep (แฟบ), Hu ling (หูลิง)  

Shrub, 2 – 4 m tall; young branches densely covered with hairs and yellow gland dots. Dioecious. **Stipules** absent. **Leaves** simple, alternate; petioles 1 – 1.5 cm, pubescent above; blades thinly coriaceous, elliptic, 5 – 8 by 3 – 5 cm, apex acute, margins entire, base rounded, glabrous above, densely yellow gland dotted beneath; midrib impressed above, prominent beneath; nerves 4 – 5 pairs. **Inflorescence** unisexual, axillary or in axils of fallen leaves. Male inflorescence catkin, 1 – 2 cm long, yellow, solitary or in group of 2 – 3. **Male flowers** numerous, minute. Calyx campanulate, 5-lobed; lobes minute, densely covered with hairs and yellow gland dots. Petals none. Stamens 5; filaments short; anthers large, red. Pistillode present. Female inflorescence raceme, 5 – 9 cm long. **Female flowers** few, subsessile. Calyx and petals as those of the male ones. Ovary superior, obovate, flattened, light green,
glabrous, 2-loculed; ovules 2 in each locule; styles 2, long, papillose all over, reddish-purple. **Fruit** a capsule, with 2 flat broad wing-like cocci separating from central axis, 1.5 by 2.3 cm.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** Burma, Sumatra.

**Ecology** In evergreen forest, hill forest, sometimes in marshy ground or swamps; altitude near sea level to 100 m. Flowering and fruiting January – May.

**Uses** The sourish young fruits are cooked in Thai-style vegetable soup, (B).

**Material studied** UBON 927


**Phyllanthus amarus Schumach. & Thonn.**

**Vernacular** Tai bai khao (ใต้ใบขาว)

Herb, 30 cm tall, glabrous, branches very slender. **Stipules** triangular, 1 mm long. **Leaves** simple, distichous; petioles short; blades membranous, elliptic, 5 – 12 by 3 – 4 mm, apex obtuse, base rounded, margin entire, glabrous on both sides; nerves 5 – 6 pairs. **Flowers** unisexual, monoecious. **Male flowers** pale yellowish-green, 1.5 – 2 mm diam., 2 – 3 in short raceme, in lower leaf axils; sepals 6, connate at base; lobes obovate, 0.5 mm long; disk-glands 6, free; stamens 3, connate; anthers horizontally dehiscent. **Female flowers** solitary in higher axils, 2 mm diam.; sepals 6, connate at base, lobes oval-oblong, green, pale-margined, disk-glands connate into a shallow cup. Ovary superior, globose, 3-loculed, ovules 2 per locule; styles 3, free, bifid. **Fruit** capsule, depressed globose, hardly lobed, smooth, pale green. **Seeds** 6, trigonous.

**Locality** Ban Thung Phla, Khok Pho District, Pattani Province.

**Distribution** Pantropical.

**Ecology** Common in waste places, roadsides, damp sandy soil; altitude 40 m. Flowering and fruiting throughout the year.

**Uses** The whole plant combined with those of *Andrographis paniculata* (Burm.f.) Wall.ex Nees in equal proportion are boiled in water, it is boiled until the volume is 1/3 of original volume. Then a decoction is taken 1 cup daily to treat diabetes. The whole plant is used as an ingredient in formula F31 used in the treatment of malarial fever. Some villagers used this species alone to
treat chronic fever; in this case, a handful of the whole plant is boiled with 3 cups of water until the volume is 1/3 of original volume. Then a cup of a decoction is taken 3 times a day, (B).

Material studied  UBON 1106, BKF 130079


**Phyllanthus elegans** Wall. ex Mull.Arg.  

Vernacular  Phak wan chang (ผักหวานช้าง)

Shrub, to 3 m tall; branches slender, glabrous, terete. **Stipules** linear, 5 mm long. **Leaves** simple, distichous; petioles 2 – 3 mm long; blades herbaceous, broadly ovate, 7 – 11 by 3 – 5 cm, apex acuminate, base rounded, margins slightly reflexed, glabrous, pale or glaucous beneath; nerves very slender, 4 – 5 pairs. **Flowers** unisexual, monoecious, small. **Male flowers** in dense fascicles, axillary, at the lower part of the branches; pedicels slender, pink, 4 mm long; calyx deeply 4-lobed, lobes oblong fimbriate, rose-pink, 1.2 by1.0 mm, with orbicular glands at the base; stamens 4, connate. **Female flowers** often solitary, born on leafless ends of the branches; pedicels 3 cm long, slender; sepals deeply 6-lobed, lobes ovate fimbriate, green, 5 – 6 mm long. Ovary superior, globose, glabrous, 3-loculed; ovules 2 per locule; styles 3, bifid. **Fruit** a capsule of 3 crustaceous cocci, inflated, smooth, pale green, 1.0 – 1.5 cm diam.

Locality  Ban To Deang, Su-ngaikolok District, Narathiwat Province.

Distribution  Burma, Malay Peninsula, Indonesia.

Ecology  In evergreen forest, humid places; altitude near sea level. Flowering and fruiting throughout the year.

Uses  The young leaves are eaten raw or cooked as a vegetable, (B, M). Thye are chewed to soothe toothache; the crushed leaves are used to brush teeth and gum once a month; it is said to strengthen the teeth and gum, (B). The Leaves are also used for the treatment of abscesses; in this case, the leaves combined with a small amount of turmeric rhizome and few rice grains, then they are pounded. The mixture obtained is used as a poultice applied over the affected areas until cured, (M). The leaves (3 leaves) are usually given to boxers to chew with a betel quid before the games begin. It is believed that it will strengthen the body of the boxers, (M)

Material studied  UBON 574, BKF 132371

Phyllanthus oxyphyllus Miq.  

Shrub, 1 – 3 m tall, with slender spreading branches. Branches sharply quadrangular, glabrous. Stipules minute, 1.0 by 0.8 cm, reddish-brown when young. Leaves simple, distichous; petioles very short, 1 mm long; blades herbaceous, glabrous on both surfaces, lanceolate-oblong, 3 – 7 by 1 – 2 cm, apex acuminate, base rounded, margins entire; nerves 6 – 9 pairs, slender. Flowers unisexual, male and female flowers in the same axillary clusters. Male flowers small 3 mm across, yellow; pedicels very short; sepals 6, broadly oblong, blunt, subequal 1 by 2 mm, glandulars 6 at the base; stamens 3, filaments connate at base. Female flowers resembling the male ones. Ovary superior, globose, glabrous; 3-loculed, ovules 2 per locule; stigma 3, bifid. Fruit a capsule, depressed globose, shallowly 3-lobed, 9 mm across, dark brown, subtended by persistent calyx, pendulous. Seeds 6, reniform, 9 mm long, 3 mm across, brown.

Localities  Ban Nai Wang, Kongra District, Phattalung Province.  
Ban Bon Khuan, Rattaphum District, Songkhla Province.

Distribution  Malay Peninsula, Sumatra.

Ecology  In evergreen rain forest, slightly shaded places; altitude 50 – 80 m.  
Flowering and fruiting throughout the year.

Uses  The young leaves are eaten raw as a vegetable, (M).

Material studied  UBON 622, BKF 075413


Phyllanthus pulcher Wall. ex Mull.Arg.

Shrub, 40 – 150 cm tall; stem terete, erect, puberulous. Stipules narrowly triangular, 2 – 3 mm long. Leaves simple, distichous, mostly on side branches; petioles very short; blades thinly coriaceous, obliquely oblong or ovate-oblong, 6 – 25 by 4 – 10 mm, apex acute, mucronate, margins entire, base obliquely cuneate, glabrous, glaucous beneath. Flowers unisexual, in leaf-axils of side branches. Male flowers fascicled in lower axils; pedicels 0.5 – 1 cm; perianth-lobes 4, triangular, strongly fimbriate, light green; disk-glands 4, round, free; stamens 4, filaments entirely connate into a short column. Female flowers solitary in higher axils, larger than the male ones; pedicels 2 cm long, slender, red; perianth-lobes 6, ovate to ovate-oblong, strongly fimbriate, 3 – 4 mm long, red with yellow margin; disk-glands connate into a shallow cup, 6-lobed, red; ovary superior, dark red, depressed globose
3-lobed, 3-loculed; ovules 2 in each locule; styles 3, bifid, divided near to the base. **Fruit** capsule, subglobose, 3 mm diam., smooth, pale brown.

**Locality** Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution** Burma, Indo-China, Malay Peninsula, Java, Sumatra, Borneo.

**Ecology** In evergreen forest, more or less humid places; altitude 100 m. Flowering and fruiting throughout the year.

**Uses** The whole plant combined with a small amount of turmeric rhizome and few rice grains are pounded. Then a mixture is used as a poultice applied over the affected areas to cure contusion, (B, M). The crushed whole plant of this species alone is applied externally to treat herpes infection, (M). The roots are used as an ingredient in the formula F36 to treat venereal diseases, (M).

**Material studied** UBON 6, BKF 077170


Phyllanthus urinaria L.

**Vernacular** Ya tai bai (หญ้าใต้ใบ)

Annual herbs, 30 cm tall, with ascending branches at base, stem slightly angular, glabrous. **Stipules** cordate, apex abruptly acuminate, 2 by 1 mm. **Leaves** simple, spirally arranged along the stem and larger branchlets, and distichous along the ultimate twigs; petioles very short; blades herbaceous, ovate-oblong, 5 – 15 by 2 – 5 mm, apex acute, mucronate, margins entire, base rounded, slightly oblique, glabrous above, hispidulous beneath near the margin; nerves 4 – 5 pairs, sharply raised beneath. **Flowers** minute, unisexual; male and female on the same branch. **Male flowers** in cluster of 2 – 3 in higher leaf axils; pedicels very short; perianth lobes 6, ovate-oblong, 0.8 by 0.3 mm, membranous, white with greenish central line; disk glands 6, orbicular; stamens 3, filaments connate into a column, anthers vertically dehiscent; pistillode absent. **Female flowers** solitary in lower leaf axils, resembling the male ones; staminode absent; disk glands connate into an annulus; ovary superior, bullate-rugose, 3-loculed; ovules 2 per locule; styles 3, bifid, spreading. **Fruit** a capsule, depressed globose, densely warty, 2 mm across, breaking up into 2-valved cocci. **Seeds** 6, trigonous, black.

**Locality** Found in every study sites.

**Distribution** Pantropical.

**Ecology** Common on waste ground, also in clearing and pathsides in evergreen forest; altitude 40 m. Flowering and fruiting throughout the year.
Uses

A handful of the whole plant is boiled in 3 cups of water. It’s boiled until the volume is 1/3 of original volume. This decoction is taken 3 times a day before meals in the treatment of fever, diabetes, or high blood pressure, (B). A juice from the crushed leaves is applied over the affected areas once a day, for 1 – 3 days to treat itching, (M).

Material studied

BKF 55035

Reference

Shaw, Kew Bull. 26(2) : 325. 1971.

*Phyllanthus virgatus* G. Forst.

Figure 68 D

Vernacular

Tai bai kho (ใต้ใบขาว)

Annual herb, to 60 cm tall; stem slender, erect, slightly compressed and sharply angled on 2 sides, light green, glabrous. *Stipules* scaly, minute. *Leaves* simple, distichous, subsessile; blades membranous, linear-lanceolate, 1.5 – 2 by 0.4 – 0.6 cm, apex rounded and mucronate, margins entire, base rounded; midrib distinct; nerves inconspicuous. *Flowers* unisexual, male and female ones mixed together in the same leaf axil. **Male flowers** 1.5 – 2 mm long; pedicels short; perianth rotate, white with a pink center, 6-lobed; lobes suborbicular, subequal, 1 mm long; glands 6, cup-shaped, pale green, at base of the perianth lobes; stamens 3, free, 0.5 mm long; pistillode absent. **Female flowers** usually 1 in each leaf axil; pedicels red, longer than those of the male ones; tepals 6, free, narrowly triangular, acute, 1 mm long; staminode absent; ovary superior, globose, 3-loculed; ovules 2 in each locule; styles 3, bifid, reflexed. *Fruit* capsule, depressed globose, 3 mm diam., smooth, ripening dark brown, seated on the persistent perianth; stalk 7 – 8 mm long. *Seeds* 6, subglobose, 3-angled, dark brown.

Locality

Ban Ta Se, Hat Samran Subdistrict, Trang Province.

Distribution

India, SE. Asia, S.China, Malesia to Polynesia.

Ecology

In waste ground, paddy field, secondary forest, rubber plantation; altitude 30 m. Flowering and fruiting throughout the year.

Uses

A decoction of the whole plant is taken 3 times a day for the treatment of fever associated with menstruation, (B).

Material studied

UBON 4, BKF 077171

Reference

Shaw, Kew Bull. 26(2) : 325. 1971.
Shirakiopsis indica (Willd.) Esser

Vernacular Ku ra (กุะระ)

Tree, up to 18 m tall, with white latex, twigs slender; young leaves and inflorescences with yellowish hairs. **Stipules** minute, caducous. **Leaves** simple, alternate; petioles 1 – 1.5 cm; blades thinly leathery, oblong to elliptic to narrowly ovate, 7 – 14 by 3 – 4 cm, apex bluntly acuminate, margins serrate, base obtuse, glabrous on both surfaces, upper surface shiny dark green, paler beneath; nerves numerous, faint. **Inflorescence** a terminal spike to 5 cm long, solitary, rachis pubescent. **Flowers** unisexual, yellow, small, numerous. **Male flowers** in upper part the spike, several in a bract; pedicel 1 – 2 mm long; calyx cup-shaped, 0.5 – 0.8 mm long, shortly 3- to 5-lobed, ciliate; petal absent; stamens 3, 1 mm long; pistillode absent. **Female flowers** in lower part of the spike, one to a bract; pedicels slightly longer than those of the male ones; calyx cup-shaped, 1–1.5 mm long, 3-lobed, pubescent; ovary superior, globose, glabrous, 3-loculed; ovule 1 in each locule; style short; stigmas 3, undivided. **Fruit** a woody capsule, globose, smooth, 2.5 cm diam. **Seeds** 3, elliptic, 10 by 7 mm, pale brown.

**Locality** Ban Huay Ngo, Khok Pho District, Pattani Province.

**Distribution** Sri Lanka, India, Malay Peninsula, Borneo, Sumatra, Celebes, Moluccas, New Guinea.

**Ecology** Along rivers and seashores, mangrove forest; in primary and secondary forests of swampy places, also along up stream in rice fields near the sea; altitude near sea level to 40 m. Flowering and fruiting April – September.

**Uses** A few seeds are pounded, mixed with a cup of cooked rice, then given to children with helminthes to eat, (B). The leaves are used to treat vermin in livestock, to repel insect larvae in paddy field; the leaves are laid down on the floor of stall or livestock enclosure to get rid of vermin from skin of livestock when laying on these leaves. The leaves are also laid down on the ground in paddy field to repel the pests such as land crabs infesting paddy field, (B).

**Material studied** UBON 587

Fagaceae

*Castanopsis inermis* (Lindl. ex Wall.) B. & H.

Vernacular Ko (ก่อ), Bue ra ngae (บือราแง)

Evergreen tree, 10 – 30 m tall; bark grey, rough, lenticulate; young branchlets tomentose then glabrous. **Stipules** triangular, caducous. **Leaves** simple, alternate; petioles 1 – 2 cm, glabrous; blades elliptic-ovate, coriaceous, 10 – 15 by 4 – 6 cm, apex more or less acute, base rounded to acute, margins entire, glabrous above, tiny scaly beneath; nerves 10–15 pairs, arched and anastomosing at margins, reticulation fine and obscure on both surfaces. **Inflorescence** axillary, subterminal, branched spikes, unisexual or bisexual. Male inflorescences 10 – 15 cm long, slender; bracts ovate-acute, tomentose. **Male flowers** tiny, creamy-yellow with 6-lobed perianth; lobes rounded, 0.5 mm long; stamens 12. Female inflorescences 10 – 15 cm long, stout. **Female flowers** tiny, creamy yellow as the male ones, surrounded by a cupule; perianth campanulate, 6-lobed; staminodes 12; ovary inferior, 3-loculed, ovules 2 in each locule; styles 3. **Fruit** a nut, ovoid-globose, silky, completely enclosed by cupule, 2 – 3 by 2 – 3 cm.

**Locality** Ban Khok Mu Ba, Tak Bai District, Narathiwat Province.

**Distribution** Malay Peninsula, Singapore, Sumatra.

**Ecology** Common in lowland forest; altitude 20 m. Flowering April – June; fruiting May – September.

**Uses** The fruits are eaten after roasted. The hard timber is used for general construction or make furniture, (B, M).

**Material studied** UBON 654


Flacourtiaeace

*Flacourtia jangomas* (Lour.) Rausch.

Vernacular Khrob (ขรบ)

Tree, 6 –10 m tall, trunk and branches with woody thorns when young; bark light brown, young branches white-dotted by numerous suborbicular lenticels, glabrous. **Stipules** subulate, minute, red. **Leaves** simple, spirally arranged; petioles slender, 6 – 8 mm long; blades membranous to thinly chartaceous, pinkish when young, narrowly ovate, 7–12 by 3–5 cm, apex long-obtuse-acuminate, margins serrate-crenate, base cuneate, glabrous, shining above, dull beneath; nerves 4–5 pairs. **Inflorescence** raceme, axillary, 1.5–2 cm long, few-flowered; pedicels 3 mm long. **Flowers** unisexual, minute, pale green; sepals 4–5, free, broadly ovate; petals
absent; disk yellow. **Male flowers** with numerous stamens, pistillode absent. **Female flowers** without staminode; ovary superior, flask-shaped turning globose, 6-loculed; ovules 2 in each locule; styles connate into a short column, with 4–6 recurved arms free only at the tip. **Fruit** a drupe, globose, 2 – 2.5 cm diam., dark purple, with greenish-yellow pulp. **Seeds** 4 – 6, obovoid, compressed.

**Locality** Ban Hua Yang, Rattaphum District, Songkhla Province.

**Distribution** E.Africa, India, SE.Asia, Malay Peninsula, Sumatra, E.Java, Borneo.

**Ecology** Cultivated as fruit tree; altitude 20 – 70 m. Flowering and fruiting March – October.

**Uses** The ripe fruits are eaten fresh. (B, M)

**Material studied** UBON 931


---

**Dioecious shrub, 3 m tall; branches with swollen joints, glabrous. Stipules** absent. **Leaves** simple, opposite, reddish-brown when young; petioles 1–1.5 cm long. Blades thinly coriaceous, elliptic to elliptic-oblong, 10 – 20 by 4 – 10 cm, apex caudate acuminate, base cuneate, glabrous on both surfaces; pinnately nerved; nerves 6 – 9 pairs. The reproductive organs called “flowers” born in whorls on spike-like inflorescences (strobili); spike axillary, simple or one-branched, each one with 2 opposite basal scales and several collars; collar cup-like, membranous, green, 2 – 3 mm broad, containing densely moniliform hairs and sessile unisexual flowers. **Male spike** cylindrical, 4 – 5 cm long, 4 mm diam., greenish-yellow; male flowers spirally arranged in 2 – 5 rings below a ring of sterile female ones, small, with a stalk bearing 2 microsporangia and surrounding sheath-like perianth; sterile female flowers ovoid, tipped. **Female spike** similar those of the male ones, 3 – 4 cm long, 4 mm diam., bearing a whorl of 4 – 8 female flowers between adjacent collars; female flowers ovoid, gradually tappering to the tip, green, surrounded by three layers of envelopes. **Seed** ellipsoid, 1.5 – 1.8 cm long, 1.2 cm diam., ripening yellow.

**Locality** Ban Sa Ko, Su-ngaipadee District, Narathiwat Province.

**Distribution** Malay Peninsula, Borneo.

**Ecology** In evergreen rain forest, along stream, moderate light intensity; altitude 40 m. Flowering October – December; fruiting February – April.
Uses

The young leaves are eaten raw as a vegetable with the side benefit of getting rid of helminthes. Sometimes they are cooked in various kinds of dishes, and also used as a green colorant in authentic dessert of Muslim Thais, (B, M).

Material studied UBON 252

Grass

Erect grasses, culms up to 1 m tall, perennial, usually with several tillers. **Leaves** narrowly ovate-acuminate, glabrescent, 8 – 12 by 2 – 2.5 cm; cross-nerves prominent. **Inflorescences** terminal panicle, 20 – 25 cm long, 10 cm wide; primary branches angular with an orange swelling at the axil; otherwise more capillary. **Spiklets** numerous, 3-flowered; the lowermost-floret with glumes 2.5 – 3.0 mm long; lemma 3.5 mm, 5-nerved; palea 2 mm, 2-nerved. **Stamens** 2, anthers yellow. **Ovary** ovoid with 2 feathery pale stigma branching from its tip. Upper florets similar but shorter and lemma with 2 prominent rows of bulbous-based hairs on either side of the back.

Locality Ban Hua yang, Rattaphum District, Songkhla Province.
Distribution Africa, Tropical Asia.
Ecology In forest; shady, moderately dry to humid situation; altitude 20 m. Flowering throughout the year.

Uses

A decoction of the whole plant is drunk frequently during the day as a substitute of drinking water for the treatment of shiver caused by malarial like fever, (B). The leaves are used for the treatment of herpes infection; in this case, the tender parts of the young leaves combined with an equal amount of a fallen leaf of *Sandoricum koetjape* (Burm. f.) Merr. and the roots of *Curculigo latifolia* Dryand. are chewed and then spat onto the affected areas at the early stage of infection, (B).

Material studied UBON 314, BKF 55262
**Coix lachryma-jobi** L.  

Vernacular Dueai (เดือย)

Robust grass, 90 – 250 cm tall. Leaf sheath 4 cm long, loose, glabrous; ligules membranous, less than 1 mm long. **Leaves** linear, 40 – 50 by 2 – 4 cm, apex acuminate, margins scabrid, glabrous, with prominent midrib in the lower part. **Inflorescences** bisexual, 7.5 cm long, arising in group from the axils of the upper leaves, each consisting of an involucre which is a hard shining white bead-like structure 9 mm long, enclosing 3 spiklets (a single sessile spiklet and 2 pedicelled neuter spiklets); and, exserted from the involucre, a male raceme. **Florets** with 2 glumes, lemma and palea. **Stamens** 3, anthers orange. **Ovary** superior, ovoid; stigmas 2, plumose, and long exserted out of the involucre.

**Locality** Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution** Pantropical.

**Ecology** In waste places near village, humid places; altitude 80 m. Flowering and fruiting throughout the year.

**Uses** A decoction of the whole plant is taken as a tonic by women after giving birth. It is said to promote contraction of vagina and also to bring back youthfulness, (M).

**Material studied** UBON 313, BKF 27477


**Leptaspis** cf. *urceolata* (Roxb.) R.Br.  

Vernacular Lek mai phai (เหล็กไม้ไผ่)

Erect perennial forest grasses, culms to 1 m tall. **Leaves** simple, alternate; petioles 3 – 4 cm long; sheaths loose, 8 – 10 cm long, glabrous, short hairy on the back of the auricle; ligule minute, hairy; blades coriaceous, stiff, elliptic to oblong, ovate, 20 – 28 by 4 – 6 cm, apex acuminate, margins scabrous towards the apex, base cuneate, glabrous on both surfaces, with numerous small cross-veins visible on both surfaces. Flower and fruit not found.

**Locality** Ban Ton Panan, Khuan Kalong District, Satun Province.

**Distribution** Malaysia, Sri Lanka.

**Ecology** In evergreen rain forest; altitude 120 m.

**Uses** A decoction of the whole plant is taken as a tonic to increase potency in men, (M).
Material studied UBON 910, BKF 9000


*Lophatherum gracile* Brongn.

**Vernacular** Lek mai phai (เหล็กไม่ไผ่)

Tufted, erect perennial grasses, up to 90 cm tall. **Leaves** with sheath 6–10 cm long; ligule a minute membranous rim; blades lanceolate, quite glabrous on both sides, 15 – 20 by 2 – 3 cm, apex acuminate, base narrowed sharply to a distinct petiole. **Inflorescences** terminal panicle, 10 – 20 cm long, composing of many spikelets. **Spikelets** green, slender, 4 mm long, ciliate at base; glumes unequal shorter than the spikelet; only the lowest floret fertile, with lemma and palea; above this several neuter florets, each represented by a small lemma ending in a short rough awn; the awn forming a small tuft at the apex of the spikelets. **Stamens** 2. **Ovary** superior, with feathery stigma diverging from its tip.

**Locality** Ban Ton Sai, Srinakharin Subdistrict, Phattalung Province.

**Distribution** India, Burma, Malaysia, China, Indonesia, Australia.

**Ecology** In forest, open places; altitude 80 m. Flowering and fruiting throughout the year.

**Uses** The whole plant with tuberous roots is chopped and then boiled in water. Then a decoction is taken as a tonic to increase internal strength. Sometimes the whole plant is steeped in local whisky, and then a tincture is taken. They are also used as an ingredient in the formula F7 taken as a tonic for potency in men, (B).

Material studied UBON 308, BK 53618


*Phragmites karka* (Retz.) Trin. ex Steud.

**Vernacular** La pho (ลาโพ)

A reed with culms, up to 3 m tall and 1.5 cm diam., hollow; rhizome stout, creeping. **Leaves** simple; sheath glabrous, 15 – 25 cm long; ligule a minute rim, bearing prominent hairs; blades linear-lanceolate, glabrous, up to 50 cm long, apex acuminate, margins scabrid. **Inflorescence** a large terminal panicle, 30 cm long. **Spikelets** 1.3 cm long, 3- to 7-flowered; rachilla with silky hairs; glumes glabrous, membranous, lanceolate, unequal, 4 – 5 mm long, awnless; lemmas progressively shorter, the lowest ones 9 mm long, linear, concealing the palea; palea linear-acute, 2.8 mm long. **Stamens** 2 – 3. **Ovary** superior, 1-loculed, ovule 1, with 2 diverging feathery stigmas. Fruit oblong cylindical.
Locality       Ban Thale Noi, Khuan Khanun District, Phattalung Province.

Distribution   India, Burma, Malaysia.

Ecology        Common on river banks, along slow-running streams, in thickets of wet ground; altitude near sea level. Flowering and fruiting throughout the year.

Uses           The young shoots are roasted and then cooked in curries as substitute for bamboo shoots, (B).

Material studied UBON 318, BKF 61858


Guttiferae

Garcinia atroviridis Griff.        Figure 50 C – E

Vernacular       Som khaek (ส้มแขก), A sae kluko (อาแซกลูโกะ)

Tree, 10 – 20 m tall, glabrous, with yellow latex; crown narrowed, with drooping branches; dioecious. Stipules absent. Leaves simple, opposite; petioles 1 – 2 cm long; blades coriaceous, red when young later deep green, oblong, 10 – 25 by 4 – 7 cm, apex abruptly acuminate, margins entire, base cuneate, glabrous on both surfaces; nerves thin, numerous, close, parallel, straight. Male inflorescence a short raceme, terminal; peduncles 4 cm long; pedicels 1 – 1.8 cm long. Male flowers bright red, 3.5 – 4 cm across. Sepals 4, free, oblong to orbicular, unequal, 1 – 1.5 cm long, green or reddish-green. Petals 4, free, orbicular-obovate, 1.6 by 0.8 cm, fleshy, bright red. Stamens numerous, on a ring, forming a dense mass round a pistillode. Female flowers solitary, terminal. Sepals and petals as in the male ones, but slightly smaller. Staminodes in groups attached to an annulus. Ovary superior, globose, 10-to12-loculed; ovule 1 in each locule; stigma sessile, orbicular, pileate, consisting of small tubercles, reddish. Fruit berry, depressed globose, 8 – 10 cm across, broadly sunken apex, with many large ribs and grooves, pulpy, ripening yellow, seated on persistent calyx. Seeds 10 – 12, suborbicular, flattened.

Localities     Ban Sa Ko, Su-ngaipadee District, Narathiwat Province.
               Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

Distribution   Burma, Malay Peninsula.

Ecology        In evergreen rain forest, moist and slightly shaded places; often cultivated in villages for its fruit; altitude 20 – 40 m. Flowering February – March; fruiting May – June.
Uses

The young leaves are eaten raw or cooked as a vegetable. The ripe fruits have acid juicy pulp which is often used as a seasoning or sour flavor in dishes. It may be used either fresh or dry. An infusion of the dried pieces of fruit pulp is taken daily as a tonic for good overall health, (B, M). A decoction of the dried roots or leaves is drunk daily as a substitute for tea to treat hypertension, (B, M). The timber is used for house building, making furniture, (B, M).

Material studied UBON 543, BKF 081142


Garcinia cowa Roxb. ex DC.

Vernacular Muang (มวง), Ka ni (กานิ)

Tree, 4 – 7 m tall; branches terete, glabrous, with yellow latex. Stipules absent. Leaves simple, opposite, red when young; petioles 0.5 – 0.8 cm, base clasping the twig; blades thinly leathery, lanceolate-elliptic, 5 – 11 by 3 – 5 cm, apex narrowly acuminate, margins entire, base cuneate, glossy and glabrous on both surfaces; nerves numerous, more or less straight and parallel, fine and faint, slightly raised on both surfaces. Flowers small in clusters, or behind the leaves, axillary, unisexual, pinkish-yellow; peduncles thick, 4 – 8 mm long. Male flowers 10 – 13 mm across at anthesis. Sepals 4, decussate, suborbicular fleshy, 4 – 5 by 4 mm. Petals 4, decussate, obovate-oblong, fleshy and thick, 10 by 8 mm. Stamens numerous, as a central globose mass, 4 mm high; anther cells 4. Pistilode absent. Female flowers mostly at axils of terminal leaves, in cluster or solitary, 1.2 – 1.5 cm across at anthersis. Sepals and petals similar those of the male ones. Staminodes about 14. Ovary superior, subglobose, 5 mm diam., glabrous, 7-to 9-loculed; ovule 1 in each locule; stigma sessile, conspicuous, discoid. Fruit a berry, depressed globose, 3 – 5 cm across, ripening yellow, with coarsely longitudinally grooved; seated on persistent calyx. Seeds 1 – 5, embedded in pale orange pulp.

Localities Ban To Wo, Su-ngaikolok District, Narathiwat Province. Ban Bon Khuan, Rattaphum District, Songkhla Province.

Distribution Malaysia, Burma.

Ecology Scattered in evergreen forest, peat swamp forest; altitude 20 – 70 m. Flowering May – July.

Uses The young leaves are eaten raw or cooked as a vegetable, (B, M).

Material studied UBON 555, BKF 086097

**Garcinia dulcis** (Roxb.) Kurz

Vernacular Ma phut (มะพูด)

Tree, 10 m tall, polygamous; branches 4-angled, finely pubescent, with yellow latex. Stipules absent. Leaves simple, opposite; petioles stout, 1–2 cm long, finely pubescent; blades thickly coriaceous, oblong-ovate, 17–25 by 9–12 cm, usually widest near the base, apex narrowly acuminate, margins entire, base rounded to slightly cordate, shining dark green above, yellow-green and finely pubescent beneath; midrib stout, prominent on both surfaces; nerves 10–12 pairs, inconspicuous. Flowers unisexual or male and bisexual mixed, in dense many-flowered fascicles in the leaf axils and also in the axils of fallen leaves. Flowers of both sex globular, hardly expanding, 1–2 cm. across, greenish-yellow. Sepals 5, free, suborbicular, unequal. Petals 5 free, larger than the sepals, suborbicular. Stamens numerous, filaments connate into 5 fan-shaped groups. Disk lobes thick, corrugated, arising between the stamens. Ovary superior, 5-loculed; ovule 1 in each locule; stigma sessile, 5-rayed. Pistilode absent in male flowers. Fruit berry, globose or ovoid, 4–6 cm across, ripening yellow, pulpy, very acid. Seeds 4–5, ovoid, slightly flattened, smooth, brown, 2.5 by 1–7 cm.

Locality Ban Hua Yang, Rattaphum District, Songkhla Province.

Distribution Java, Borneo, Philippines, Malay Islands.

Ecology Cultivated in villages, in open places; altitude 20–70 m. Flowering March–April; fruiting June–July.

Uses The ripe fruits are used as a sour flavor in dishes as substitute for lime juice or tamarind, (B, M).

Material studied UBON 981, BKF 095453


**Garcinia prainiana** King

Vernacular Chu pu (จูปู)

Small tree, 10 m tall, crown narrow, dense, with milky latex; branchlets not angled, glabrous. Stipules absent. Leaves simple, opposite; petioles 3 mm long, stout; blades coriaceous, ovate-oblong, 15–23 by 7–15 cm, the slightly heart-shaped base often clasping the twig, apex acuminate, margins entire, deep green and glabrous on both surfaces; nerves 12–15 pairs. Flowers unisexual, in dense terminal cymes; male and female flowers on the same plant. Male flowers 2.5 cm across; sepals 5, free, the outer 2 smaller than the inner, orbicular, 5 mm long, red with green margin, fleshy; petal 5, free, sub-orbicular, 8 mm long, pink; stamens numerous, filaments red, anthers yellow, connate into 5 bundles around a pistilode;
pistillode globose, red, with numerous tubercles. **Female flowers** 3.5 cm across; sepals 5, free, orbicular, 7 mm long, pale green, with pink stripe at centre; petals 5, free, obovate, 10 mm long, red when young then creamy white; staminode none; ovary superior, globose, glabrous, pale green, 6 mm diam., 7-to 8-loculed; ovule1 in each locule, pink; stigma sessile, red, 6 – 7 mm diam., dome-shaped, margin entire. **Fruit** a fleshy berry, depressed globose, 2.5 – 4.5 cm across, with a thin and smooth leathery rind, ripening golden yellow to orange yellow. Seeds 5 – 8, suborbicular, compressed, 1.3 by 1.0 cm, pale brown, embedded in fleshy orange pulp.

**Locality** Ban La Lae, Su-ngaikolok District, Narathiwat Province.

**Distribution** Malay Peninsula.

**Ecology** Scattered in lowland forest, tropical rain forest; altitude near sea level to 30 m. Flowering March – May; Fruiting August – September.

**Uses** The ripe fruits are eaten fresh. The full-grown but green ones are roasted, and then used as a sour flavor in dishes as substitute for tamarind or lime juice, with the side benefit of lowering of blood pressure, (M).

**Material studied** UBON 556, BKF 66007


**Hanguana**

**Hanguana malayana** (Jack.) Merr.  

**Vernacular** Kong (กง)

Perennial, swamp aquatics herbs, robust. Stem ascending, 50 – 120 cm tall, often with long creeping or floating stolons covered by the leaf sheaths; hairy when young, afterwards glabrescent. **Leaves** simple, crowded at the best of plant; petioles of the lower leaves 8 – 30 cm long, the upper ones subsessile. Leaf sheaths long and broad, gradually narrowed into the petiole. Blades thickly coriaceous, stiff, lanceolate, erecto-patent, 20 – 120 cm, apex acuminate, margins entire, base decurrent, with densely longitudinal nerves and numerous thin cross nervules. **Inflorescence** a large panicle, 30 – 60 cm long, 1 – 3 times patently branched; branches stiff, 5 – 15 cm long, tomentose, with leafy bracts. **Flowers** unisexual, male and female on separate plants. Perianth yellowish-green; on the inner side dotted with red. **Sepals** 3, suborbicular, 2 – 2.5 mm long. **Petals** 3, oblong-lanceolate, 2.5 – 3 mm long. **Male flowers** with 6 stamens inserted on the base of the perianth, about as long as the sepals; ovary rudimentary small. **Female flowers** with 6 short staminodes; ovary superior, broadly ovoid-globose, 3-loculed, with sessile stigma devide into 3 spreading short arms. **Fruits** a globose drupe, exocarp thick, fleshy, shining orange, 0.5 cm diam.
Localities
Ban Thale Noi, Khuan Khanun District, Phattalung Province. Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

Distribution
Sri Lanka, Indo-China, Malaysia.

Ecology
Along lake shore and river, in slowly moving fresh water, and in peat swamp forest; altitude near sea level. Flowering January – February; fruiting March – April.

Uses
The apical buds are cooked in curries, (B). The rhizomes are sliced, dried, and then boiled. Then this water is used as a bath for a patient to relieve fever, (M).

Material studied
UBON 303, BKF 25270

Reference
Larsen, Fl. Thail. 2(2) : 164. 1972.

Hydrocharitaceae

*Blyxa aubertii* A. Rich var. *echinosperma*

Vernacular
Ruai (** бесплодия **)

Monoecious, annual herbs of fresh water, submerged, stoloniferous. Stems short, 0.5 – 3.0 cm long. **Leaves** simple, basal, sheathing at the base; blades linear, thinly herbaceous, 10 – 60 by 0.5 – 1 cm, apex acute, glabrous; nerves 5 – 7, parallel, connected by very thin cross-veins. **Inflorescence** with peduncle to 50 cm long; spathe flattened, without wings or ribs. **Flowers** bisexual, mostly solitary, projected to water surface. **Sepals** 3, linear, 6 – 8 mm long. **Petals** 3, 13 mm long. **Stamens** 3, filaments 3 – 6 mm, anthers linear-lanceolate. **Ovary** inferior, filiform, 1-loculed, ovules numerous; style 1, compressed; stigmas 3. Fruit not found.

Locality
Ban Thale Noi, Khuan Khanun District, Phattalung Province.

Distribution
Tropical Asia.

Ecology
In stagnant water of pools, lakes, rivers and streams; altitude near sea level. Flowering throughout the year.

Uses
The young leaves are eaten raw or blanched as a vegetable, (B).

Material studied
UBON 302, BKF 26352

Reference
Haynes, Fl. Thail. 7(3) : 366. 2001.
**Ottelia alismoides** (L.) Pers.  
Vernacular Phak wa (ผักหวา), Santawa (สันตะวา)

Annual herbs of fresh water, submerged, glabrous. Stem short, erect. **Leaves** simple, basal; petioles 3-angled, 15 – 20 cm long, basally broadened into a pale sheath; blades of adult plants broadly ovate, transparent, 15 by 10 cm, apex obtuse, margins entire, base cordate or truncate; nerves 7–11. **Flowers** solitary projected to surface of water, subtended by a spathe; spathe elliptic to ovate, 3 – 5 cm long, green, 3–10 longitudinal winged. Peduncles 4- to5-angled, 10 – 30 cm long. **Sepals** 3, narrow-oblong, apex obtuse, 10 –15 by 2 – 9 mm. **Petals** 3, obovate with rounded apex, white tinged pink, 2 – 3 cm long. **Stamens** 6; filaments with glandular hair, 4 mm long; anthers linear, 3 – 4 mm long, yellow. **Ovary** inferior, obovate, 6-loculed; ovules numerous; styles 6, bifid. Fruit not found.

**Locality** Ban Thale Noi, Khuan Khanun District, Phattalung Province.

**Distribution** India to S.& E.Asia, N.Australia.

**Ecology** In slow streams and stagnant pools, often occurs as a weed in rice fields; altitude near sea level. Flowering all year round.

**Uses** The young leaves are eaten raw or blanched as a vegetable, (B, M).

**Material studied** UBON 300, BK 59627

**Reference** Haynes, Fl. Thail. 7(3) : 380. 2001.

**Hypericaceae**

**Cratoxylum arborescens** (Vahl.) Blume  
Vernacular Lo ngae (ลองแก)  

Evergreen tree, up to 40 m tall, glabrous; bark with yellow resinous sap. **Stipules** absent. **Leaves** simple, opposite; petioles 3 – 12 mm long; blades leatherly, obovate-oblong to obovate-lanceolate or elliptic, 5 – 13 by 2–6 cm, apex acute to cuspidate, margins entire, base cuneate to attenuate, glabrous, dotted on the back; midrib sunken above, sharply keeled below; nerves numerous, fine, parallel, very faint below, visible above. **Inflorescence** a terminal panicle, 10 – 15 cm long; peduncles 5 cm long, glabrous. **Flowers** bisexual, pink, 10 – 12 mm diam. **Sepals** 5, unequal, ovate, 4.5 – 6.0 by 2.5 – 3.5 cm, persistent. **Petals** 5, obovate, rounded at apex, inside with laciniate basal scales. **Stamens** numerous, manifestly triadelphous, 6 mm long, with fleshy alternating glands. **Ovary** superior, ovoid, 3 by 2 mm, glabrous, 3-loculed; ovules many per locule; style 3, free; stigma capitate. **Fruit** a loculicidal capsule, 7 – 9 mm long. **Seeds** many, winged.
Locality Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

Distribution Burma, Sumatra, Malay Peninsula, Borneo.

Ecology In peat swamp forest; altitude near sea level. Flowering March – April; fruiting May – June.

Uses The stem barks are used for the treatment of itching and scabies; they are reboiled in coconut oil, then a solution is applied on the affected areas once a day at night, (M).

Material studied UBON 928


Hypoxidaceae

**Curculigo latifolia** Dryand. Figure 37 B – C

Vernacular Phrao nok khum (พร้าวนกคุ์ม), Yo lue mo (ยอลือมอ)

Perennial herb, up to 100 cm tall, with tuberous rhizome. **Leaves** simple, radical; petioles 15 cm long; blades firmly herbaceous, plicate, linear-elliptic to broadly-elliptic, 15 – 50 by 3 – 10 cm, apex acute, margins entire, base acute, glabrous above, appressed - pubescent beneath; lateral nerves numerous, subparallel to the midrib. **Inflorescence** axillary, spike, ovoid to cylindrical, compact, 2 – 7 cm long and wide; peduncle 2 – 10 cm long, robust, compressed, sparsely pubescent, its basal part usually concealed in the ground or in the ground-cover. **Flowers** bright yellow, bisexual, subsessile, 10 mm across, each in axil of a persistent large bract. **Perianth** salver-shaped; tube 1 cm long, 6-lobed; lobes narrowly ovate, acute, 5 mm long, pubescent on the back, glabrous on the inner side. **Stamens** 6; filaments short, inserted at the mouth of the perianth-tube. **Ovary** inferior, 3-loculed in the basal part, above the ovuliferous part produced into a long beak; ovules many. **Fruit** a berry, ovoid, 1–2 cm long, with a long beak, white. **Seeds** many, broadly ovate, black.

Locality Ban Ton Panun, Khuan Kalong District, Satun Province.

Distribution India, Burma, Malesia.

Ecology In evergreen rain forest, shaded and humid places; altitude 100 m. Flowering and fruiting January – March.

Uses The ripe sweet fruits are eaten fresh, (B, M). The crushed leaves are used as a poultice applied to the wounds to accelerate wound healing, (M). A decoction of the whole plant of this species and **Sida alnifolia** L. is taken by pregnant women before giving birth. It is considered to make the delivery more easil, (M). A decoction
of the whole plant of this species alone is taken daily, once a day to treat chronic gastrointestinal ailments in children, (B). The roots are used as a diuretic; in this case, the roots are bruised and soaked in water. Then this water is given to a patient with retention of urine caused by eating a large amount of the seeds of *Archidendron jiringa* (Jack) I. C. Nielsen, (B). A juice from the crushed leaves is used to mask a bitter taste of *Senna siamea* (Lam.) Irwin & Barneby in curries. The crushed whole plant mixed with a little amount of salt is used as an appetitive stimulant fed to cattle, (M).

Material studied UBON 1129, BKF 25659


**Labiatae**

*Gomphostemma scortechinii* Prain

Vernacular Lek khru (เหล็กครู)

Perennial herbs, 60 – 150 cm tall, with small tuberous roots. Stems quadrangular, stellately pubescent, woody below. Stipules absent. Leaves simple, opposite; petioles 1.5 – 3 cm long; blades thickly herbaceous, elliptic-oblong, 8 – 10 by 3 – 5 cm, apex acute, margins serrate, base cuneate, sparsely hirsute above, densely tomentose beneath; nerves 4 – 7 pairs. Inflorescence axillary, sessile cyme. Flowers yellow, 3.5 cm long. Calyx campanulate, 1.3 cm long, 5-toothed; teeth lanceolate, 6 – 7 mm long, hirsute on both sides. Corolla bilabiate, distinctly incurved, throat inflated; limb 2-lipped; the upper lip entire; the lower broadly 3-lobed, spreading; tomentose outside. Stamens 4, pubescent, unequal, anthers connivent in pairs. Ovary superior, densely pubescent, 4-loculed, ovule 1 per locule; style 2-branched, branches unequal. Fruit not found.

Locality Ban Ton Panun, Khuan Kalong District, Satun Province.

Distribution Burma, Malay Peninsula.

Ecology In tropical rain forest; altitude 50 m. Flowering December – March.

Uses A decoction of the whole plant is drunk daily; it said to increase potency in men. Sometimes the fresh tuberous roots are eaten raw with betel nut for the treatment of impotency, (M). The whole plant is used as an ingredient in the formula F3, F7 taken as a tonic also, (B, M).

Material studied UBON 527

**Leucas zeylanica** (L.) R.Br.

Vernacular Ya prik (หญ้าปริก), Tu me (ตุเมะ)

Annual herb, 30 – 50 cm tall. Stem and branches hispid, 4-angled, green. **Stipules** absent. **Leaves** simple, opposite, decussate; petioles 0.4 – 0.8 cm; blades herbaceous, lanceolate, 3.5 – 5 by 1.5 – 2 cm, apex acute, margins remotely serrate, base attenuate, hisrute on both surfaces; nerves 5 – 7 pairs. **Inflorescence** dense head-like, sessile, in upper axillary, 2 – 2.5 cm across; bracts linear lanceolate, apex acute, resembling very reduced leaf blades. **Flowers** numerous, white, bisexual, sessile. **Calyx** turbinate, 5 – 6 mm long, 8-toothed, hispid, mouth slightly oblique. **Corolla** bilabiate, white, 8 mm long; tube with a hair ring near the middle; upper lip obovate, concave; lower lip 3-lobed, spreading; middle lobe larger. **Stamens** 4, didynamous, inserted in the upper part of the corolla tube, under the upper lip. **Ovary** superior, deeply 4-lobed, 4-loculed; top truncate; ovule 1 in each locule; style slender; stigma minute, unequally 2-lobed. **Fruit** nutlets, obovoid.

**Locality** Ban Ka Lo Se La, Su-ngaikolok District, Narathiwat Province.

**Distribution** S. and SE.Asia.

**Ecology** Along sandy beaches and open wet places, roadsides, occasionally in open ground along peat swamp margin; altitude near sea level. Flowering and fruiting throughout the year.

**Uses** The whole plant is crushed, mixed with a little amount of lime juice, and then applied on the abdomen of young children to relieve stomach-ache and flatulence, and to get rid of helminthes in young children, (M, B).

**Material studied** UBON 1389, BKF 082338


---

**Plectranthus rotundifolius** (Poir.) Spreng.

Vernacular Man khi nu (มันขี้หนู)

Herb, 30 cm tall; stem obtusely quadrangular, pubescent, lower half of the stem creeping, rooting from the nodes; adult roots often swollen in to oblong tubers, 2 – 4 cm long, 1 – 2 cm wide. **Stipules** absent. **Leaves** simple, opposite; petioles 1 – 2 cm long, pubescent; blades broadly ovate, thickly membranous, bright green, 4 – 6 by 3 – 4.5 cm, apex obtuse, margins crenate, base cuneate, pubescent, copiously yellow gland-dotted on the lower surface; nerves 2 – 3 pairs. **Inflorescence** terminal, verticillaters, 10 – 20 cm long; bracts cordate, acutely acuminate, shortly pubescent and gland-dotted on the back, sparingly ciliate, caducous. **Flowers** bisexual, many; pedicels 1 – 2 mm long. **Calyx** campanulate, pubescent, persistent, 3 – 4 mm long, bilabiate; upper lip largest; lower ones 4-fid, lateral teeth truncate, very short. **Corolla** light violet, 7 – 12 mm long; tube sigmoid, 4 – 5 mm long; limb bilabiate,
sparsely pubescent and gland-dotted outside; upper lip 3 – 4 mm long, shallowly 4-lobed; lower ones 7 mm long, boat-shaped, entire. **Stamens** 4, in the lower lip, connate in their lower parts, glabrous. **Ovary** superior, consisting of 2 carpels, each of which is 2-loculed by intrusion of the ovary wall; ovule 1 per locule; style gynobasic; stigma bifid. **Fruit** nutlet, enclosing in the persistent calyx. **Seeds** 1.

**Locality** Ban Nai Wang, Kongra District, Phattalung Province.

**Distribution** India, Madagascar, Sri Lanka, Continental Asia, Malesia.

**Ecology** Cultivated only, in the lowland, humid places; altitude 80 – 100 m. **Flowering** September – October.

**Uses** The tubers are boiled and eaten as a snack, or cooked in curries, (B, M).

**Material studied** UBON 1281


---

**Lauraceae**

*Cinnamomum iners* Reinw. ex Blume

**Vernacular** Chiat (ชิ้ด), Tae yo (ตาเย๊อ)

Tree to 24 m tall, with short thick stem; twigs slender; bark with strong fragrant smell. **Stipules** absent. **Leaves** simple, subopposite, pink when young; petioles 1 cm long; blades leathery, oblong to elliptic, 13 – 23 by 4 – 7 cm, apex obtuse, margins entire, base obtuse, upper surface glabrous, lower ones sparsely appressed hairy; nerves 3, from near base, side-ribs reaching to top; midrib without side nerves. **Inflorescence** terminal and axillary panicle, 10 – 18 cm long, lax, silky puberulous. **Flowers** bisexual, creamy, 5 mm across at anthesis. **Perianth** cup-shaped, 5- to 6-lobed; lobes ovate acute, 3 by 2 mm, densely silky hairy. **Stamens** 9. Staminodes 9, sagittate, stalked. **Ovary** superior, subglobose, 1-loculed; ovule 1 per locule; style slender; stigma discoid. **Fruit** a drupe, oblong, seated on enlarging perianth-cup.

**Locality** Ban Hua Yang, Rattaphum District, Songkhla Province.

**Distribution** Burma, Sumatra, Java, Borneo.

**Ecology** In lowland and hill forest, secondary forest; altitude 40 – 100 m. **Flowering and fruiting** January – March.

**Uses** The young leaves are eaten raw as a vegetable, (B).

**Material studied** UBON 679, BKF 29007

**Cinnamomum porrectum** (Roxb.) Kosterm.  

**Vernacular** Chuang (จวง)

Tree, up to 45 m tall, with strong aromatic smell; bark grayish-brown, deeply irregularly fissured. **Stipules** absent. **Leaves** simple, alternate; petioles 1–3 cm long, darkening on drying; blades coriaceous, elliptic to ovate, 5 –15 by 2.5 – 6 cm, apex acuminate; margins entire, base cuneate, red when young, glabrous on both surfaces, glaucous beneath, pinnate-nerved; nerves 3 – 4 pairs, raised on both surfaces. **Inflorescence** panicle, upper axillary, 2 –10 cm long. **Flowers** bisexual, small, pale yellow. **Perianth** funnel-shaped, tube very short enlarging in fruit, 6-lobed; lobes ovate-oblong, subequal, white villous inside, glabrous outside. **Stamens** 9, in 3 series; anthers 4-celled, opening by valves; the innermost staminodes, sagittate. **Ovary** superior, ovoid, 1-loculed, 1-ovuled. **Fruit** drupe, globose, 7 mm across, seated on the cup-shaped enlarged perianth-tube, ripening dark red. **Seed** 1.

**Locality** Ban Bon Khuan, Rattaphum District, Songkhla Province.

**Distribution** India, Malesia, China.

**Ecology** In evergreen rain forest; altitude 100 – 180 m. Flowering and fruiting December – February.

**Uses** The young leaves are eaten raw as a vegetable, with the side benefit of curing flatulence and stomach-ache, (M). The heart wood is used as an ingredient in the formula F39 taken to treat dropsy, (B). The wood is aromatic, and usually used to make furniture, items for household, decorations, etc, (B).

**Material studied** UBON 833


---

**Litsea elliptica** Blume  

**Vernacular** Thammang (ทํามัง)

Dioecious tree, up to 45 m tall, with strong spicy smell; young part pubescent. **Stipules** absent. **Leaves** simple, spirally arranged; petioles slender, 2.5–3 cm long; blades thinly chartaceous, elliptic to narrowly obovate, 11–14 by 4–7 cm, apex acuminate, margins entire, base cuneate and slightly oblique, glabrous except on midrib and nerves beneath, aromatic; nerves 5 – 8 pairs. **Inflorescence** raceme of umbellules, 1.5 – 2 cm long and wide, arising from leaf axils or axils of fallen leaves; umbellules with 5 – 8 flowers enclosed by involucral bracts; bracts 5, orbicular, concave, glabrous. **Flowers** unisexual, pale yellow, small. **Perianth** lobes 5, slightly unequal, linear-oblong. **Stamens** 9 in male flowers, unequal; filaments villous at base; anthers 4-celled, opening by valves, introse; pistillode absent. Female flowers with staminodes 5 – 6. **Ovary** superior, subglobose, glabrous, 1-loculed, 1-ovuled;
style short, thick, curved; stigma peltate, conspicuous. **Fruit** berry, globose, 8 mm diam., ripening black, seated on slightly enlarged perianth. **Seed** 1.

**Locality**  Found in every study sites.

**Distribution**  Malaysia, Borneo, New Guinea.

**Ecology**  In evergreen forest, humid and slightly shady places; altitude 20 – 100 m. Flowering December – January; fruiting March – April.

**Uses**  The young leaves with strong spicy smell are eaten raw as a vegetable, (B, M).

**Material studied**  UBON 844, BKF 13335


**Litsea grandis** (Wall. ex Nees) Hook. f.

**Vernacular**  Thang (ทัง), Mue dae (มือแด)

Dioecious tree, up to 30 m tall, trunk up to 10 m tall. Young twigs densely brown hairy, angled. **Stipules** absent. **Leaves** simple, spirally arranged; petioles 2 – 5 cm long, pubescent; blades stiffly coriaceous, elliptic, 10 – 25 by 6 – 15 cm, apex rounded, base rounded to broadly cuneate, margin entire, glabrous above, densely brown tomentose beneath; nerves 12 – 20 pairs; midrib and nerves prominently raised beneath, inconspicuous or sunken above. **Inflorescences** in clusters of umbellules in axils of leaves or fallen leaves; umbellules before anthesis surrounded by 4 – 6 orbicular involucral bracts, strikingly resembling flower bud, yellow; peduncles 1.3 – 1.5 cm long. Flowers yellow, unisexual, 5 – 6 flowers in each umbellule. **Male flowers** shortly pedicelled; perianth funnel-shaped, tube short; lobes 5 – 6, 3.0 – 3.5 mm long, lanceolate, pubescent outside; stamens 10 – 12 – 15, anthers 4-celled, filaments pubescent at base; pistillode absent. **Female flowers** 6 – 7 in each umbellule; perianth tube funnel-shaped, tube 1.3 mm long; lobes 4 – 5, 1.8 mm long, lanceolate, pubescent outside; staminode 10 – 12; ovary superior, ovoid, 1-loculed; ovule1; style distinct; stigma peltate. **Fruit** berry, ovoid, 1.5 by 1 cm, seated on enlarged perianth tube, ripening dark red. **Seed** 1.

**Locality**  Ban Lu Bo Sa Ma, Su-naikolok District, Narathiwat Province.

**Distribution**  Burma, Malaysia, Java, Borneo, Sumatra.

**Ecology**  Common in lowland forest, peat swamp forest, mountain forest; altitude 20 m. Flowering and fruiting December – May.

**Uses**  The hard timber is used for house building. The leaves are usually used to wrap a fermented sticky rice; they considered to give nice special odor, (B, M).
Lecythidaceae

*Barringtonia acutangula* (L.) Gaertn.

Vernacular Chik (จิก), Puta (ปุตะ)

Small tree, up to 8 m tall, glabrous. **Stipules** absent. **Leaves** simple, spirally arranged, crowded at the branch ends; petioles 7 – 8 mm long; blades chartaceous, oblancoolate, 10 – 22 by 4 – 10 cm, apex acute, margins closely regularly toothed, base attenuate, dark green, glabrous on both surfaces; nerves 10 – 14 pairs. **Inflorescence** a terminal spike, slender up to 60 cm long, pendulous; bracts small, caducous. **Flowers** bisexual, deep pink, numerous, sessile, 8 mm across. **Sepals** 4, slightly connate at the base; lobes ovate, obtuse, ciliate, 3 by 2 mm. Petals 4, connate at the base; lobes ovate, obtuse, 7 by 4 mm, glabrous. **Stamens** numerous, red, 1.3 cm long, jointed at the base and to the petals around a ring-like disk. **Ovary** inferior, 2-loculed; ovules 2 in each locule; style long and slender; stigma capitate. **Fruit** berry, subglobose, 2 – 3 cm diam., obtusely 8-ribbed, crowned by persistent calyx.

Locality Ban Thale Noi, Khuan Khanun District, Phattalung Province.

Distribution India, Indo-China, Malesia.

Ecology By rivers and streams, sometimes near the sea, and rice fields; altitude near sea level. Flowering and fruiting April–June.

Uses The young leaves are eaten raw as a vegetable, (B, M). A stem bark is used for the treatment of dermatitis irritated skin caused by irritant sap of *Semecarpus curtisii* King; it is rubbed against an earthenware pot, using water as a solvent. Then a suspension is applied over the affected skin, (B). The young leaves together with the young leaves of *Microcos tomentosa* Sm. and a betel quid are chewed, and then spat onto the affected areas to treat herpes infection. The young leaves alone are eaten raw as a remedy to cure diarrhea both in humans and cattle, (M, B).

Material studied UBON 440

Leeaceae

Leea indica (Burm. f.) Merr.

Vernacular        Bangbai (บังบาย), Mali (มาลี)

Shrub, 3 – 6 m tall, young part pubescent. Stipules obovate, 2.5 by 6 cm long. Leaves bipinnate or tripinnate, alternate, 45 – 60 cm long; petioles 10 – 20 cm long. Leaflets many, opposite; petiolules 0.5 – 1 cm long; blades chartaceous to subcoriaceous, ovate-oblong to ovate-lanceolate, 7 – 12 by 3 – 6 cm, apex acuminate, margins serrate, base obtuse, pubescent, pearl glands present on the under surface; nerves 10 – 13 pairs, prominent beneath. Inflorescence compound cymes, leaf-opposed, 10 – 25 cm long, broad and lax; peduncle up to 15 cm long; bracts deltoid, up to 4 mm long; pedicels short. Flowers bisexual, numerous, greenish-white, 6 mm across. Calyx campanulate, 5-lobed; lobes triangular, 1–2 by 1–2 mm, sparsely pubescent outside. Corolla tube short, 5-lobed; lobes narrowly triangular, 2.5 – 3.5 by 1.5 – 2.5 mm, the apical part of each ones form into a keel, reflexed at maturity. Stamens 5, united into a tube and epipetalous; tube consisting of thickened parts representing the filaments and thin parts or sinuses between the filaments. Ovary superior, discoid, 6-loculed; ovule 1 in each locule; style short; stigma slightly thickened. Fruit berry, depressed-globose, 0.7 – 1 cm diam., ripening dark purple. Seeds 6.

Locality        Ban Yai, Su-ngaipadee District, Narathiwat Province.

Distribution      Sri Lanka, India, Nepal, Bangladesh, Burma, Cambodia, Malesia, N. Australia, Solomon Islands, Fiji.

Ecology        In primary and secondary forest, wet areas; altitude near sea level to 100 m. Flowering and fruiting throughout the year.

Uses        The young leaves are eaten raw as a vegetable, (B, M). The bruised flowers are applied externally to treat burns and scalds, (M). The bruised fruits are applied externally to to treat warts, itching, (B). This species is one of many kinds of local plants of which the leaves are used in traditional ritual performed at the beginning of the rice-harvesting season; it is believed to bring a good luck to the harvesting, (B).

Material studied    UBON 830, BKF 089940


Leea rubra Blume

Vernacular        Bangbai daeng (บังบายแดง)

Small shrub, up to 3 m tall, glabrous. Stipules sheath-like, 2 – 4 cm long. Leaves 2- to 4-pinnate, alternate; petioles 5 – 10 cm long; rachis 5 – 25 cm long.
long. Leaflets many, opposite; petiolules 2 – 5 mm long; blades thinly chartaceous, elliptic to elliptic-lanceolate, 4 –10 by 2 – 4.5 cm, apex acute to narrowly acuminate, margins serrate, base rounded to acute, glabrous on both surfaces; nerves 5 –10 pairs, conspicuous. Inflorescence compound cymes, leaf-opposed, 8 – 14 cm long, rachis and branches red, compack; bracts small, inconspicuous; pedicels short. Flowers bisexual, numerous, red, small 3 – 4 mm across. Calyx campanulate, 1.5 mm long, 5-lobed; lobes triangular, glabrous. Corolla tube 2 – 3 mm long, 5-lobed; lobes triangular, 2 mm long, reflexed. Stamens 5, united into a tube and epipetalous. Ovary superior, globose, 4-loculed; ovule 1 in each locule; style 1 – 2 mm long. Fruit berry, globose, 8 –10 mm diam., dark red, glabrous. Seeds 4.

Locality Ban Toh Wo, Su-ngaikolok District, Narathiwat Province.

Distribution India, Bangladesh, Burma, Cambodia, Laos, Vietnam, Malesia, Borneo, Philippines, Moluccas, New Guinea, Australia.

Ecology In humid or swampy, sunny to moderately shady localities, watersides; altitude near sea level. Flowering and fruiting throughout the year.

Uses The flowers together with a betel quid are chewed and then spat onto the effect areas to treat herpes infection, (B). The flowers are chewed, and spat on the affected areas to cure burns, scalds, (M).

Material studied UBON 1132, BKF 088950


Leguminosae – Caesalpinioideae

Caesalpinia bonduc (L.) Roxb. Figure 30 F

Vernacular Wat (หวาด)

Climber, up to 15 m long; branches armed with prickles. Stipules large, 3 – 5 pinnatifid. Leaves bipinnate, spirally arranged; petioles and rachis up to 80 cm long; pinnae 6 –11 pairs, 10 – 20 cm long; leaflets 6 –12 pairs per pinna, opposite to subopposite, subsessile; blades membranous, hairy, ovate to elliptic ovate, 2 – 4 by 1 – 2 cm, apex acute, margins entire, base rounded. Pods 6 – 9 by 3 –5 cm, oblong, slightly flattened, apex rounded, with style-remnant to 8 mm long, base acute, densely set with 5 – 10 mm long hairy spines on the surfaces, dehiscent. Seeds 1 – 2, ovoid to globular, 15 – 20 mm long, smooth, grey. Flowers not found during the study.

Locality Ko Sukorn, Palian District, Trang Province.

Distribution Pantropic. In Asia: throughout India, SE. Asia and Malesia.
Ecology

Common in coastal regions, close to the beach and behind the mangrove; altitude at sea level.

Uses

A juice from the crushed young leaves is given to children to get rid of helminthes, (M).

Material studied

BKF 115639

Reference


castalpinia major (Medik.) Dandy & Exell

Climbers up to 15 m long; branches armed with prickles. Stipules, 1 – 3 mm long, caducous. Leaves bipinnate, spirally arranged; petiole and rachis up to 75 cm long; pinnae 3 – 8 pairs. Leaflets 4 – 7 pairs per pinna, alternate or subopposite, pubescent on lower surface when young, membranous to subcoriaceous, elliptic to elliptic ovate, 4 – 10.5 by 2 – 4.5 cm; petiolules 2 – 4 mm long, apex acute-mucronate, margins entire, base acute to round. Inflorescence supra-axillary, simple or branched raceme, 10 – 50 cm long; rachis densely hairy. Bracts lanceolate, 6 – 7 mm long, pubescent. Pedicels 6 – 10 mm long, articulated below the top. Flowers unisexual. Sepals 5, free, subequal, oblong, 6 – 7 by 2.5 mm, pubescent on both surfaces. Petals 5, free, yellow, subequal, 6 – 7 by 2–3 mm, sparsely pubescent. Stamens 10, free, alternately unequal, filaments hairy at the base. Ovary stalked, 3–4 mm long, hairy and densely spiny, 1-loculed, 3- to 4-ovuled. Pods 5 – 13 by 4 – 6 mm, elliptic in outline, apex rounded, base acute; hairy together with densely hairy bristles, dehiscent. Seeds 2 – 4, subglobular, 15 – 25 mm in diam., smooth, greyish-green.

Locality

Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province

Distribution

Pantropic; in Asia: Ceylon, India, Burma, Cambodia, Vietnam, Ryukyu Islands, Malay Peninsula and Archipelago.

Ecology

Beaches, sandy areas, thickets, primary forest and forest fringes, dense jungles; altitude 80 m. Flowering August – September; fruiting November – March.

Uses

A juice from the crushed young leaves is given to children to get rid of helminthes, (B, M). Seeds are used as an ingredient in the formula F35 to treat ringworm, (M).

Material studied

UBON 816, BKF 075415

Reference

**Cynometra cauliflora** L.

Vernacular  Makham khang khok (มะขามคางคก)

Shrub or small tree, 3 – 15 m tall, glabrous. **Stipules** caducous. **Leaves** paripinnate, alternate; the young ones bright pink; petioles 2 – 8 mm. Leaflets 1 pair, opposite, subsessile, thinly coriaceous, asymmetric, ovate to ovate-lanceolate, 5 – 15 by 2 – 6 cm, apex obtuse, emarginate, margins entire, base oblique, glabrous on both surfaces; nerves 7 – 10 pairs. **Inflorescences** cauliflorus, 4-5 small racemes fascicled on hard knots on the trunk; rachis 0.5 –3.0 cm long, glabrous; bracts 3–7 mm long, ciliate; bracteoles 1.5 mm long. **Flowers** bisexual, pale pink 1 cm across; hypanthium 1.2 mm long. **Sepals** 4, white, elliptic, subequal 2 – 4 mm long. **Petals** 4, linear, 3 – 4 mm long. **Stamens** 8 – 10, free. **Ovary** stipitate, densely hairy, with long and short hairs, 1-loculed, ovoid 1 – 2. Style 5 – 6 mm, hairy on lower half. **Pod** fleshy, kidney-shaped, acute at both ends, pericarp thick, rugose, 5 – 7 by 2 – 4 cm, 2 – 3 cm thick, ripening pale yellow. **Seed** 1, suborbicular, compressed, dark brown.

**Locality**  Ban Huay Ngo, Khok Pho District, Pattani Province.

**Distribution**  Only known in cultivated state; cultivated in various places in Narathiwat for its edible fruits.

**Ecology**  Cultivate in places at low altitude, slightly shaded places; altitude 40 m. Flowering and fruiting throughout the year.

**Uses**  The fruits both unripe and ripe ones are eaten fresh or pickled, (B, M).

**Material studied**  UBON 425, BKF 129981


**Dialium cochinchinense** Pierre

Vernacular  Yi (หยี)

Tree, 15 – 25 m tall. **Stipules** small, caducous. **Leaves** imparipinnate, alternate, 10 – 20 cm long; leaflets 5 – 8, alternate; petioles 2 – 4 cm long, petiolules 3 – 4 mm long; blades chartaceous, glabrescent, broadly ovate, ovate, elliptic, 4 – 8 by 1.5 –4 cm, apex obtuse, margins entire, base rounded to cuneate; nerves 6 – 9 pairs, prominent beneath. **Inflorescence** a panicle, terminal or at axils of the distal leaves, 10 – 30 cm long; branches pubescent. Bracts and bracteoles minute; pedicels 1 mm long. **Flower** numerous, bisexual white; buds ovoid, 3 mm long. **Sepals** 5, free, elliptic, pubescent, imbricate, 3.5 by 1.5 mm. **Petals** none. **Stamens** 2; anthers oblong, 2.5 mm long, filaments very short. **Ovary** superior, linear, 1.5 mm long, densely hairy, 1-loculed, 2-ovuled; style short, glabrous; stigma small. **Fruit** a pod; pod ovoid, indehiscent, 15 – 18 by 10 – 12 mm; exocarp brittle, ripening black; endocarp pulpy. **Seeds** usually 1, suborbicular, slightly flattened, 9 by 6 by 3 mm; testa very hard, shiny.
**Senna alata** (L.) Roxb.

**Vernacular** Chumhet thet (ชุมเห็ดเทศ)

Shrub, 1 – 3 m tall, pubescent, horizontally spread-branched. **Stipules** auriculate-deltoid, 6 – 8 mm long, persistent. **Leaves** paripinnate, alternate, 40 – 50 cm long, 15 – 35 cm wide; petioles robust, 2 – 3 cm long, gland absent; leaflets 8 – 20 pairs, opposite; petiolules 2 – 3 mm long; blades chartaceous, glabrous, oblong-elliptic, 5 – 15 by 3 – 4 cm, the upper pairs largest, apex and base rounded, margins entire; nerves 10 – 12 pairs. **Inflorescence** raceme, terminal or in axils of upper leaves, dense, robust, 20 – 50 cm long, 3 – 4 cm broad; peduncle stout, 7 – 14 cm long; bracts broadly ovate, pale yellow, caducous, 2 – 3 by 1 – 2 cm, at first enveloping the flowers; pedicels 5 – 10 mm long. **Flowers** bisexual, bright yellow, many. **Sepals** 5, free, pale yellow, oblong, unequal, 10 – 20 by 6 – 7 mm, glabrous. **Petals** 5, free, ovate-orbiculate to spatulate, 16 – 24 by 10 – 15 mm, glabrous. **Stamens** 9 – 10, free, unequal; 2 larger 16 mm long, with stout filaments; 4 smaller 7 mm long; reduced stamens 3 or 4. **Ovary** superior, glabrous, pruinose; ovules many; style filiform; stigma small. **Fruit** a pod, sharply tetragonal, winged, glabrous, ripening black, 10 – 15 by 1.5 – 2 mm, wing 5 mm. **Seeds** many quadrangular, flattened, 7 – 8 by 5 – 8 mm.
Uses
An infusion of the dried leaves, or fresh young leaves, or steamed leaves are taken as a laxative, (B, M). The crushed leaves mixed with kerosene, then a squeezed juice is applied onto the affected areas to cure scabies, (B). The semi-dried leaves are used to wrap cigarettes made of various kinds of medicinal plants that were chopped and dried; these cigarettes are smoked 3 times a day to relieve nasal polyp, (B). Branches and leaves are used as an ingredient in the formula F27 taken as a tonic for longevity, (B). This species is one of many kinds of plants that used in the traditional ritual performed at the beginning of the rice-harvesting season, (B).

Reference

*Senna hirsuta* (L.) Irwin & Barneby
Vernacular Rang chued ton (รางจืดต้น)

Herb, up to 2 m tall, erect, hairy. **Stipules** linear, early caducous. **Leaves** paripinnate, alternate, 15 cm long and wide; petioles 3 – 4 cm long, with a gland above the base; Leaflets 3 – 5 pairs, opposite; petiolules 2 – 3 mm long; blades herbaceous, lanceolate, 3 – 9 by 2 – 4 cm, the upper pairs largest, hairy on both surfaces, apex acuminate, margins entire, base rounded; nerves 5 – 8 pairs. **Inflorescence** raceme, axillary 1 – 2 cm long, pubescent, few-flowered; bracts subulate, hairy, caducous; pedicels 13 mm long, hairy. **Flowers** bisexual, yellow. **Sepals** 5, free, green, unequal; 2 outer small, orbicular, 5 – 6 mm, pubescent; 3 inner larger, 7 – 9 mm, glabrous. **Petals** 5, free, unequal, obovate, 15 – 20 by 1 – 2 cm, glabrous. **Stamens** 10, free, unequal; 2 largest, 10 mm long, with flat filaments and curved anthers; 4 similar but only half as long; 1 equal to these but with narrow anther; staminodes 3. **Ovary** superior, falcate, hairy; style short, glabrous; stigma slightly enlarged. **Fruit** a pod, falcate to nearly straight, flat, hairy, 10 – 20 by 0.5 cm. **Seeds** numerous, orbicular, 3 mm diam., dark.

**Locality** Ban Nai Wang, Kongra District, Phattalung Province.

**Distribution** Pantropical.

**Ecology** Growing along roadsides and in plantation, around villages; altitude 80 m. Flowering and fruiting throughout the year.

**Uses** The leaves are crushed, into which water (only well water or tap water) is added. Then a squeezed juice (about 30 ml) is taken as an antidote against poisonous food, (B).

**Material studied** UBON 416

**Senna sophera** (L.) Roxb.

**Vernacular** Khi lek chued (ขี้เหล็กจืด)

Erect shrub, 1 – 2 m tall, almost glabrous. **Stipules** ovate, 5 mm long, caducous. **Leaves** paripinnate, alternate, 15 cm long, with 4 – 10 pairs of leaflets; petioles 3 – 5 cm long with narrowly clavate glands, 5 – 10 mm above the petiole joint; petiolules 1.5 mm long. Blades membranous, lanceolate, 2.5 – 5.0 by 1.0 – 1.5 cm, apex acute, base rounded, slightly oblique, margins entire; upper leaflets largest; nerves 10 – 12 pairs. **Inflorescence** axillary, few-flowered corymbs; peduncles 1 – 2 cm long; pedicels 1.0 – 1.5 cm long. **Flower** orange-yellow, 2 cm diam. **Sepals** 5, free ovate-rounded, green, 5 mm long. **Petals** 5, obovate, subequal, 1.4 – 1.8 by 0.8 – 1.5 cm. **Stamens** 9 – 10; 2 longer ones with filaments 5 – 7 mm long, anthers 5 – 6 mm long and opening by apical pores; 4 shorter, anthers opening the same way; staminodes 3 – 4, 2 mm long. **Ovary** superior, finely pubescent, ovules numerous; style thin, glabrous; stigma slightly dilated, strongly curved. **Fruit** an erect pod, 6 – 10 by 0.5 – 1 cm. **Seeds** many, ovoid, compressed.

**Locality** Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution** Pantropical.

**Ecology** In open, waste places; roadsides; altitude 40 m. Flowering and fruiting throughout the year.

**Uses** A decoction of the whole plant is taken as a diuretic, 2 – 3 times a day, (M). A juice from the crushed leaves, or a decoction is taken as an antidote, (B) A juice from the crushed leaves, sometimes, is added to remedies that are applied to young children. It can mask the bitter taste of the remedies, (B, M).

**Material studied** UBON 417


---

**Senna tora** (L.) Roxb.

**Vernacular** Chumhet khwai (ชุมเห็ดควาย)

Herb, up to 1 m tall, nearly glabrous. **Stipules** setaceous, 8 mm long, caducous. **Leaves** paripinnate, spirally arranged; petioles 2 – 4 cm. Leaflets 3 pairs, with subulate gland between the 2 lower pairs of leaflets; petiolules c. 2 mm long; blades membranous, obovate, accrescent, 1.5 – 4 by 1.2 – 2.2 cm, apex broadly rounded, margins entire, base cuneate to rounded, glabrous above, sparsely pubescent beneath. **Inflorescence** axillary raceme, short, few-flowered; bracts linear-acute, 2 – 3 mm long. **Flowers** bisexual, yellow. **Sepals** 5, subequal, ovate, 5 by 3 – 4 mm. **Petals** 5, unequal, obovate, short-clawed, apex rounded, 10 by 5 mm. Fertile stamens 7, subequal; filaments 1.5 – 2 mm long; anthers opening by apical pores. **Ovary**
superior, sessile, densely pubescent, 1-loculed; ovule many; style glabrous; stigma truncate. **Pods** linear, slightly falcate, 10 – 15 by 0.5 cm. **Seeds** 20 – 30, rhomboidal, 5 by 3 mm, shining dark brown.

Locality Ban Ton Sai, Srinakharin Subdistrict, Phattalung Province.

Distribution Pantropical.

Ecology In open places, waste ground, road sides; altitude 100 m. Flowering and fruiting throughout the year.

Uses The young leaves are eaten cooked as a vegetable, (B). An infusion of the roasted pods is taken as a mild laxative to relieve constipation, (B).

Material studied UBON 1025, BKF 131237


**Leguminosae – Mimosoideae**

**Acacia concinna** (Willd.) DC.

Scrambling shrub, 7 – 18 m tall; branchlets armed with prickles, glabrescent. **Stipules** cordate, 8 by 7 mm, caducous. **Leaves** bipinnate, alternate, evenly scattered along the stem. Petioles 2 – 5 cm long, with gland above the base; rachis 10 – 16 cm long, glabrescent, armed by abaxial prickles, with glands between the 1 – 3 distal pairs of pinnae. Pinnae 4 – 10 pairs, 5 – 8 cm long, opposite, with minute glands between 1 – 3 distal pairs of leaflets. Leaflets 10 – 35 pairs per pinna, opposite, sessile, membranous, narrowly oblong, curved acros copically, 6 – 11 by 1 – 3 mm; apex rounded, asymmetric, mucronate; base asymmetrically truncate; glabrous on both surfaces; main vein starting about the front margin, up to 1/4 of the width of the leaflet; nerves inconspicuous. Flowers and fruits not found.

Locality Ban Huay Ngo, Khok Pho District, Pattani Province.

Distribution Tropical Asia.

Ecology In rain forest, disturbed forest, open grassland; altitude 40 m.

Uses The young leaves are cooked in various ways as a vegetable, to give sour taste to the food, (B, M). The whole plant is used as an ingredient in the formula F13 that can be used to treat diabetes. A decoction of the whole plant alone is taken daily for the treatment of diabetes as well, (B). The roots and leaves are used as an ingredient in the formula F32 given to women.
after giving birth to relieve dizziness, (B). The leaves play a part in preparing holy water used in religious ceremonies, (B).

Material studied  UBON 1296, BKF 124610

*Acacia merrillii* Nielsen  
Figure 19 C

Vernacular  Hai (ฮาย)

Scandent shrub or woody climber; branchlet terete, spiny; ultimate parts of branches and inflorescences glabrescent. *Spitules* oblong-lanceolate, caducous. **Leaves** bipinnate, spirally arranged; petioles 4 – 5 cm, with gland 1 cm above the base, and below the junction of the 1 – 3 distal pairs of pinnae, raised, concave, circular to elliptic in outline; rachis 6 – 10 cm; pinnae 6 – 8 pairs, 5 – 7 cm long. Leaflets 15 – 20 pairs per pinna, opposite, sessile, oblong-subfalcate, 3 – 13 by 1.2 – 5 mm; apex asymmetrically acute, sharply pointed, bent forwards; base asymmetrically rounded-subtruncate; margin scarcely ciliate. **Inflorescences** consisting of pedunculate glomerules 7 – 10 mm diam.; floral bracts 1 – 1.5 mm, spathulate. **Flowers** sessile, white, male and bisexual in the same glomerule. **Calyx** cup-shaped, pale green, 1.6 mm, 5-lobed; lobes ovate acute, sparsely pubescent. **Corolla** narrowly funnel-shaped, glabrous, 2.5 mm, 5-lobed; lobes ovate-oblong, acute. **Stamens** numerous, white, 6 mm long. **Ovary** superior 1 mm long, puberulous; stipe 1 mm; ovules 8 – 10. Pod not found.

Locality  Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.
Distribution  Malesia.
Ecology  Lowland rain forest, secondary forest, at river-banks, in cultivated areas; altitude 80 m. Flowering September; fruiting November.
Uses  A juice of the crushed leaves is used to wash hair as a substitute for hair shampoo. It is considered to promote shiny-black hair, (B).

Material studied  UBON 1299

*Adenanthera pavonina* L.  
Figure 19 E

Vernacular  Phai (ไพ)

Tree, up to 40 m tall, unarmed; branchlets glabrous. **Stipules** filiform, minute, caducous. **Leaves** bipinnate, spirally arranged; petioles 3 – 13 cm long, glandless; rachis 20 – 25 cm long, glandless; glabrous; pinnae 3 – 6 pairs; leaflets 4 – 9 on each side of the pinnae, alternate; petiolules 1.5 mm; blades thinly
chartaceous, elliptic to ovate, 1.5 – 3 by 1 – 2 cm, apex truncate, margins entire, base obliquely rounded, glabrous on both surfaces, dark green above, glaucous beneath; nerves 8–10 pairs. Inflorescence a terminal panicle of spiciform racemes, 15 cm long; bracts minute, pubescent. **Flowers** bisexual, minute, pale yellow; pedicels 3 – 5 mm. **Calyx** broadly cup-shaped, 1 mm, 5-lobed. **Petals** 5, free, narrowly lanceolate, 3 – 4 mm long, glabrous. **Stamens** 10, free, 3 – 5 mm; anthers with caducous stipitate gland on the apex of the connective. **Ovary** superior, shortly stipitate, 2 – 3 mm; ovules 15 – 20 per locule; style as long as the ovary. **Pods** dark brown, linear-falcate, 1.5 cm broad, spirally twisted after dehiscent; valves thinly coriaceous with white, loosening endocarp. **Seeds** up to 20, suborbicular, 6 mm diam., shining bright red.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** Throughout tropical Asia.

**Ecology** Forest margins, primary and secondary rain forest; altitude 80 m. Flowering and fruiting throughout the year.

**Uses** The young leaves are eaten raw as a vegetable, (B). The timber is used for house building, (B, M).

**Material studied** UBON 808, BKF 121562


*Albizia myriophylla* Benth. **Figure 21 A**

**Vernacular** Oi chang (อ๑อยช๑าง)

Scandent shrub; branchlets puberulous, armed with prickles; prickles hook-like, emerging from the bases of the leaf-scars. **Stipules** filiform, 3 – 4 mm long. **Leaves** bipinnate, spirally arranged, with glandular rachis and pinnae; glands 5 mm above the base of the petioles, and between the junctions of the 1 – 6 distal pairs of pinnae; petioles 2 – 3 cm long, swollen at the base; rachis 15 – 20 cm long; pinnae 10 – 20 pairs, 2 – 7 by 0.7 – 1.3 cm. Leaflets 30 – 60 pairs, opposite, chartaceous, sessile, narrowly oblong, 3 – 7 by 0.5 – 1 mm, apex rounded to broadly acute, margins ciliate, base asymmetrical truncate, glabrous on both surfaces; veins inconspicuous. **Inflorescence** terminal panicle, composed of pedunculate glomerules. Flowers white, bisexual, sessile. **Calyx** campanulate, shortly 5-toothed, pubescent. **Corolla** funnel-shaped, 3 – 4 mm, 5-lobed, sparsely pubescent. **Stamens** numerous, united into a tube at base. **Ovary** superior, glabrous, stipitate; ovules 8 – 10. **Pods** oblong, flattened, chartaceous, 14 by 2 – 2.5 cm, with distinct marks over the seeds. **Seeds** 8 – 10, obovate, flattened, dark brown.

**Locality** Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution** India, Himalaya, Burma, Cambodia, Laos, S.Vietnam, northern part of the Malay Peninsula.
Ecology

Evergreen forest, forest margins, sandy riverbanks and beaches; altitude 100 m. Flowering April – May; fruiting May – June.

Uses

A decoction of the stems is used as a refrigerant to be drunk frequently during the day, (B). A decoction of the stem bark is used as a gargle to treat aphthous ulcer, (M). The stem is used for the treatment of herpes infection; in this case, the stem is cut and rubbed against an earthenware pot, using water as a solvent. The suspension obtained is applied onto the affected areas, (M). A decoction of the roots is drunk, or the fresh roots are chewed and then ingested to relieve cough, (M).

Material studied

UBON 1310, 1212; BKF 089983

Reference


*Archidendron bubalinum* (Jack) I.C. Nielsen

Figure 27 A

Vernacular

Niang nok (เนียงนก)

Small tree, to 20 m tall; branchlets terete, glabrescent. **Stipules** inconspicuous, caducous. **Leaves** bipinnate, with a pair of pinnae, each with a pair of leaflets; petioles 4 – 6 cm long, with gland above the base; petiolules 2 – 5 mm; blades chartaceous-coriaceous, slightly unequal-sided, ovate to ovate-elliptic, 5 – 15 by 3 – 7 cm, apex obtusely acuminate, base slightly asymmetrically cuneate, glabrous on both surfaces; nerves 4 – 5 pairs. **Inflorescence** terminal or axillary at the distal leaves, pubescent, consisting of pedunculate glomerules aggregated into panicles 10–15 cm long; glomerules consisting of 2 – 6 sessile flowers; bracteoles minute, tomentose. Flowers numerous, bisexual, white. **Calyx** campanulate, puberulous, 1.5 –2 mm, 5-toothed; teeth broadly triangular. **Corolla** funnel-shaped, puberulous, 2.5 – 5 mm, 5-lobed, lobes triangular-ovate, reflexed. **Stamens** numerous, 9 mm long, at base united into a tube; staminal tube equaling the corolla-tube. **Ovary** superior, glabrous, 1-loculed; ovules 5 – 8; style filiform; stigma small. **Fruit** a pod; pod straight or slightly curved, turgid sausage-shaped, 3.5 – 10 by 1.5 – 2.5 cm, valves woody, dehiscing along both sutures. **Seeds** 5 – 8, filling the entire cavity of the pod; the central ones discoid 1.2 cm thick; terminal ones turbinate-truncate, 1.5 cm thick; testa black, thin, crustaceous.

Locality

Ban Ton Panun, Khuan Kalong District, Satun Province.

Distribution

Malay Peninsula, Sumatra.

Ecology

Primary and secondary rain forest; altitude 100 m. Flowering and fruiting January-October.

Uses

The seeds are eaten raw as a side dish with rice, (B, M).
Archidendron jiringa (Jack) I.C. Nielsen

Vernacular Niang (เนียง)

Shrub or tree, up to 20 m tall; branchlets terete, glabrous. Stipules inconspicuous, caducous. Leaves bipinnate, with a pair of pinna, each with 2 – 4 pairs of leaflets; leaflets opposite, petioles 2–7 cm long, with gland above the base of the petiole; petiolules 4 – 5 mm long; blades chartaceous, slightly unequal-sided, ovate-elliptic, 5 – 15 by 2 – 5 cm, apex obtusely-acuminate, base slightly asymmetrically rounded to broadly cuneate, glabrous on both surfaces; nerves 7 – 9 pairs. Inflorescence either ramiflorous below the leaves or axillary at the distal leaves, glabrescent, consisting of glomerules aggregated into panicles to 30 cm long; glomerules composed of 4 – 7 sessile flowers; bracteoles minute. Flowers numerous, yellowish-white, bisexual. Calyx broadly campanulate, sparsely pubescent, 1 – 2 mm, 5-teethed. Corolla funnel-shaped, 4 – 5 mm, 5-lobed; lobes ovate elliptic, acute, 2 mm long, appressed-puberulous at the apex, reflexed. Stamens numerous, at base united into a tube; staminal tube equaling the corolla-tube. Ovary superior, 1 mm long, glabrous, 1-loculed; ovules many; style filiform; stigma small. Fruit a pod, twisted in a wide spiral, deeply lobed between the seeds along the ventral suture, 20 – 25 by 5 cm, dehiscing along the ventral suture, pericarp woody, ripening dark brown. Seeds many, orbicular, biconvex, 2.5 – 3 cm diam., 1–1.5 cm thick.

Locality Ban Nai Wang, Kongra District, Phattalung Province.

Distribution Bangladesh, Burma, Malay Peninsula, Sumatra, Java, Borneo.

Ecology Primary and secondary rain forest, evergreen forest. Cultivated around villages; altitude 80 – 100 m. Flowering March – April; fruiting May – July.

Uses The fresh young seeds and germinated seeds are eaten raw as a side dish with rice. The mature ones are boiled and eaten as a snack, served with grated coconut meat and sugar; (B, M). The roots of this plant species together with those of Parkia speciosa Hassk. and Parkia timoriana Merr. are boiled in water, and then a decoction is taken as remedy to treat diabetes. A decoction of the roots of Archidendron jiringa (Jack) I. C. Nielsen alone is taken as a diuretic, (B). A decoction of the stem bark alone or in combination with rhizome of Musa sapientum L. is taken to treat diabetes as well, (B, M).

Material studied UBON 811, BKF 130216

*Entada rheedii* Spreng

**Vernacular**  
Ba (บ้า), Saba (สะบ้า)

Woody climber, at least 120 m long. **Stipules** inconspicuous. **Leaves** bipinnate, alternate; petioles 5 cm long; the terminal pinnae transformed into tendrils; pinnae 2 pairs, up to 15 cm, rachis pubescent on upper side; leaflets 4 pairs per pinna, opposite; petiolules short, pubescent; blades chartaceous, elliptic to obovate, 3 – 6 by 1.5 – 3.5 cm, apex emarginate, margins entire, base cuneate, slightly unequal, glabrous except on midrib above; nerves 7 – 10 pairs, faint. **Inflorescence** axillary spike, solitary, 18 – 20 cm long, rachis densely pubescent. **Flowers** bisexual and male, small, 5 mm across, sessile; bracteoles minute, subulate. **Calyx** cup-shaped, 0.8 mm, minutely 5-toothed, glabrous. **Petals** 5, free, narrowly elliptic, 3 by 1 mm, glabrous, pale green. **Stamens** 10, free, white turning yellow, 5 – 6 mm; anthers with a stipitate caducous gland at the top of the connective. **Ovary** superior, ellipsoid, 1 – 1.5 mm long, green, glabrous, stipitate, 1-loculed; ovules 15 – 22 in each locule. **Fruit** a straight pod, up to 2 m long and 15 cm wide; pericarp woody. **Seeds** suborbicular, flat, 3 – 4 cm diam., up to 1 cm thick, brown.

**Locality** Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution** Africa, Tropical Asia, Australia.

**Ecology** Primary and secondary forest, especially along river; altitude 20 – 100 m. **Flowering** May – October; **fruiting** July – November.

**Uses** The seeds are used as an ingredient in the formula F35 for the treatment of ringworm, (M). The stem bark is mashed, dried, and then soaked in water. Then this water is used as a substitute for hair shampoo with the side benefit of getting rid of head lice, (B, M).

**Material studied** UBON 1234, BKF 101050


---

*Entada spiralis* Ridl.

**Vernacular** Saba chang (สะบ่าช่าง)

Large woody climber, unarmed; young parts short hairy. **Stipules** minute. **Leaves** bipinnate, spirally arranged, rachis and pinnae glandless; petioles 3 – 4 cm long, swollen at the bases; rachis 5 – 8 cm long; pinnae 2 pairs, the terminal ones transformed into tendrils. Leaflets 3 – 4 pairs per pinna, opposite, chartaceous, narrowly obovate-elliptic, slightly unequal-sided, 6 – 10 by 2 – 5 cm, apex rounded-truncate, slightly emarginate, margin entire, base slightly asymmetrical; upper surface dark green, glabrous, the lower ones glaucous. **Inflorescence** axillary spike,
Flowers bisexual or male, 5 mm across. Calyx green, cup-shaped, glabrous, teeth inconspicuous. Petals 5, free, pale green, elliptic, acute, glabrous, 2.5 by 0.8 mm. Stamens 10, free, 5 mm, white turning pale yellow. Ovary glabrous, oblong, 1.2 mm; ovules 8 – 10. Pods large, woody, spirally twisted, 20 cm long and 6 cm broad. Seeds brown, irregularly compressed, 5 – 6 cm broad, 2 cm thick.

Locality Ban Khao Phra, Rattaphum District, Songkhla Province.

Distribution Malaysia, Sumatra.

Ecology Evergreen rain forest; altitude 130 m. Flowering January – February.

Uses The mature seeds are eaten after boiled. (M) The stem bark is used in a similar way as with the bark of Entada rheedii Spreng, (B, M).

Material studied UBON 1237, BKF 111491


Parkia speciosa Hassk.

Vernacular Sato (สะตอ)

Tree, up to 30 m tall; branchlets terete, puberulous. Stipules minute, caducous. Leaves bipinnate, alternate, 40 – 45 cm long, 12 – 18 cm wide; petioles 3 – 6 cm long, with gland above the base; primary rachis 30 – 40 cm long, with smaller glands between ultimate pairs of pinnae. Pinnae 14 – 18 pair, 6 – 8 cm long, opposite. Leaflets 30 – 40 pairs per pinna, opposite, coriaceous, oblong, 5 – 10 by 1.5 – 2 mm, apex rounded, margins finely ciliate, base strongly auriculate on proximal side, glabrous; midrib central; nerves inconspicuous. Inflorescence club-shaped pendulous head, solitary or racemose, peduncle 10 – 50 cm long; head 7 cm long, 4 cm diam. Flowers yellowish-white, minute, numerous; ones at the upper part of heads bisexual, in lower part male or sterile. Bracts spathulate, slightly longer than calyx. Calyx funnel-shaped, 6 – 7 mm long, 5-lobed; lobes unequal, 2 larger and 3 smaller, imbricate. Corolla tubular, slightly longer than the calyx, 5-lobed; lobes similar, narrowly spathulate, valvate, sparsely pubescent on outer surface. Stamens 10, exserted; the lower part of filaments united into a tube. Ovary superior, stipitate, glabrous, 1-loculed, many-ovuled. Style exserted as far as anthers. Stigma minute. Fruit a pod, strape-shaped, stipitate, 30 – 40 by 3 – 5 cm, straight or twisted; the valves coriaceous, prominently swollen over the seeds. Seeds many, broadly-elliptic, lying horizontal in the pod, 22 – 25 by 15–20 mm, with thin testa.

Locality Found in every study sites.

Distribution Malay Peninsula, Sumatra, Borneo, Philippines.
Ecology
Scattered along edges of tropical rain forest and in secondary forest; often cultivated for its edible seeds; altitudes 20 – 350 m. Flowering August – September; fruiting October – November.

Uses
The young leaves and mature green seeds are eaten raw as a vegetable. The green seeds are also cooked in various kinds of local dishes, (B, M). The roots are used as an ingredient of the formula F15 used in the treatment of diabetes, (B). The stem bark and benzoin are pounded, then a mixture is used as a poultice applied externally to treat mumps, (M).

Material studied
UBON 1192, BKF 69258

Reference

Parkia timoriana (DC.) Merr.

Vernacular
Riang (รียง)

Tree, up to 50 m tall, branchlets terete, puberulous; bark smooth, whitish. Stipules minute, caducous. Leaves bipinnate, alternate, 20 – 50 cm long, 15 – 20 cm wide; petioles 5–10 cm long, with gland 1.5–4 cm from the base; primary rachis 20 – 45 cm long, with smaller glands between ultimate pairs of pinnae. Pinnae 14 – 30 pairs, 9 – 10 cm long, opposite. Leaflets 50 – 71 pairs per pinna, opposite, coriaceous, glabrous, linear-falcate, 6 – 10 by 1 – 2 mm, apex acute, bent forwards, margins ciliate, base auriculate on proximal side; midrib central, sigmoid, and curved towards distal margin at apex; nerves inconspicuous. Inflorescence club-shaped pendulous head, solitary or racemose; peduncles 8 – 30 cm long; head 5.5 – 6.5 cm long and 3 – 4 cm diam. Flowers yellowish-white, minute, numerous; ones at the upper part of heads bisexual, in lower part male or sterile. Bracts spathulate, slightly longer than calyx. Calyx narrowly tubular, 7 – 9 mm long, 5-lobed; lobes unequal, imbricate. Corolla tubular, slightly longer than the calyx, 5-lobed; lobes narrowly-oblong, acute, valvate. Stamens 10, exserted; the lower part of filaments united into a tube, 12 mm long. Ovary superior, stipitate, glabrous, 1-loculed; ovules many. Style exserted, as far as anthers. Stigma minute. Fruit a pod, strape-shaped, stipitate, straight, 20 –30 by 4 – 5 cm; the valves woody, inconspicuously swollen over the seeds. Seeds 12 – 20 per pod, elliptic, slightly biconvex, lying horizontally in the pod, 20 by 12 by 5 mm; testa hard, black.

Locality
Ban Nai Wang, Kongra District, Phattalung Province.

Distribution
India, Bangladesh, Burma, Malay Peninsula, Java, Sumatra, Borneo, Philippines, Celebes, Moluccas, New Guinea.

Ecology
In evergreen rain forest; altitudes 100 m. Flowering November – December; fruiting February – March.
Uses
The germinated seeds are eaten raw as a side dish with rice, cooked in curries. They are also valued as a mild laxative, (B, M). The roots are used as an ingredient of the formula F15 used for the treatment of diabetes,( B). The timber is used for light and temporary construction, boxes, and other household and kitchen utensils, (B, M).

Material studied  UBON 1189, BKF 48786


**Leguminosae – Papilionoideae**

**Cajanus cajan** (L.) Millsp.

**Vernacular** Thua raet (ถั่วแรด)

Erect shrub, 2 – 4 m tall; young branches white-hairy. **Stipules** narrowly ovate, 2 – 3 mm, pubescent, persistent. **Leaves** 3-foliolate, spirally arranged; lateral leaflets opposite; petioles 2 – 4 cm long; blades elliptic, 5 – 7 by 1.5 – 2 cm, apex acute, margins entire, base cuneate, pubescent on both surfaces, lower surface with yellow gland-dotted; nerves 5 – 7 pairs. **Inflorescence** terminal and axillary raceme, 6 – 10 cm long, peduncles 1 – 7 cm, rachis 1 – 4 cm, densely white-hairy. **Flowers** bisexual, pairwise; pedicels 1 cm long. **Calyx** campanulate, 5-lobed; lobes acute, pubescent, unequal. **Petals** yellow, glabrous, standard 1.0 – 1.5 cm diam. **Stamens** 10, diadelphous, pubescent. **Ovary** superior, hairy, 1-loculed, ovules 4 – 6; styles pubescent on the lower half; stigma terminal. **Pods** linear, acute, 4.5 by 1.2 cm; valves between the seeds with oblique impression; beak 1 cm long. **Seeds** 4 – 6, orbicular.

**Locality** Ban Huay Ngo, Khok Pho District, Pattani Province.

**Distribution** India, SE. Asia.

**Ecology** Cultivated plants, in open places; altitude 40 m. Flowering and fruiting January – February.

**Uses** The young pods are boiled, and eaten as a nacn,( B). The leaves are crushed, mixed with washing from uncooked rice. A juice is then squeezed out and taken by women to cure hemorrhage after childbirth, (B). The roots are used as an ingredient of the formula F32 for the treatment of dizziness in women after childbirth, (B).

Material studied  UBON 420, BKF 66287

Canavalia cathartica Thouars

Vernacular Thua phi (ถั่วผี)

Climbers, glabrous; stem twining. Leaves imparipinnate, with 3 leaflets, alternate; petioles 4 – 11 cm long; petiolules 3 – 7 mm; stipules produced beyond their thick base, the top-part caducous; blades chartaceous, ovate, 8 –11 by 4 – 6 cm, apex acuminate, margins entire, base rounded; nerves 5 – 6 pairs. Inflorescence axillary raceme, 10 – 15 cm long; rachis thick, pubescent. Flowers bisexual, pink, 3.5 cm long; pedicels 3 mm long. Calyx tubular, pale green, pubescent, 1.5 cm long; 2-lipped, upper lip emarginate, lower ones 3-toothed. Corolla much longer than the calyx, glabrous; standard suborbicular, 3.8 by 2.5 cm, white-veined, emarginate; keel blunt, incurved, subequalling the wings, 3 cm long, 0.5 cm wide. Stamens 10, diadelphous. Ovary superior, linear, pubescent; ovules 7 – 8; style curved; stigma terminal. Pods large, sword-shaped, inflated, turgid, with a ridge along each edge of upper suture, 10 –12 by 3 – 3.5 cm. Seeds suborbicular, dark brown, 1.5 by 1.0 cm, with hilum 8 mm long.

Localities Ban Thale Noi, Khuan Khanun District, Phattalung Province.

Distribution Indo-China, Malaysia.

Ecology Common on sandy seashores and adjacent localities. Flowering and fruiting throughout the year.

Uses The flowers are eaten raw as a vegetable, (B).

Material studied UBON 413, BKF 93273


Dalbergia parviflora Roxb.

Vernacular Khri (ครี้), La ko (ลาโก)

Scandent shrub up to 10 m long; young shoot and inflorescence puberulous, later glabrous. Stipules small, caducous. Leaves imparipinnate, alternate, 10 – 20 cm long; petioles 2 – 3.5 cm long; petiolules 3 – 5 mm long. Leaflets 5 – 7, alternate; blades coriaceous, elliptic to obovate-oblong, 3 – 9 by 2 – 5 cm, apex blunt acuminate retuse, base obtuse, glabrous on both surfaces; nerves 7–10 pairs. Inflorescence a panicle, terminal and in upper leaf axils, 7 – 10 cm long and wide; bracts ovate, minute, persistent; bracteoles oblong, 1.5 by 1 mm, caducous; pedicels 1.5 mm long, articulate. Flowers bisexual, secund. Calyx campanulate, 2 mm long, 5-lobed; lobes obtuse. Corolla greenish white; standard narrowly obovate-emarginate, 3.5 by 2 mm; wing 3 by 0.8 mm long; keel 3 by 1 mm long. Stamens 10, monadelphous. Ovary superior, stipitate, few-ovuled; style short; stigma small. Fruit indehiscent pod, falcate, 2.7 by 1.8 cm, glabrous. Seeds 1 – 2, reniform, 10 by 14 mm, reddish-brown.
Derris indica (Lamk.) Benn.

**Vernacular** Ka yi (กาหยี)

Small tree, 3 – 15 m tall; branches spreading, glabrous. **Stipules** hairy, fugacious. **Leaves** imparipinnate, alternate; petioles 3 – 4 cm long; leaflets 5 – 7, accrescent towards the top of the leaf, opposite; petiolules 5 – 8 mm long; blades chartaceous to thinly coriaceous, ovate, oblong or elliptic-oblong, 4 – 15 by 3 – 7 cm, apex acute to obtusely acuminate, margins entire; base rounded, subobtuse or slightly cuneate; glabrous on both sides; nerves 7 – 9 pairs. **Inflorescence** raceme, upper axillary, 8 – 20 cm long; peduncle and rachis pubescent; pedicels 8 – 10 mm long. **Flowers** bisexual, numerous, purple, 1.5 cm long. **Calyx** cup-shaped, 4 mm long, finely pubescent, teeth obsolete. **Corolla** with suborbicular standard, 1 – 1.5 cm long, 8 – 10 mm wide, pubescent on the back, claws short with 2 distinct appendages; wings oblong, oblique; keel obtuse, slightly curved. **Stamens** 10, monadelphous, 12 mm long. **Ovary** superior, sessile, densely hairy, 1-loculed, 1-ovuled; style filiform, glabrous, curved; stigma small, terminal. **Pods** obliquely oblong, flattened, thickly coriaceous, shortly beaked at apex, indehiscent. **Seed** 1.
Desmodium heterocarpon (L.) DC.

Vernacular Me sa kuching (มีซากูชิง)

Small erect shrub, up to 60 cm tall; stem and branches terete, young part densely hairy. Stipule ovate-lanceolate, acuminate rostrate at the tip 8 mm long. Leaves pinnately trifoliolate, spirally arranged, 3 – 9 cm long; petioles 1 – 1.5 cm long; petiolules very short. Leaflets thinly coriaceous, pubescent on both surfaces, more hairy underneath; terminal leaflet obovate to elliptic, 2 – 4 by 1 – 2 cm, apex rounded and slightly emarginate, margins entire, base cuneate; lateral leaflets opposite, elliptic, smaller than the terminal one, apex rounded and slightly emarginate, margins entire, base cuneate. Inflorescence a terminal raceme, ascending, 7 – 14 cm long. Flowers bisexual, violet, numerous, in cluster of 2 on the rachis, 5 – 6 mm long; pedicels 2 – 3 cm long, red, glabrous. Calyx campanulate, 2 mm long, 5-lobed; 2 upper lobes minute. Petals 5; standard suborbicular rounded at the tip, 5 by 4 mm; wing obovate-oblong, 3 by 2 mm; keel ob lanceolate, ventrally connate in the upper part, 4 by 1.5 mm. Stamens 10, diadelphous 4 mm long. Ovary superior, linear 3.5 mm long, pubescent, 1-loculed; ovules up to 8; style at a right angle to the top of the ovary, glabrous; stigma capitate. Pods ascending, appressed against each other, linear, flat, transversely jointed between the seeds, margins densely hairy, 10 – 25 by 2.5 – 3 mm. Seed 6 – 8, kidney-shaped, slightly compressed, glossy dark brown, 2 by 1 mm.

Locality Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

Distribution Africa, India, Himalaya, Burma, Malaysia, Laos, Cambodia, Indo-China, China, Australia.

Ecology In open places and waste ground, roadsides; altitude near sea level. Flowering and fruiting April – May.

Uses A decoction of the whole plant is taken as an emmenagogue, (M).

Material studied UBON 1338, BKF 075786

reddish-purple, white at base; standard suborbicular, short-clawed, 2 by 1.5 cm; wings oblong semi-sagittate, adhering to the obtuse keel. **Stamens** 10, diadelphous, 2 cm long, white. **Ovary** superior, stipitate, 5 mm long, light purple, pubescent, 1-loculed; ovules 3 – 4. **Pod** thick, slightly flattened, dark brown, 8 – 10 by 4 – 5 cm, splitting open tardily when fallen on the ground. **Seeds** 1 – 3, orbicular, flattened.

**Locality** Ban Khao Phra, Rattaphum District, Songkhla Province.

**Distribution** Burma, Malaysia, Sumatra, Borneo.

**Ecology** In evergreen forest, on river-banks; altitude 100 – 350 m. Flowering May – June; fruiting September – October.

**Uses** The young leaves are eaten raw as a vegetable, (B, M). The crushed leaves are mixed with lime juice, and then applied as a poultice onto the wounds to accelerate healing process, (M).

**Material studied** UBON 1264, BKF 81466


**Tadehagi triquetrum** (L.) Ohashi

**Vernacular** Puti bue le yong

Shrub, 1 m tall; branchlets sharply triquetrous, long-hairy on the angles. **Stipules** lanceolate-acuminate, persistent, 1.0 – 2.0 by 0.5 cm. **Leaves** unifoliolate, alternate; petioles winged; blades coriaceous, puberulous, oblong-lanceolate, 5 – 15 by 2 – 5 cm, apex acute-acuminate, margins entire, base cordate-rounded. **Inflorescence** axillary and terminal raceme, narrow, 15 – 20 cm long; bracts persistent. **Flowers** bisexual, purple; pedicels 2 – 4 mm long. **Calyx** campanulate, 4-toothed, 2 – 5 mm long, pubescent, with 2 basal bracteoles. **Petals** 5; standard orbicular-obovate, 4 – 6 by 4 – 5 mm, apex emarginated, keel slightly shorter than wings. **Stamens** 10, diadelphous. **Ovary** superior, sessile, pubescent; ovules 5 – 8; style curved, glabrous. **Pod** oblong, flat, pubescent, joints 5 – 8.

**Locality** Ban To Wo, Su-ngaikolok District, Narathiwat Province.

**Distribution** India, Burma, Indo-China, Malaysia, Pacific Islands, Australia.

**Ecology** Open places, secondary forest; altitude 20 m. Flowering and fruiting January – March.

**Uses** The roots together with a little amount of benzoin are rubbed against an earthenware pot The mixture obtained is used as a remedy given to women after abortion; it is given at a single dose of 1 teaspoonful once a day for 16 days, (M).
Material studied UBON 406


**Lilacæae**

*Dianella ensifolia* (L.) DC.  

Vernacular Ya nu ton (หญ้าหนูต่ำน), Se yo (ซีโยะ)

Erect herb, stem tufted; leafy part to about 60 cm tall, glabrous. **Leaves** simple, cauline and distichous; blades coriaceous, linear; distally dorsiventral, in the lower part laterally compressed and keeled, and forming a closed sheath at the base, with minute prickles along the margin and abaxial surface of the midrib; 40 – 45 by 3 – 3.5 cm. **Inflorescence** panicle, terminal, 30 – 50 cm long; rachis stiff; bracts linear-lanceolate, 1.5 – 4.5 cm long; bracteoles minute, triangular; pedicels 8–9 mm long. **Flowers** bisexual, yellow, 1 cm diam. **Perianth** segments 6, free, arranged in 2 whorls, spreading, 7 by 3 mm. **Stamens** 6, free, 7 mm long; filaments filiform, with glabrous swelling below the anther. **Ovary** superior, globose, 3-loculed; ovules 4 in each locule; style filiform, stigma minute. **Fruit** berry, subglobose, 1.2 cm diam., shiny violet. **Seeds** several, shiny black.

**Locality** Ban Bon Khuan, Rattaphum District, Songkhla Province.

**Distribution** Continental Africa, Madagascar, Continental Asia to S. China, Japan and Formosa, throughout Malesia to Australia, New Zealand.

**Ecology** Open grass land to primary forest; altitude 90 m. Flowering and fruiting throughout the year.

**Uses** A decoction of the whole plant is taken as a remedy to relieve asthma, (B). An alcoholic macerate of the roots is drunk as a tonic to increase internal strength; a decoction of the roots is taken as a remedy to cure joint pain, (B). A squeezed juice from the ripe fruits is dropped into the ears 3 times a day to treat earache, (M).

Material studied UBON 291, BK 38719

*Peliosanthes teta* Andr.

Vernacular Not din (โหนดดิน), La mo (لامอ)

Perennial herb, up to 60 cm tall; rhizome very short and horizontal; roots thick. **Leaves** simple, basal; petioles 20 – 30 cm long, slender; blades coriaceous, plicate, narrowly lanceolate, 15 – 26 by 3 – 6 cm, apex acute, margins entire, base cuneate, glabrous; prominent parallel main nerves 7 – 9. **Inflorescence** a simple raceme, 18 – 30 cm long, erect, arising from subterranean rhizome. **Flowers** bisexual, 2 – 3 in axil of a bract; pedicels 1 – 6 mm, articulated at the apex. **Perianth** campanulate; lobes 6, in 2 whorls of 3, suborbicular, 1.5 – 2 mm long, greenish-white. Corona forming a disk 3 mm diam., entire. **Stamens** 6, filaments very short, attached to a corona. **Ovary** semi-inferior, 3-loculed; ovules 1 – 5 in each locale; style 3-ridged; stigma 3-lobed. **Fruit** a capsule, splitting at top when young. **Seeds** 1–3, ellipsoid to pyriform, up to 10 mm long, blue.

**Locality** Ban Sa Ko, Su-ngaipadee District, Narathiwat Province.

**Distribution** SE.Asia.

**Ecology** In evergreen rain forest, humid places; altitude 50 m. Flowering January – February; fruiting March – April.

**Uses** A decoction of the whole plant is given to women after giving birth, to drink as a tonic. This decoction is also given to children to treat gastro-intestinal ailments, (M, B).

**Material studied** UBON 747, BKF 130917


---

**Loganiaceae**

*Fagraea fragrans* Roxb.

Vernacular Tamsao (ตําเสา)

Tree, 8 – 25 m tall; branchlets terete, glabrous; bark dark brown, with deep longitudinal fissures. Stipules connate into an ocrea, usually split into 2 axillary scales, 1 – 2 mm. **Leaves** simple, opposite; petioles 1 – 1.5 cm; blades thinly coriaceous elliptic, 4 – 10 by 2.5 – 3.5 cm, apex caudate, margins entire, base attenuate, glabrous on both surfaces; nerves 5 – 9 pairs. **Inflorescence** a cymose panicle, in the higher leaf-axils, 7 – 10 cm long, rather dense, many-flowered; peduncles 3 – 5 cm; pedicels 4 – 6 cm; bracts minute. **Flowers** bisexual, creamy white turning dull-yellow, fragrant, 1 cm long. **Calyx** campanulate, 1.5 – 2 mm, 5-lobed; lobes ovate, obtuse. **Corolla** narrowly funnel-shaped, 5-lobed; lobes oblong, 3 – 5 mm. **Stamens** 5, inserted in the throat; filaments slender, 1.5 cm long. **Ovary** superior, ellipsoid, tappering into a filiform style; 2-loculed; ovules numerous; style
far exserted; stigma capitate. **Fruit** berry, broadly ellipsoid, 8–10 mm diam., shining red when ripe, glabrous. **Seed** numerous, minute, irregular angular, brown.

**Locality**
Found in every study sites.

**Distribution**
India, Andaman Islands, Southern Burma, Vietnam, Malay Peninsula, Sumatra, Java, Borneo, Philippines.

**Ecology**
Humid evergreen forest, sandy sea-shores, by roadsides; altitude from near sea-level up to 100 m. Flowering February–April; fruiting May–July.

**Uses**
The young leaves together with a small amount of turmeric rhizome and rice grains are pounded. Then a mixture is applied to the abdomen. It is said to relieve malarial fever, (M). The heart wood is used as an ingredient in the formula F31 for the treatment of malarial fever as well, (B). The whole plant is used as an ingredient of the formula F18 for the treatment of elephantiasis at the early stage, (B).

**Material studied**
UBON 531, BKF 108890

**Reference**
Griffin & Parnell, Fl. Thail. 6(3) : 198. 1997.

**Fagraea racemosa** Jack ex Wall.

**Vernacular** Phawa nam (พวาน้ํา)

Shrub to small tree, 2 – 10 m tall; branches thick, cylindric, glabrous. **Stipules** connate into an annular ocrea which clasps the twig. **Leaves** simple, opposite; petioles 0.5 – 1.0 cm long, stout; blades broadly ovate, obovate-oblong, 5 – 20 by 4 – 10 cm, apex shortly acuminate, margins entire, base cuneate, glabrous on both surfaces; nerves 6 – 7 pairs, flat above, distinctly prominent beneath; reticulation lax. **Inflorescence** a terminal panicle, 10 cm long, erect; peduncles 5 cm long, robust, terete. **Flowers** bisexual, creamy white, 2 cm across; pedicels 4 mm long, stout, with 2-bracteolate at the base. **Calyx** campanulate, divided about halfway down into 5-lobed; lobes rounded, fleshy, glabrous. **Corolla** funnel-shaped; corolla tube 1.0 – 1.5 cm long, 5-lobed; lobes obtuse, 8 by 5 mm, glabrous. **Stamens** 5, inserted in the throat of the corolla tube; anthers oblong, 3 mm long, cells free in their basal half. **Ovary** superior, ellipsoid, 1-loculed; ovules numerous; style about as long as the tube, purple, terete; stigma peltate, 1.5 mm diam. **Fruit** ovoid-globose berry, tipped by the very short but distinct style-base, 1.5 by 1.2 cm.

**Locality**
Ban To Daeng, Su-ngaikolok District, Narathiwat Province.

**Distribution**
Indo-China, S.Burma, the Andamans and Nicobars throughout Malaysia, N. Australia.
Ecology
Common in lowland and peat swamp forest, on muddy riverbanks; altitude near sea level. Flowering and fruiting in April – November.

Uses
The leaves together with the leaves of *Lygodium microphyllum* (Cav.) R.Br. are soaked in water, then this water is used to bath children with measles once a day, for 3 days, (B). A decoction of the roots of this plant species and the roots of *Melastoma malabathricum* L. is taken to relieve bodily discomfort. A decoction of the roots of this plant species alone is taken as a refrigerant, (B).

Material studied
UBON 530

Reference

**Loranthaceae**

*Dendrophthoe incarnata* (Jack) Miq. Figure 39 B

Vernacular
Kafak chang (กาฝากช่าง), Na lu ka yo (นาลูกาเยาะ)

Aerial stem-parasitic shrubs, robust; glabrous except for the young shoots, inflorescences and flowers with dense white stellate hairs which persists on the ovary, calyx and corolla. **Stipules** absent. **Leaves** simple, subopposite; petioles 1 cm long; blades coriaceous, broadly ovate, 20 – 25 by 5 – 15 cm; apex acute, base slightly cordate, margins entire; midrib and nerves prominent below; nerves 5 – 6 pairs; **Inflorescence** raceme, in axils of fallen leaves, 5 – 6 cm long; rachis densely pubescent. **Flowers** bisexual, showy 4 cm long. **Calyx** cup-shaped, 5-lobed; lobes short, triangular. **Corolla** tubular, slightly zygomorphic; tube slender, 2.0 – 2.5 cm long, distinctly narrowed above the base, gradually widened upwards, pink below and light green above, 5-lobed; lobes 6 by 2 mm, reflexed. **Stamens** 5, epipetalous, opposite the corolla lobes; anthers 3 – 4 mm long, equal to or slightly longer than the free part of filaments. **Ovary** inferior. Style terete, 3 cm long, glabrous, with a knob-like stigma. **Fruit** berry, ovoid, 10.0 by 7.0 mm, red, densely covered with stellate hairs. **Seed** 1.

Locality
Ban Ba Ngo Yaho, Su-ngaipadee District, Narathiwat Province.

Distribution
Peninsular Malaysia, Sumatra.

Ecology
Parasitic on *Citrus* spp., *Baccaurea* spp., in margin of peat swamp forest; altitude 20 m. Flowering during January–February; fruiting during March – April.

Uses
The leaves are used as an ingredient of the formula F21 used to cure chronic fever, (M).

Material studied
UBON 436

Reference
Barlow, Fl. Thail. 7(4) : 671. 2001.
**Dendrophthoe pentandra** (L.) Miq.  

*Vernacular* Kafak (กะฝาก)  

Aerial stem-parasitic shrubs, young shoot covered with brown stellate hairs. **Stipules** absent. **Leaves** simple, alternate or subopposite; petioles 1 cm long; blades leathery, mostly elliptic, 6 – 12 by 4 – 6 cm, apex obtuse, margin entire, base attenuate; nerves 3 pairs. **Inflorescences** axillary raceme, few-flowered, 2 – 3 cm long; pedicels 3 mm long. **Flowers** bisexual, pale green. **Calyx** tube 0.5 – 1.0 mm long, membranous. **Corolla** narrowly campanulate, 6 – 12 cm long, green, pubescent outside, 5-lobed; lobes linear, reflexed. **Stamens** 5, filaments with scattered white stellate hairs, free part of filament 4 mm long; anthers 2 mm long. **Ovary** inferior; style simple 1.6 cm long, terete, glabrous, green; stigma knob-like. **Fruit** ovoid.  

**Locality** Ban Huay Ngo, Khok Pho District, Pattani Province.  

**Distribution** India, Burma, Indo-China, southern China, Malaysia, Philippines.  

**Ecology** In humid forests, beach forests, mangrove forests, *Melaleuca* swamp forests; altitude 40 m. Flowering and fruiting June – November.  

**Uses** The swollen stems are used for the treatment of herpes infection; these that attach to the host together with the roots of *Mimosa pudica* L., in equal proportion, are crushed, into which a little amount of water is added. The juice is then squeezed out and applied to the affected areas, (B).  

**Material studied** UBON 437  

**Reference** Barlow, Fl. Thail. 7(4) : 675. 2001.  

---

**Lythraceae**  

**Lawsonia inermis** L.  

*Vernacular* Henna (เฮนนา)  

Erect shrub, up to 4 m tall, often much-branched; young branchlets acutely quadrangular, the old ones almost terete. **Stipules** absent. **Leaves** simple, opposite or subopposite; petioles 1 mm long; blades chartaceous, glabrous, obovate, 2.0 – 3.0 by 0.6 – 0.9 cm, apex mucronate, base cuneate, margins entire; nerves 6 pairs, inconspicuous on both surfaces. **Flowers** in terminal and axillary panicle, panicles 4 – 20 cm long. **Calyx** deeply divided, 4-lobed; lobes ovate, acute, 2.0 by 1.5 mm, patent, pale green with red margin. **Petals** 4, free, white or red, reniform, strongly plicate, longer than calyx, patent. **Stamens** 8, pairwise opposite the calyx lobes; filaments fleshy, white, glabrous, 4 mm long; anthers yellow; connectives dark...
brown. **Ovary** superior, subglobose, glabrous, 3-loculed, ovules many. Style subterminal, filiform. **Fruit** subglobose capsule, 5 – 8 mm across, crowned by short style-base, with persistent calyx, indehiscent. **Seeds** many.

**Locality** Ban Lu Bo Sa Ma, Su-ngaikolok district, Narathiwat Province.

**Ecology** In open spaces; altitude near sea level. Flowering and fruiting throughout the year. Often cultivated in home garden as ornamental plant and for miscellaneous uses.

**Uses** A juice from the crushed young leaves is given to children with asthma to drink, (M). The leaves together with a small amount of cooked rice and charcoal are pounded. Then a poultice is pasted on the fingernails, left overnight. When the poultice is washed out, it leaves the fingernails reddish-orange. This treatment is commonly done by the bride-to-be just before her wedding day, (M).

**Material studied** UBON 431


**Malvaceae**

**Abutilon indicum** (L.) Sweet

**Vernacular** Phong pheng (โผงเผง)

Shrub, up to 3 m tall; stem terete, densely white hairy. **Stipules** narrowly triangular, 1.5 – 2 mm long, finely pubescent, reflexed. **Leaves** simple, alternate; petioles 2 – 6 cm long; blades broadly ovate, thinly coriaceous, 4 – 8 by 4 – 8 cm, apex abruptly acuminate, margins coarsely dentate, base cordate, stellately hairy on both surfaces, more densely beneath; palmately nerved; main nerves 5, red. **Flowers** solitary, axillary, bisexual, peduncles 6 – 7 cm long, densely stellately hairy. **Calyx** campanulate, 8 mm long, 13 mm across, deeply 5-lobed; lobes broadly triangular, densely pubescent on both surfaces. **Petals** 5, bright yellow, broadly obovate, apex rounded or truncate, 1.3 by 1.3 cm, glabrous, membranous, widely patent. **Stamens** numerous, monadelphous; staminal tube 7 mm long, pubescent at the base. **Ovary** superior, subglobose, densely pubescent, 22-loculed; ovules 3 in each locule; style terete, 8 mm long, branches as many as ovary-cells; stigma capitate. **Fruit** globose, flattened at the top, breaking up into 1-loculed dehiscent mericarps, densely pubescent, black. **Seeds** numerous, reniform, small.

**Locality** Ban Hua Yang, Rattaphum District, Songkhla Province.

**Distribution** Warm parts of Africa, Asia and Australia.
Ecology  In open waste places, roadsides; altitude 70 m. Flowering and fruiting throughout the year.

Uses  A decoction of the whole plant is taken daily to treat haemorrhoids, (B).

Material studied  UBON 1183, BKF 128203


Hibiscus macrophyllus Roxb. ex Hornem.  Figure 55 B

Vernacular  Chong (จง)

Tree, 10 – 20 m tall; young branches, petioles, pedicels, bracteoles, and calyx bearing long yellow hairs. Stipules 6 – 10 cm long, pairwise amplexicaul with a broad base. Leaves simple, alternate; petioles 15 – 30 cm long; blades chartaceous, orbicular, 15 – 30 cm long and as wide, apex abruptly acuminate, margins entire, base cordate, coarsely brown stellate-pubescent above, densely white-stellately hairy beneath, with 7 central nerves bearing elongate glands beneath. Inflorescence axillary and terminal cymes. Flowers yellow, 8 cm across; pedicels 2.5 – 5.0 cm long. Epicalyx well-developed, 8- to 10-lobed; lobes long, linear-lanceolate. Calyx 5-toothed, valvate, pale brown. Petals 5, adnate at base to the staminal-tube, obovate, thinly membranous, 6 – 7 cm long, yellow with a maroon spot at base. Stamens numerous, monadelphous; staminal-tube 3.5 cm long, truncate, antheriferous throughout. Ovary superior, ovoid, hairy, 5-loculed, ovules many. Styles 5, connate below; stigma capitate, maroon. Fruit a loculicidal capsule, globose, 2.5 cm diam., hairy.

Locality  Ban Huay Ngo, Khok Pho District, Pattani Province.

Distribution  India, Pakistan, Indo-China, Malaysia, Java, Borneo.

Ecology  Secondary forest; altitude 40 m. Flowering and fruiting March – May.

Uses  The leaves are used locally for food wrapping, and usually placed at the bottom of a pot in which glutinous rice is steamed; they give nice special odor to this steamed glutinous rice. The inner barks is used for cordage, (B). The timber is used for house building. The outer barks are made into house walls, (B, M).

Material studied  UBON 78, BKF 109971

**Hibiscus tiliaceus** L.

Vernacular Pho thale (โพธิ์ทะเล)

Shrub, up to 10 m tall; apices of stems finely pubescent. **Stipules** lanceolate, 1–2 cm long, pubescent. **Leaves** simple, spirally arranged; petioles 6–10 cm long; blades coriaceous, cordate-orbicular, 8–10 by 8–10 cm, apex acute, margins entire, base cordate, dark green and glabrous above, whitish and pubescent beneath, palmately nerved with a linear gland near the base. **Flowers** solitary or 2–5 in raceme, in upper axillary, bisexual. Epicalyx cup-shaped, 10-lobed, 8–10 mm, green, pubescent on both surfaces. **Calyx** cup-shaped, 2.5 cm, 5-lobed; lobes narrowly triangular, 2 cm long, green, pubescent on both surfaces. **Petals** 5, free, yellow, then turn yellowish-orange, with a purple base, membranous, obovate, 6–6.5 by 4–5 cm, sparsely stellately hairy beneath. **Stamens** numerous, monadelphous; staminal column yellow, 3.5 cm long, entirely antheriferous. **Ovary** superior, incompletely 10-loculed by false partitions; ovules many; style long; stigmas 5, capitate, purple. **Fruit** capsule, globose, 2–2.5 cm diam., hairy. **Seeds** many.

Locality Ban Ta Se, Hat Samran Subdistrict, Trang Province.

Distribution Pantropical.

Ecology Along sandy seashores, on river banks. Flowering and fruiting throughout the year.

Uses The inner barks of the stems are used for cordage, (M).

Material studied UBON 899, BKF 132631


---

**Sida alnifolia** L.

Vernacular Khat mon (ขัดมอน)

Shrub, 50 cm tall, much-branched, stellate-pubescent. **Stipules** subulate, 3 mm long. **Leaves** simple, spirally arranged; petioles 2–5 mm long; blades thinly chartaceous 1–3 by 0.4–1.5 cm. The leaves at lower part of plant obovate, apex truncate-emarginate. The ones at upper part obovate to lanceolate, apex rounded, sub-acute, margins serrate except at basal part; nerves 4 pairs; densely covered with stellate hairs on lower side, sparsely pubescent on upper side. **Flowers** solitary, axillary, bright yellow, peduncle 8–10 mm long; **calyx** cup-shaped, green, 5-lobed; lobes triangular, 4 mm long, stellate pubescent outside; **petals** 5, slightly connate at base, obovate, membranous, glabrous, 9–10 by 6–7 mm. **Stamens** numerous, monadelphous, tube 2.5–3.0 mm long, pubescent. **Ovary** superior, 9-to 10-loculed, ovule 1 per locule. Style-branches 9–10. Stigmas capitate. **Fruit** depressed globose, ripening black, breaking up into 9–10 mericarps, stellate pubescent.
Localities: Ban La Lae, Ban ToWo, Su-ngaikolok District, Narathiwat Province.

Ecology: Waste places, along roadsides, open places; altitude near sea level. Flowering and fruiting throughout the year.

Uses: The roots or stems are used as an ingredient of the formula F23 given to women with fever associated with menstruation. A decoction of the roots or stems is drunk frequently during the day as a substitute of drinking water to relieve bodily discomfort, (B). The roots are rubbed against using earthenware, water as a solvent. Then a suspension obtained is taken as an antipyretic, (M). The roots are used to make delivery easier; in this case, a decoction of the roots is taken by pregnant women at 8 months of gestational age. It is taken 3 times a day daily, (M). The crushed leaves mixed with lime juice are used as a poultice applied to treat corns, (M).


**Marantaceae**

**Donax arundastrum** Lour.  

**Erect, shrub-like herbs, up to 2 m tall, with true stem; stem erect, slender; branches dichotomous.** Leaves simple, alternate; petioles 8 mm long; sheath 10–15 cm long; blades thinly coriaceous, elliptic, 12–19 by 7–9 cm, apex shortly acuminate, base rounded, glabrous on both surfaces; pinnatinerved, with numerous, thin, parallel lateral veins. Inflorescences panicle, arising from upper leaf axils, 15 cm long, with erect branches and narrow bracts; bracts linear, apex acuminate, 4 by 0.7 cm; peduncles fleshy, 2 cm long; pedicels very short with a yellow conic gland below. Flowers bisexual, white, in pairs, 3.5 cm long. Sepals 3, free, lanceolate, 7 by 2 mm, pale pink. Petals 3, white, oblong, 3 by 0.5 cm, joined into a short tube at the base. Fertile stamen 1; the others converted into petal-like structures, more conspicuous than the true petals. Ovary inferior, 3-loculed; ovule 1 in each locule. Fruit berry, obconic 3-lobed, 8–9 mm long, 1.5 mm wide, sparsely pubescent. Seeds 2–3, subglobose, 7 mm diam.

**Locality**: Ban Khao Phra, Rattaphum District, Songkhla Province.

**Distribution**: Burma, Borneo.

**Ecology**: Common on river banks, swampy places; altitude 100 m. Flowering and fruiting throughout the year.
**Uses**

A sap from the cut terminal bud is applied as drops to the eyes to treat eye ache, (B). A decoction of the roots of this plant species and those of *Donax grandis* (Miq.) Ridl. is taken frequently during the day as a refrigerant, (B). The stems are made into mats, baskets and other household utensils, (B, M). The lowers of this plant species together with those of *Jasminum sambac* (L.) Ait. and *Melastoma malabathricum* L. (white flower) are soaked in water. Then this water is used to bathe persons who have lost the morale. It is believed to return their spirit, (M).

**Material studied**

UBON 911, BK 48090

**Reference**


---

**Phrynium capitatum** Willd.  
*Figure 67 F*

**Vernacular**

Let (เล็ด)

**Herbs**, bearing about 3 – 6 long-petioled leaves from the base and a terminal inflorescence. **Leaves** simple; petioles and sheath of basal leaves 150 – 210 cm long; those of peduncular leaves 50 – 60 cm long. Blades coriaceous, elliptic, 50 – 60 by 10 – 15 cm, apex shortly acuminate, margins entire, base rounded, dark green and shining above with slightly prominent main veins, pale green beneath, glabrous except for pale silky hairs on either side of midrib. **Inflorescence** a compact rounded head, 5 – 8 cm diam., consisting of many sessile spikes, arising laterally at apex of peduncle in axil of a peduncular leaf. Bracts green ovate, acute, spirally arranged, the apex soon turning brown and decomposing to a group of fiber 2 – 3 cm long, enclosing 2 – 5 pairs of flowers. **Flowers** bisexual, pale pink, 3 mm long. **Sepals** 3, white, linear, 1 cm long, densely hairy outside. **Corolla** tube white, flushed slightly with pink, 5 mm long, 3-lobed; lobes lanceolate, 8 mm long, apex obtuse with sparsely pilose, flushed with dull purple. **Stamens** 1, creamy white, with narrow appendage; staminodes present; tube of stamens and staminodes longer than corolla-tube. **Ovary** inferior, densely pilose, 3-loculed; ovule 1 in each locule. **Fruit** capsule, oblong, 1.5 by 0.8 cm, short-stalked, deep red, pubescent, 3-lobed, the apex broad with a slightly depression, bearing the persistent sepals. **Seeds** 1 – 2, oblong, black, 1.5 by 0.8 cm, with a fleshy bilobed basal aril.

**Locality**

Ban Khao Kram, Srinakharin Subdistrict, Phattalung Province.

**Distribution**

India, S.China, Malaysia.

**Ecology**

In evergreen forest, humid places, along streams; altitude 100 m. Flowering and fruiting July – September.

**Uses**

The leaves are used as wrappers for rice before cooking in bamboo sections. It is commonly used by local people in the past during a long trek in forest, (B, M).

**Material studied**

UBON 1275, BKF 132702

**Reference**

**Marattiaceae**

*Angiopteris evecta* (G. Forst.) Hoffm.  

Figure 26 B

**Vernacular**  Kip raet  (กีบแรด)

Terrestrial fern; rhizome short, broad, bearing several large fronds in a tuft, young part covered with small brown scales and hairs. **Stipes** green, swollen at base, 100 – 150 cm long. **Fronds** bipinnate, 200 – 300 cm long; pinnules lanceolate, 10 – 20 by 2.5 cm, apex acuminate, base slightly unequal, margin with small blunt teeth to each vein-ending. Veins simple or forked. **Sori** with two close rows of sporangia, 1 mm from the margin; sporangia ovate-oblong, indusium absent.

**Locality**  Ban Nai Wang, Kongra District, Phattalung Province.

**Ecology**  Terrestrial on wet ground or by stream in moderately open places; altitude 80 m.

**Uses**  The rhizomes are used as an ingredient of the formula F5 taken as a general tonic, blood circulation tonic; and to relieve bodily discomfort. A decoction of the rhizomes alone is also taken as a tonic, (B).

**Material studied**  UBON 243, BKF 115736

**Reference**  Tagawa & Iwatsuki, Fl. Thail. 3(1) : 41. 1979.

---

**Melastomataceae**

*Clidemia hirta* (L.) D.Don

**Vernacular**  Khlong khlong khon  (คลองเคลงขน)

Shrub, 1 – 1.5 m tall; branchlets hirsute with glandular hairs. **Stipules** absent. **Leaves** simple, opposite; petioles 1.5 – 2 cm long; blades thinly coriaceous, ovate to broadly ovate, 7 – 16 by 4 – 10 cm, apex shortly acuminate, margins dentate, base rounded, densely hairy on both surfaces; nerves 5 from the base and transverse nervules prominent. **Inflorescences** axillary cyme, usually few-flowered. **Flowers** bisexual, white. **Calyx** very hairy, tube-shaped; tube 4 mm long with long narrowly 5-toothed; teeth 4 mm long, green. **Petals** 5, free, white, obovate, 9 by 4 mm. **Stamens** 10, free; anthers 4 – 5 mm long, opening by a single pore; connective with a minute dorsal spur. **Ovary** half inferior, 5-loculed; ovules numerous. **Fruit** a berry, 5 – 7 mm diam., ripening black.

**Locality**  Ban Kam Phaeng, Muang District, Narathiwat Province.

**Distribution**  Mexico to Bolivia.
Ecology Waste places, rubber plantations, roadsides; altitude 50 m. Flowering and fruiting throughout the year.

Uses The branches and leaves of this plant together with young leaves of *Leucaena leucocephala* (Lam.) de Wit and *Mikania cordata* (Burm.f.) B.L.Rob. are boiled in water. Then this water is used to bath children with helminths. The treatment is taken once a day for 3 days in the morning. (M).

Material studied UBON 72

Reference Renner *et al.*, Fl. Thail. 7(3) : 419. 2001.

*Melastoma malabathricum* L. Figure 62 C – D

Vernacular Khlong khleng (โคลงเคลง), Ka du do (กาดูดุ)

Shrub, 1 – 3 m tall; branches, petioles and pedicels densely covered with appressed scales; branchlets quadrangular, reddish. *Stipules* absent. *Leaves* simple, opposite; petioles 1 – 2 cm long; blades chartaceous, lanceolate, 5 – 14 by 2 – 5 cm, apex acute, margins entire, base acute, with 1 pairs of lateral primary veins that originate near the blade base and extend all the way to the leaf apex, strigose on both surfaces but more conspicuously so on the lower surface especially on the main nerves. *Inflorescences* terminal, compact cyme of 3 – 7 flowers. *Flowers* bisexual, opening out flat and 5 – 7 cm across; bracts 0.5 – 1.2 cm long; pedicels 0.5 – 1.0 cm long. Hypanthium campanulate, 0.5 – 1.0 cm long, densely covered with appressed scales. *Calyx* cup-shaped, 5-lobed; lobes ovate acute, 0.5 – 1.3 cm long, ciliate along the margin. *Petals* 5, free, obovate, purple or white, 2.5 – 3.5 cm long. *Stamens* 10, dimorphic; outer anthers 0.7 – 1.0 cm long, lilac, connective prolongation 0.4 – 0.8 cm long; inner ones 0.5 – 0.7 cm long, yellow, connective prolongation short; anthers opening by a single pore, usually beaked. *Ovary* half inferior, 5-loculed and apically bristly; ovules numerous. *Fruit* a fleshy capsule, 0.5 – 1.2 cm long, rupturing transversely at maturity, dark purple. *Seeds* minute, numerous.

Locality Ban Sae, Su-ngaipadee District, Narathiwat Province.

Distribution SE.Asia, Malesia, New Guinea, Philippines, Australia.

Ecology Common in open places, waste places, evergreen forest; altitude near sea level. Flowering and fruiting throughout the year.

Uses The plants with alternate branching are chopped, dried, and then boiled in water. A decoction is drunk as a contraceptive; this treatment is taken 40 days of having childbirth, (M). This decoction is also taken by women to cure hemorrhage after giving birth, (B). The leaves are used for the treatment of umbilical wound of a new born baby, treatment of post partum; the young leaves are finely crushed, mixed with a small amount of lime juice,
and then applied as a poultice to a umbilical of a baby, to speed the drying and removing of the umbilical cord, (M). For the treatment of post partum, a handful of the young leaves of this plant together with a small piece of the rhizomes of turmeric and few rice grains are pounded, into which water is added. Then a squeezed juice is taken, (M). The leaves are also used to treat fresh wounds; they are finely crushed, mixed with a small amount of lime juice. Then a poultice is pasted onto wounds to speed the wound healing and to stop bleeding, (B, M). The roots are used as an ingredient in the formula F16 taken to cure diarrhea. A decoction of the roots of this plant species and those of *Fagraea racemosa* Jack ex Wall. is taken for the treatment of bodily discomfort, (B). Stamens are used to treat herpes infection; the stamens of three flowers of *Melastoma malabathricum* L. together with the roots of three plants of *Polygonum odoratum* Lour., few pepper seeds and a betel quid are chewed, and then spat on the affected areas, (M). Fruits are used to treat aphthous ulcer; the crushed fruits are applied as a poultice to the affected areas, (B).

*The plant with white flowers:* The whole plant is dried, boiled in water, and then a decoction is taken daily as a contraceptive. Its roots are used as an ingredient in a tonic given to mother after giving birth, (B). Roots are used to treat snake bites; the roots are crushed, into which a small amount of lemon juice is added. Then it is used as a an poultice applied on snake bites, (M). The leaves are crushed, into which a small amount of lime juice is added. Then a poultice is applied to the wound to speed the healing and to stop bleeding, (B). The fresh flowers are eaten raw as a refrigerant and for the treatment of internal injury, (M).

**Material studied** UBON 73

**Reference** Renner *et al.*, Fl. Thail. 7(3) : 441. 2001.

*Osbeckia chinensis* L.

**Vernacular** Ka du do ba dae (กาดูดุ_substrakt)

Erect herb, 20 – 60 cm tall, stem slender angular, covered with appressed white hair. **Stipules** absent. **Leaves** simple, opposite, subsessile; blades subcoriaceous, narrowly lanceolate, 2 – 4 by 0.2 – 0.5 cm, apex acute, margins entire, base rounded, hairy on both sides, with 2 pairs of lateral primary veins. **Inflorescences** terminal cyme. **Flowers** few, bisexual, 4-merous; pedicels short. Hypanthium urceolate, 0.5 – 0.7 cm long, with scattered hairs. **Calyx** lobes 4, triangular, 5 mm long. **Petals** 4, purple, obovate, 10 – 15 mm long. **Stamens** 8, isomorphic; anthers 0.4 – 0.7 cm long, yellow, opening by a single apical pore. **Ovary** half inferior, 4-loculed, ovules numerous, apically crowned with bristles. **Fruit** not found.
Locality  
Ban Ka Lo Se La, Su-ngaikolok District, Narathiwat Province.

Distribution  
From China throughout SE.Asia, Borneo, Sumatra, Java, Philippines, New Guinea, N. Australia.

Ecology  
Often in grassy areas, moist sites, evergreen forest; altitude 20 m. Flowering January – February.

Uses  
A decoction of the roots is used as a contraceptive and for the treatment of bodily discomfort; it is taken 3 times a day daily, (M).

Material studied  
UBON 70

Reference  

**Meliaceae**

*Aglai a korthalsii* Miq.  
Figure 20 D – E

**Vernacular** Sang khriat (สังเครียด)

Tree up to 26 m tall; twigs slender, with dense reddish-brown peltate scales. **Stipules** absent. **Leaves** imparipinnate, spirally arranged; petioles 7 – 12 cm long; petioles, rachis and petiolules with dense scales like those on the twigs. Leaflets 3–5, opposite; petiolules 5 mm; blades coriaceous, ovate to elliptic, 10 – 15 by 3 – 5 cm, apex acuminate, margins entire, base cuneate, with scales like those on the twigs, few on the upper surface, and numerous on the lower surface at fairly regular intervals; nerves 13 – 15 pairs. **Inflorescences** axillary panicles, occasionally ramiflorous, 10 – 20 cm long; peduncle, rachis and branches densely covered with scales. **Flowers** unisexual, male and female ones born on the same plant, at separate inflorescence. Both of them with developed rudiments of the opposite sex, small, 2 mm long and wide, sub sessile. **Sepals** 5, unequal, suborbicular, membranous, with numerous peltate scales. **Petals** 5, yellow, unequal, obovate, slightly larger than the sepals, with peltate scales on the outside. **Stamens** 5; filaments connate into tube; staminal tube cup-shaped; anthers 5, protruding beyond the aperture and pointing towards the center of the flower. **Ovary** superior, ovoid with dense peltate scales, 2-loculed; ovule 1 in each locule. **Fruit** berry, ellipsoid, 2.5 by 1.5 cm, ripening orange, indehiscent. **Seeds** 2, with translucent, yellow juicy aril.

Locality  
Ban Kam Paeng, Muang District, Narathiwat Province.

Distribution  
India, Nicobar Islands, Burma, Vietnam, Malay Peninsula, Sumatra, Borneo, Philippines.
Ecology  
In primary and secondary forest, margin of peat swamp forest, often cultivated in villages; on clay, loam, limestone; altitude 20 – 40 m. Flowering October – November; fruiting January – February.

Uses  
The ripe fruits are eaten fresh, (B, M).

Material studied  
UBON 65

Reference  

Azadirachta excelsa (Jack) Jacobs  
Figure 28 E – G

Vernacular  
Thiam (เทียม), Sadao chang (สะดาช่าง)

Tree, up to 50 m tall; young shoot finely pubescent, soon glabrous. Barks of large trees becoming longitudinally fissured and scaling. Stipules absent. Leaves paripinnae, alternate, tufted at ends of twigs, 20 – 60 cm long; petiolo 5 – 9 cm long; petiolules short. Leaflets 10 – 20, opposite; blades thinly coriaceous, lanceolate-elliptic, asymmetric, slightly falcate, 6 – 8 by 2.5 – 3 cm, apex acute, margins entire, base unequal acute, glabrous on both surfaces; nerves 6 – 9 pairs. Inflorescences panicle, consisting of many cymes, upper axillary, erect, 20 – 30 cm long, with 3 or 4 orders of branching, finely pubescent; bracts minute; pedicels 1 – 3 mm, articulate. Flowers bisexual, numerous, small, white. Calyx campanulate, 5-lobed; lobes 1 mm long, ovate, green, edges ciliate, pubescent outside. Petals 5, free, oblong, 6 by 2 mm, pubescent on both sides. Stamens 10; filaments connate into cylindrical staminal tube, 4 mm long, white, pubescent inside; anthers slightly exserted. Disk annular. Ovary superior, glabrous, 3-loculed; ovules 2 in each locule. Fruit a drupe, ellipsoid, 2.5 – 3 by 1.5 cm, mesocarp fleshy, ripening yellow. Seed 1, ellipsoid.

Locality  
Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

Distribution  
Malay Peninsula, Sumatra, Borneo, Philippines, Celebes, Moluccas, New Guinea.

Ecology  
In evergreen rain forest; altitude 80 – 100 m. Flowering January – February; fruiting April – May.

Uses  
The young leaves and inflorescences are eaten raw or blanched as a vegetable. The timber is used for house building, (B, M).

Material studied  
UBON 1314, BKF 09145

Reference  
**Azadirachta indica** A. Juss.

Vernacular Sadao (สะเดา)

Tree, up to 16 m tall, glabrous; bark fissured and flaking in old trees. **Stipule** absent. **Leaves** paripinnate or imparipinnate, alternate, 15 – 35 cm long; petioles 6 – 7 cm long. Leaflets 7–14, opposite or subopposite; petiolules 5–8 mm long; blades thinly coriaceous, falcate-lanceolate, 5 – 9 by 1.5 – 3.5 cm, apex acuminate, margin serrate, base asymmetric, narrow, glabrous on both surfaces; nerves 15 pairs. **Inflorescences** cymose panicle, axillary or in axils of fallen leaves, 30 cm long; branches 7–10 cm long, bearing branchlets to 2 or 3 more orders. **Flowers** bisexual, numerous, small, white; pedicels 2 mm long. **Calyx** campanulate, 5-lobed; lobes ovate, obtuse, 1.5 mm long; margin ciliate. **Petals** 5, free linear spatulate, sparsely pubescent outside, 5 – 6 mm long. **Stamens** 10; staminal tube cylindric, 3.5 mm long, slightly expanded at mouth; anthers inserted near the mouth, hardly exserted. **Ovary** superior, glabrous, 3-loculed; ovules 2 in each locule. **Fruit** a drupe, ellipsoid, 1 – 2 cm long, ripenning yellow. **Seed** 1, ovoid.

**Locality** Ban Hua Yang, Rattaphum District, Songkhla Province.

**Distribution** Probably native in Burma but widely and long cultivated in tropical Asia and Africa.

**Ecology** In open places, cultivated along roadsides, altitude 40 m. Flowering January – February; fruiting April – May.

**Uses** The young leaves and inflorescences are eaten raw or blanched as a vegetable, (B, M). The stem bark is used as an ingredient in the formula F31 used as a remedy to relieve malarial fever, (B).

**Material studied** UBON 1016, BKF 109497


---

**Sandoricum koetjape** (Burm.f.) Merr.

Vernacular Kraton (กระทบอน), Ton (ทอน)

Tree, up to 50 m tall, sometimes with buttress; young part pubescent. **Stipules** absent. **Leaves** trifoliolate, alternate; petioles 7 – 16 cm long, densely pubescent; blades thinly coriaceous, ovate, apical leaflets 8 – 20 by 5 – 15 cm, lateral ones usually smaller and narrower, apex acuminate, margins entire, base acute, glabrous above, sparsely brown pubescent beneath; nerves 10 – 14 pairs, lobed near margin. **Inflorescences** axillary panicle, 10 – 20 cm long, fragrant; rachis pubescent; primary branches to 8 cm long, squarrose, bearing secondary branches of glomerules of 1 – 5 flowers; bracts narrowly triangular, caducous; pedicels 4 mm. **Flowers** bisexual, 8 – 10 mm long. **Calyx** cupular, shallowly 5-lobed, 2.5 – 3 mm long, pubescent outside. **Petals** 5, free, imbricate, ob lanceolate, 8 by 2 mm, apex rounded, yellowish-green, pubescent outside, reflexed at anthesis. **Stamens** 10;
filaments connate into tube or staminal column, 6.5 mm long, pale yellow, sparsely pubescent outside, pilose inside; anthers minute, weakly exserted; disk tubular, membranous, surrounding the ovary and the base of the style, dentate. **Ovary** slightly sunken in receptacle, glabrous, 5-loculed; ovules 2 in each locule; stigma 5-lobed. **Fruit** a drupe, depressed globose, 5 – 12 cm diam., velvety, brownish when ripe; pericarp with milky latex. **Seeds** 5, kidney-shaped, 2 – 3 by 1 – 2 cm, 1 – 1.5 cm thick.

**Locality** Found in every study sites.

**Distribution** Malay Peninsula, Sumatra, New Guinea.

**Ecology** Cultivated plant; altitude 0 – 100 m. Flowering January – February; fruiting July – October.

**Uses** The ripe fruits are eaten fresh, or pickled, or used in flavouring some curries, (B, M). The stem barks are chopped, dried, and then boiled in water. Then this water is used as a contraceptive given to a mother to drink after 20 days of having childbirth. (B) The timber is usually used for house building, (B, M).

**Material studied** UBON 1287


**Xylocarpus granatum** Koen.

**Vernacular** Tabun khao (ตะบูนขาว)

Shrub, 6 –15 m tall, glabrous; bark thin, smooth, scaling as irregular flakes. Pneumatophores present. **Stipules** absent. **Leaves** paripinnate, spirally arranged; petioles 1.5 – 2.5 cm long; leaflets 1 – 2 pairs opposite; petiolules 2 mm long; blades thickly coriaceous, obovate, 5 – 7 by 2 – 3 cm, apex rounded or obtuse, margins entire, base cuneate, glabrous on both surfaces; nerves 9 – 11 pairs. **Inflorescences** axillary panicle, 3 – 6 cm long; bracts and bracteoles minute, caducous; pedicels 2 – 3 mm long, red. **Flowers** bisexual or unisexual, small. **Calyx** shallowly cup-shaped, 4-lobed; lobes short. **Petals** 4, free, oblong, 3 – 5 by 2 – 3 mm, pink. **Stamens** 8, around the disk; filaments connate into an urceolate tube 2 – 3 cm diam., margin with 8 shallowly divided lobes; anthers 8, included. **Ovary** superior, globose, enveloped by the fleshy cupular disk; locules 4; ovules 3 – 4 in each locule; style short; stigma discoid, margins crenulate, upper surface with four radiating grooves. **Fruit** capsule, globose, 12 cm diam., tardily dehiscing by 4 woody valves. **Seeds** 12 – 16, pyramidal, 4 – 6 cm long.

**Locality** Ban Ta Se, Hat Samran Subdistrict, Trang Province.

**Distribution** E.Africa, Sri Lanka, India, SE.Asia.

**Ecology** In mangroves, and often associated with *Nypa* and *Sonneratia*. Flowering and fruiting throughout the year.
Uses

The seeds are rubbed against an earthenware pot, using water as a solvent. Then a suspension is taken to treat diarrhea. (B, M).

Material studied

UBON 1098, BKF 103345

Reference


**Xylocarpus moluccensis** (Lamk) Roem.

_Vernacular_ Tabun dam (ตะบูนดํา)

Tree, 6 – 18 m tall, glabrous; bark rough, with longitudinal fissures, falling as oblong flakes. Pneumatophores present. _Stipules_ absent. _Leaves_ paripinnate, spirally arranged; petioles 5 – 7 cm long; leaflets 1 – 2 pairs, opposite; petiolules 1 – 3 mm long, swollen; blades coriaceous, obovate, 5 – 7 by 2 – 4 cm, apex obtusely acuminate, margins entire, base broadly rounded, glabrous on both surfaces; nerves 8 – 9 pairs. _Inflorescences_ axillary panicle, lax, 3 – 10 cm long; bracts and bracteoles minute, semipersistent; pedicels 3 – 8 mm long. _Flowers_ bisexual or unisexual. _Calyx_ shallowly cup-shaped, 4 -lobed; lobes 1–1.5 mm long. _Petals_ 4, free, oblong, 3.5 – 5 by 2 – 3 cm, creamy white. _Stamens_ 8 around the disk; filaments connate into an urceolate tube, 2–3 mm diam., margin with 8 shallowly divided lobes; anthers 8, included. _Ovary_ superior, globose, enveloped by the fleshy and cupular disk; locules 4; ovules 3 – 4 in each locule; style short; stigma discoid, margin crenulate, upper surface with 4 radiating grooves. _Fruit_ capsule, slightly depressed globose, 8 – 10 cm diam., dehiscing by 4 leathery valves from apex. _Seeds_ 5 – 16, pyramidal, 4 – 5 cm long.

_Locality_ Ban Ta Se, Hat Samran Subdistrict, Trang Province.

_Distribution_ Tropical Asia from India, Indo-china, throughout Malesia to tropical Australia.

_Ecology_ In mangrove forest. Flowering and fruiting throughout the year.

Uses

The seeds are used in a similar way as the preceding species, (B, M).

Material studied

UBON 1385, BKF 119056

Reference


**Menispermaceae**

**Cyclea barbata** Miers.

_Vernacular_ Krong mao (กรงเหมา)

Slender climber, up to 5 m long; stems terete, 2 – 3 mm diam., herbaceous, hispid when young, later glabrescent. _Leaves_ simple, alternate; petioles slender, hispid, 3 – 6 cm long, inserted 5 –15 mm above the base of blades; blades papyraceous, hispid above, tomentose beneath, deltoid-ovate, 4 –11 by 3 – 8 cm;
apex acuminate, mucronate; margins entire, hispid; base slightly emarginate; palmately nerved; nerves 9 – 12. Male inflorescences thyrsoid, axillary, 10 – 20 cm long; rachis and peduncle covered with white hairy. Male flowers numerous, small, pale green. Calyx campanulate, pubescent, 4-lobed; lobes triangular. Corolla cupular, 4-lobed; lobes truncate, shorter than the calyx, glabrous. Stamens connate into synandrium, exserted, 2 mm long; anthers 4.

Locality Ban Ton Panun, Khuan Kalong District, Satun Province

Distribution Assam, Burma, Vietnam, Sumatra, Java.

Ecology In primary and secondary forest, sometimes on limestone; altitude 20 – 100 m. Flowering in September.

Uses The roots of this species together with those of Clidemia hirta D. Don are chopped, boiled in water, and then a decoction is drunk frequently during the day to treat hemorrhoids, (B). The roots are also used for the treatment of hemorrhage, dysmenorrhea, and insect bites. They are used as an ingredient of the formula F17 taken as a remedy to treat hemorrhage, dysmenorrhea. For the treatment of insect bites; the roots are rubbed against earthenware pot, into which a small amount of lime juice is added. Then a mixture is used as a poultice applied to the insect bites, (M).

Material studied UBON 675, BKF 134730


**Fibraurea cf. tinctoria** Lour.

Vernacular Mae khamin (แมขมิ้น), Ae lae (แอแล)

Woody climber, glabrous, with white sap; young stem smoothly and finely striate, with yellow wood. Stipules absent. Leaves simple, alternate; petioles 3 – 7 cm long, swollen at base, drying black; blades thinly coriaceous, elliptic ovate or oblong-elliptic, 12 – 27 by 4 – 8 cm, apex acuminate, margins entire, base round, tri-nerved with the main basal laterals running alongside the midrib for 5 – 10 mm before curving outwards, with 2 – 4 pairs of distal lateral nerves, glabrous on both surfaces. Flower and fruit not found.

Locality Ban To Daeng, Su-ngaikolok District, Narathiwat Province.

Distribution India, Burma, Indo-China, Malay Peninsula, Sumatra, Celebes, Philippines.

Ecology In evergreen forest, rubber plantations, edges of forest, slightly shady places; altitude 20 m.
Uses

The roots together with the whole plant of *Eurycoma longifolia* Jack are boiled in water, and a decoction is drunk daily as a substitute for tea to relieve bodily discomfort, (B, M). A decoction of the roots is also drunk daily as a substitute for tea to relieve bodily discomfort and for the treatment of wasting disease.

Material studied

UBON 727, BKF 078958

Reference


*Stephania venosa* (Blume) Spreng.

Vernacular Sabu lueat (สบู่เลือด)

Slender climber, glabrous, with red sap; dioecious; stem herbaceous, slender, arising from a large exposed tuber; tubers subglobose up to 40 cm diam. *Stipules* absent. *Leaves* simple, spirally arranged; petioles 6 – 9 cm long, swollen at base; blades submembranous, peltate, broadly triangular-ovate, 6 – 11 by 7 – 12 cm, apex obtuse and mucronulate, margins entire or slightly lobed, base truncate or slightly cordate, upper surface glabrous, lower one minutely palillose, glaucous; palmatinerved at base, reticulation reddish-brown. *Male inflorescence* umbelliform cyme, axillary, solitary, 7 cm long, peduncle slender 5 – 6 cm long. Male flowers small, 4 mm across; pedicels 2 – 3 mm long. Sepals 6, free, in 2 whorls, imbricate, elliptic or oblanceolate, 2 – 3 mm long. Petals 3, free, obdeltoid-obovate, 1.5 mm long, light brown. Stamens connate into a peltate synandrium, 2 mm long; anthers in a horizontal ring. *Female inflorescence* umbelliform cyme, axillary, 0.8 – 1 cm diam., peduncles 3 cm long. Female flowers small, asymmetrical; pedicels short. Sepal 1, greenish-orange, elliptic. Petals 2, orange, suborbicular, larger than the sepals 0.7 mm long. Ovary superior, sub-ellipsoid 5 mm long, glabrous, 1-loculed, 1-ovuled; stigma sessile, divaricately lacinate.

Locality

Ban Ton Sai, Srinakharin Subdistrict, Phattalung Province.

Distribution

Vietnam, Malaysia, Sumatra, Sabah, Celebes, Philippines.

Ecology

In evergreen forest, sometimes between limestone rocks; often cultivated for medicinal purposes; altitude 100 m. Flowering February – May.

Uses

A small piece of the fresh or dried tuber is eaten daily as a blood circulation tonic; treatment of bodily discomfort, (B). Alcoholic macerate of the tubers of this plant species combined with other medicinal plants is also used as a tonic, (M). The leaves are eaten raw; it is believed to give invulnerability to a person who eat it. Red sap from the cut stems is locally used in tattooing for an invulnerable purpose also, (B).
Material studied   UBON 1023 ,  BKF 11982


_Tiliacora triandra_ (Colebr.) Diels

**Vernacular**  Ya nang (ยานาง)

Dioecious climber; stems terete, glabrescent. **Stipules** absent. **Leaves** simple, alternate; petioles 5 –15 mm long, rugulose, pubescent; blades thinly coriaceous, elliptic to lanceolate, 6 –12 by 3 – 4 cm, apex acuminate, margins entire, base cuneate to rounded, glabrous on both surfaces; nerves 3 – 6 pairs. **Female inflorescence** axillary raceme, 2 – 8 cm long; rachis and rachilla pubescent. Female flowers pale yellow, small. **Sepals** 6 – 12, the outermost smallest; the 3 innermost much larger, broadly elliptic, 2 mm long, fleshy, glabrescent. **Petals** 6, ovate emarginate, 1 mm long. Staminode absent. **Ovary** superior, of 6 – 8 free carpels; style curved. Fruit drupe, subglobose, 5 – 7 mm diam., glabrous, shiny reddish-orange.

**Locality**  Ban Hua Yang, Rattaphum District, Songkhla Province.

**Distribution**  Burma, Cambodia, Laos, Vietnam, Malay Peninsula.

**Ecology**  In limestone hills, evergreen forest near the sea; altitude 50 m. Flowering and fruiting December – July.

**Uses**  The young leaves are eaten raw or cooked as a vegetable, (B, M). Juice from the crushed leaves is used to mask bitter taste in a curry cooked with _Senna siamea_ (Lam.) Irwin & Barneby, (M). The roots together with those of _Lepisanthes rubiginosa_ (Roxb.) Leenh. or roots of _Clerodendrum petasites_ (Lour.) S. Moore Moore and _Sauropus androgynus_ (L.) Merr. in equal proportion are chopped, boiled in water. Then a decoction is taken as arefrigerant, (B).

Material studied   UBON 59,  BKF 61260


_Moraceae_

_Artocarpus elasticus_ Reinw. ex Blume.

**Vernacular**  Ka – o (กะเอาะ)

Tree, up to 40 m tall, with white latex; twigs stout, pubescent, with prominent stipular scars. **Stipules** lanceolate, acute, 7 – 20 cm long, densely pilose outside. **Leaves** simple, spirally arranged; petioles 3 – 7 cm long; blades thickly leathery,
ovate or broadly elliptic, 20 – 40 by 15 – 25 cm, apex acute, margins entire, base cuneate; rough hairy on the upper surface, more densely hairy on the lower surface; nerves 12 – 15 pairs. **Inflorescences** unisexual, head, on the leafy twigs; male and female heads on the same plant. **Male head** cylindrical, 15 cm long, 2.5 – 3 cm wide, with many deeply longitudinal grooves, yellow becoming brown; peduncle 4 – 6 cm long; male flowers with obconical perianth; 2-lobed; stamen 1. **Female head** globose or ellipsoid, 10 by 7.5 cm, shaggy with hairy recurved spines, with smaller conic spines inter-mixed. **Fruit** syncarp, oblong, 12 – 16 by 6 – 9 cm, with recurved hairy spines, ripening deep yellow. **Seeds** ellipsoid, 10 by 6 mm, shiny white.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** Burma, Malaysia, Sumatra, Borneo, Java, Philippines.

**Ecology** In evergreen rain forest, river-banks; altitude 150 m. Flowering and fruiting July – October.

**Uses** The pulp of ripe fruit is eaten fresh. The seeds are eaten after boiling or roasting, (B, M). The timber is used for house building, making furniture, (B, M).


**Artocarpus integer** (Thunb.) Merr.

**Vernacular** Champada (จำปาดะ), Chamda (จำดะ)

Tree, to 24 m tall; with white latex; twigs slender with prominent stipular scar, young parts densely hairy. **Stipules** ovate, acute, 2 – 5 cm long, pubescent outside. **Leaves** simple, spirally arranged; petioles 1–3 cm long, hairy; blades leathery, elliptic to oblong-elliptic, 8 –15 by 3 – 6 cm, apex pointed, margins entire, base cuneate, pubescent on both surfaces; juvenile leaves with 2 – 3 pairs lateral lobes; nerves 6 – 10 pairs. **Inflorescences** unisexual, head, solitary in leaf-axils, cauliflorous and ramiflorous, flowering on short leafy shoots. Male and female heads on the same tree. **Male head** cylindrical, 3 – 5 by 1 – 1.5 cm, creamy white; peduncles 3 – 6 cm; male flowers with a tiny perianth of 4 lobes; stamen 1. **Female heads** cylindrical; female flowers with a tiny perianth tube, 4-lobed; staminode absent; ovary superior, 1-loculed, 1-ovuled; style filiform, exserted; stigma entire. **Fruit** syncarp, cylindrical, set with flat warts, 20 – 35 by 10 – 15 cm, with stalk 7 – 12 cm long, ripening brownish-yellow, strong foetid. **Seeds** many per syncarp, subglobose, 3 by 2 cm, with a very thin papery testa, rounded by custard-slimy pulp.

**Locality** Ban Bon Khuan, Rattaphum District, Songkhla Province.

**Distribution** Malaysia, Sumatra, Borneo.
Ecology In evergreen rain forest, in lowland and mountain. Often cultivated in the lower Southern Thailand and throughout the Malay Archipelago; altitude 70–100 m. Flowering and fruiting September – October.

Uses The pulp of ripe fruit is eaten fresh; sometimes dipped in a mixture of rice-flour, sugar, coconut milk, grated coconut meat and water, then deep fried, and eaten as a delicacy. The seeds are eaten boiled or roasted and have a nutty flavor. Strong and durable wood is commonly used for house building, (B, M).


Artocarpus rigidus Blume

Vernacular Khanun pan (ขนุนปาน)

Tree, up to 40 m tall; twigs pubescent, with white latex. Stipules ovate-lanceolate, 2 – 3 cm long, pubescent outside. Leaves simple, spirally arranged; petioles 1.5 – 2.5 cm, densely pubescent; blades leathery, elliptic to obovate, 9 – 12 by 4.5 – 6 cm, apex blunt, slightly pointed, margins entire, base cuneate, glabrous on both surfaces accept on midrib and veins; juvenile leaves pinnatifid; nerves 10 – 18 pairs. Inflorescences unisexual, head, solitary in leaf axils. Male head globose, 13 – 20 mm across; peduncles 2 – 5 by 2.5 mm; perianth tubular, 1 mm long. Fruit syncarp, globose, 6 – 8 cm diam., with stiff conical spines, greenish-yellow.

Locality Ban Khao Phra, Rattaphum District, Songkhla Province.

Distribution Burma, Indo-China, Sumatra, Borneo, Malaysia.

Ecology In evergreen rain forest; altitude 350 m. Flowering and fruiting April – June.

Uses The wood is used for general construction, furniture, boat and cabinet making, (B).

Material studied UBON 1311, BKF 115440


Ficus apiocarpa Miq.

Vernacular Duea thao (เดื่อเถา), Duea nae da ko (เดื่อแนดาโกะ)

Stout climber, 20 – 35 m tall, with milky latex, glabrous. Leaves simple, alternate; petioles 4 – 5 cm long; stipules 3 cm long, enveloping the terminal bud, caducous, leaving an annular scar. Blades thickly leathery, broadly obovate to oblong, 10 – 20 by 6 – 10 cm, apex shortly acuminate, margins entire, base cuneate
to rounded, glabrous on both surfaces, tessellate beneath; nerves 4 – 5 pairs, reticulation nerves prominently distinct beneath. Flowers unisexual, small, set inside hollow fleshy receptacle (fig). Figs solitary in leaf-axils, only on the higher part of plants, glabrous, elliptic-oblong to obovate, 6 by 4 cm, deep orange when mature, with stalk 2 – 3 cm long. Male and female flowers on the separate figs. Perianth in all kinds of flowers thinly membranous, 3-lobed; lobes pinkish at margin. Stamen 1. Ovary superior, oblique, 1-loculed, 1-ovuled; style 1, excentric; stigma orbicular, flattened.

Locality: Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

Distribution: Malay islands.

Ecology: On tree trunk in peat swamp forest; at altitude near sea level. Flowering and fruiting April – August.

Uses: A small amount of achenes of a ripe fig is ingested by local people for the prevention of blood-sucking by leech. One dose will be affective for 4 – 5 days, (M).

Material studied: UBON 52, BKF 089479


Ficus deltoidea Jack var. angustifolia (Miq.) Corner

Vernacular: Ma juteh (มาจูเตะ)

Shrub, up to 120 cm tall, glabrous, with white latex. Leaves simple, alternate; petioles 1 – 4 cm long. Blades coriaceous, stiff, spatulate, 4 – 8 by 2 – 3.5 cm, apex rounded, margins entire, base narrowed, glabrous, dark green above, yellowish-brown beneath, midrib usually forking halfway, with a black spot at the fork on the underside. Flowers unisexual, male and female in separate figs. Figs solitary, axillary, fusiform-elliptic, 7 by 5 mm; stalk 1 cm long; bracts 3 – 4 at the base of the figs. Perianth in all kinds of flowers thinly membranous, 3-lobed; lobes triangular in the male ones; oblong, pink in the female ones. Stamens 2. Ovary superior, straight, rugose, pale brown.

Locality: Ban Ta Se Tai, Su-ngaipadee District, Narathiwat Province.

Distribution: Malaysia.

Ecology: Cultivated for medicinal purposes; altitude near sea level. Flowering and fruiting throughout the year.

Uses: A decoction of the dried leaves is given to a woman after giving birth to drink as a tonic for 40 days. It is said to warm the body, (M).

Material studied: UBON 1142, BKF 108612

**Ficus deltoidea** Jack var. *kunstleri* (King) Corner

**Vernacular** Li *ngo buloh* (ฉิ่ง บูโลห์)

Shrub, up to 150 cm tall, glabrous, with white latex. **Leaves** simple, alternate; petioles 1 – 1.5 cm long. Blades fleshy-coriaceous, broadly obovate to slightly obtriangular, 4 – 5 by 4 – 5 cm, apex broadly rounded to truncate, margins entire, base cuneate, glabrous, green with white spots on the upper side, yellowish-green below; midrib forked, with a black spot at the fork on the underside. **Flowers** unisexual, small, male and female in separate figs. **Figs** solitary, axillary, ovoid 1 – 1.5 by 0.9 – 1.2 cm, glabrous, with short stalk, pale pink when mature; bracts 4 at the base of the figs. **Perianth** in all kinds of flowers thinly membranous, 3-lobed. **Stamens** 2. **Ovary** superior, oblique; style excentric, bifid; stigma filiform.

**Locality** Ban Ta Se Tai, Su-ngaipadee District, Narathiwat Province.

**Distribution** Malaysia.

**Ecology** Cultivated as ornamental plant as well as for medicinal purposes; altitude near sea level. Flowering and fruiting throughout the year.

**Uses** This plant species are used as a tonic in a similar way as *F. deltoidea* Jack var. *angustifolia* (M).

**Material studied** UBON 1399, BKF 125468


---

**Ficus fistulosa** Reinw. ex Blume

**Vernacular** Ching (ฉิ่ง), Dueai (เดือย)

Tree, 5 – 10 m tall, with white latex. **Stipules** ovate-lanceolate, 1 – 2.5 cm long, caducous. **Leaves** simple, opposite; petioles 1 – 6 cm long; blades coriaceous, elliptic to obovate, 12 – 20 by 4 – 8 cm, apex acuminate, margins entire, base rounded or cuneate, glabrous on both surfaces, pale pink when young; nerves 5 – 9 pairs. **Flowers** small, unisexual, set inside the fleshy figs. Male and female flowers in separate figs. Figs born in clusters on woody knob on the trunk and main branches, pear-shaped, 2.5 diam., on 1.5 – 2 cm long stalk, glabrous, green with white dots, ripening greenish yellow. **Male flowers** with 1 stamen, perianth thin-membranous. **Female flowers** with perianth similar those of the male ones; ovary superior, 1-loculed, 1-ovuled; style short. **Fruit** small achene, numerous and densely set inside the fig.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** India, S.China, Malesia.

**Ecology** Common in the secondary forest, by stream in the forest in lowland and mountains; altitude 110 m. Flowering and fruiting throughout the year.
**Ficus ischnopoda** Miq.  

**Vernacular** Kho ton (โกโตน)

Shrub up to 5 m tall, with white latex, glabrous. **Stipules** conical, enveloping terminal bud, caducous. **Leaves** simple, spirally arranged; petioles 7 mm long; blades thinly leathery, narrowly lanceolate, 10 – 15 by 1.5 – 2 cm, apex obtuse, emarginate, margins entire, base narrowed, glabrous; nerves 15 – 18 pairs. **Flowers** unisexual, small, set inside the inner wall of a fleshy receptacle (fig). Male and female flowers in separate figs. **Figs** solitary in leaf axils, pear-shaped, 1 – 2 cm long and wide, with 5 – 10 longitudinal ribs, green flushed pink, ripening dark purple, stalk 1.4 cm long.

**Locality** Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution** Malay Peninsula, India, China.

**Ecology** In humid evergreen forests, by rocky streams; altitude 120 m. Flowering and fruiting September – October.

**Uses** The young leaves are eaten raw as a vegetable; the ripe figs are also edible, (M).

---

**Ficus obpyramidata** King

**Vernacular** Pho (โพะ)

Small tree, up to 9 m tall, branchlets hairy at first. **Stipules** enveloping the terminal bud, caducous. **Leaves** simple, spirally arranged; petioles 4 – 5 cm long, hairy; blades coriaceous, hairy on both sides, elliptic-ovobate, 10 – 25 by 5 – 12 cm, apex acute, margins sparsely toothed, base subcordate, unequal; nerves 8 – 9 pairs. **Flowers** minute, unisexual on the inner walls of a fleshy receptacle (fig). Male and female flowers in separate figs. **Figs** arranged in clusters on the trunk and main branches, pear-shaped, stalked, 3.5 – 5.0 cm diam., depressed above, ripening yellow to brown, containing numerous achenes.

**Locality** Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution** Malay Peninsula.
Ecology

In humid evergreen forest, by the rivers; altitude 80 m. Flowering and fruiting November – January.

Uses

The young figs are eaten raw as a vegetable, (B, M).

Material studied

UBON 58

Reference


Ficus oligodon Miq.

Vernacular

Ma duea mua (มะเดื่อแมว)

Tree, up to 12 m tall, with white latex. Leaves simple, spirally arranged; petioles 6 – 10 cm long; blades chartaceous, glabrous, broadly ovate, 12 – 25 by 10 – 15 cm, apex acuminate; margins coarsely serrate, base cuneate to rounded, tri-nerved at base; nerves 5 – 6 pairs, prominent beneath. Figs arranged in big clusters on the stem and thick branches, stalk 5 – 7 cm long, pear-shaped, ripening red, short hairy, 4 – 6 cm across; bract at base of fig 1, ovate, 5 by 5 mm. Flowers small, unisexual; male and female flowers in separate figs. Perianth present, thinly membranous. Stamens 2. Ovary superior, ovoid, compressed; style lateral; stigma widened.

Locality

Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

Distribution

E. Himalaya, Burma, Indo-China, S. China, Malaysia.

Ecology

By streams and rivers in the lowland, evergreen forest; altitude 110 m. Flowering and fruiting May – June.

Uses

The young figs are eaten raw as a vegetable, or cooked in curries; the ripe sweet ones are eaten fresh, (B, M).

Material studied

UBON 1058, BKF 085872

Reference


Ficus punctata Thunb.

Vernacular

Duea thao (เดื่อเถา)

Woody climber, with milky latex, glabrous. Leaves simple, alternate; petioles 1 cm long. Blades leathery, oblanceolate, 4 – 6 by 2.5 – 4 cm, apex blunt or sub-acute, margins entire, base sub-acute and slightly unequal, glabrous on both surfaces, tessellate beneath; nerves 3 – 5 pairs, reticulation nerves prominently distinct beneath. Flowers small, unisexual; male and female flowers on the separate figs. Perianth membranous, deep pink. Stamen 1. Figs globose or pear-shaped, 5 by 4 cm, glabrous, velvety, orange to dark red, with pale yellow marbling.

Locality

Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.
Distribution: Malaysia, Sumatra, Java, Borneo, Celebes.

Ecology: On tree trunk in peat swamp forest; altitude near sea level. Flowering and fruiting January – February.

Uses: Achenes of this species are used to prevent leech bites in a similar way as *F. apiocarpa* Miq., (M).

Material studied: UBON 1402


*Ficus racemosa* L. Figure 48 F

Vernacular: Ma duea cheno (มะเดื่อชีนอย)

Tree, up to 25 m tall, with white latex. Stipules lanceolate, densely pubescent outside, 7 by 3 mm. Leaves simple, spirally arranged; petioles 2 – 6 cm long; blades coriaceous, glabrous, slightly glaucous below, elliptic, 10 – 13 by 4 – 6 cm, apex bluntly pointed, margins entire, base cuneate, distinctly tri-nerved at base; nerves 6 – 7 pairs, prominent beneath. Figs arranged in big clusters on the trunk and main branches, stalk 7 – 10 mm long, pear-shaped, 2 – 4 cm across, ripening rose-red with pale maculate, short hairy; bracts at base of fig 3, ovate-triangular. Flowers small, unisexual. Perianth present, thinly membranous, pale pink. Stamens 2, slightly unequal. Ovary superior, ovoid, slightly compressed; style lateral; stigma widened, yellow.

Locality: Ban Nai Wang, Kongra District, Phattalung Province.

Distribution: Sri Lanka, Pakistan, India, Malasia, S. China.

Ecology: Common by the rivers, in open forest; altitude 100 m. Flowering and fruiting throughout the year.

Uses: The young figs are eaten raw as a vegetable, (B, M).

Material studied: UBON 1352


*Ficus semicordata* Buch.–Ham. ex Sm.

Vernacular: Kuat (กวด)

Shrub, up to 12 m tall with rough brown hairs on leaves and twigs. Stipules 4 cm long, enveloping the terminal bud, caducous. Leaves simple, spirally arranged; petioles 1.5 cm long, hairy; blades chartaceous, elliptic, 17 – 35 by 7 – 13 cm, apex acuminate, base markedly unequal, with a broad round lobe, on one side appearing semicordate, margins entire, pubescent on both surfaces; midrib and nerves red, prominent below; nerves 10 – 15 pairs. Flowers unisexual; male and female flowers in separate figs. Figs on fruiting branches arising from the main branches and
base of stem, pendulous and often creeping along the ground. The ripened ones globose, 2–3 cm diam., glabrous, red with white speckles, with numerous achenes.

**Locality** Ban Nai Wang, Kongra District, Phattalung Province.

**Distribution** India, Burma, N.Malaysia, S.China.

**Ecology** Cultivated; by roadsides, stream sides; altitude 80 m. Flowering and fruiting throughout the year.

**Uses** The ripe figs are eaten fresh, (B, M).

**Material studied** UBON 55, BKF 095921


**Ficus superba** Miq.  

**Vernacular** Leab (เลียบ)

Tree, 5 – 10 m tall, with white latex, many branches. **Stipules** enveloping the terminal bud, pink, glabrous. **Leaves** simple, spirally arranged; petioles 5 – 7 cm; blades thinly coriaceous, ovate, 6 – 16 cm by 3 – 7 cm, apex acute, margins entire, base rounded, glabrous on both surfaces; nerves 13 – 15 pairs, tri-nerved at base. **Flowers** unisexual; male and female flowers in the same fig. **Figs** globose, glabrous, 1–1.3 cm diam., stalk 4 – 5 mm; usually in pairs, nearly all along ultimate twigs, in axils of present leaves or fallen leaves; ripening greyish-white with a pinkish tinge.

**Locality** Ban Hua Yang, Rattaphum District, Songkhla Province.

**Distribution** Malaysia, Sumatra, Java, Borneo.

**Ecology** Moist forest edges, near stream; altitude near sea level to 70 m. Flowering and fruiting January – February.

**Uses** The young leaves are eaten raw as a vegetable, (B, M).

**Material studied** UBON 1245, BKF 97720


**Streblus taxoides** (Heyne ex Roth) Corner  

**Vernacular** Khi raet nam nom (ขี้แรดน้ํานม)

Shrub, 2 – 4 m tall, spiny; spine straight; young internode with a dense row of short hairs on one side; without latex. **Stipules** ovate, 4 – 6 mm long. **Leaves** simple, distichous; petioles 2 – 3 mm long, pubescent; blades thinly coriaceous,
elliptic-lanceolate, 4 – 12 by 1 – 7 cm, apex acuminate, margins slightly toothed towards the apex, base narrowly cordate, glabrous on both surfaces, lower surface with strongly prominent midrib and arcuate lateral nerves; nerves 7 – 9 pairs. **Flowers** unisexual. Female flowers solitary, axillary; peduncles 5 mm long, slender. **Sepals** 4, ovate acuminate, 4 by 1 mm, accrescent, leafy. **Petals** none. Ovary superior, compressed ovoid, 1-loculed, 1-ovuled; style excentric, 2-branched, pubescent. Fruit a drupe, with thickly fleshy base, seated on accrescent sepals. Seed 1, subglobose.

**Locality** Ban Huay Ngo, Khok Pho District, Pattani Province.

**Distribution** Sri Lanka, India, Indo-China, Malesia.

**Ecology** In open places, forest edges; altitude 40 m. Flowering and fruiting September – October.

**Uses** The young leaves are cooked in Thai-style vegetable soup; the ripe fruits are eaten fresh, (B). The roots are used as an ingredient in the formula F17 used as a remedy to treat hemorrhage and dysmenorrheal, (M). The roots are also used to cure wounds by rubbing against an earthenware pot, using water as a solvent. Then, a suspension is applied onto the wounds to stop bleeding and to accelerate the wound healing, (B).

**Material studied** UBON 891, BKF 075156


**Musaceae**

**Musa acuminata** Colla.

**Vernacular** Kluai thuaen (กล้วยเถื่อน), Kluai pa (กล้วยป่า)

Perennial herb; rhizome short, stout. Leaf sheath purplish-green, convolute, forming pseudo-stem about 3 – 4 m tall. **Leaves** simple, spirally arranged; petioles 45 – 50 cm long; blades oblong, herbaceous, 80 – 200 by 20 – 40 cm, apex rounded, margins entire, base acute, glabrous on both surfaces, glaucous beneath, green but often streaked with purple in young plants; pinnatinerved with many close-set, parallel lateral nerves. **Inflorescence** spike, arising from the rhizome, born on an erect and long peduncle which is for the great part included in the pseudo-stem, drooping. Bracts boat-shaped, herbaceous, brownish-red, 10 – 25 by 5 – 10 cm, closely congested into ovoid bud, caducous soon after anthesis. **Flowers** mostly unisexual, in the axils of bracts, biseriate; lower ones female or bisexual, upper ones male. **Tepals** connate, in 2 rows; outer tepals tubular, 3.5 cm long, 3-lobed; 2 anterior tepals of the inner cohering with the outer ones into a 5-lobed syntepalum; lobes yellow, reflexed; posterior inner tepal free, 2 cm long membranous, broadly
ovate. **Stamens** 5, 3.5 cm long; anthers linear, 1.5 cm long. **Ovary** inferior, 3-loculed, many-ovuled; style filiform; stigma thickened, subglobose. **Fruit** baccate, oblong, curved, 8 by 2 cm, glabrous, ripening yellow. **Seeds** numerous, crowded through the pulp.

**Locality** Ban Nai Wang, Kongra District, Phattalung Province.

**Distribution** Malaysia.

**Ecology** In open forest, forest edges, hills; altitude 50 – 120 m. Flowering and fruiting throughout the year.

**Uses** The central part of pseudo trunk, young inflorescence and young fruits are eaten cooked, (B, M).

**Material studied** BKF 134296


**Musa sp.**

**Vernacular** Kluai nam fat (กล้วยน้ำฝาด)

Perennial herb; rhizome short, stout. Leaf sheath long, green, convolute, forming pseudo-stem about 3 – 5 m tall. **Leaves** simple, spirally arranged; petioles 30 – 60 cm long; blades, herbaceous, oblong, 100 – 250 by 30 – 45 cm, apex rounded, margins entire, base acute, glabrous on both surfaces, glaucous beneath; pinnatinerved with many close-set, parallel lateral nerves. **Inflorescences** spike, arising from the rhizome, borne on an erect and long peduncle which is for the great part include in the pseudo-stem, drooping. Bracts boat-shaped, herbaceous, purplish-brown, 40 by 15 cm, closely congested into ovoid bud. **Flowers** unisexual, sessile in rows in bract-axils; lower ones female, upper ones male. **Tepals** connate, in 2 rows; outer tepals tubular, 4 cm long, 3-lobed, split on one side, yellow; 2 anterior tepals of the inner cohering with the outer ones into a 5-lobed syntepalum; posterior inner tepal free, membranous, 2.5 cm long. **Stamens** 5, 10 mm long; anthers linear, 2.7 mm. Staminodes 5, 1 cm long in female flowers. **Ovary** inferior, ovoid, 3-loculed, many-ovuled; style filiform; stigma thickened, subglobose. Pistillode present in the males ones. **Fruit** baccate, oblong and straight, 9 by 3 cm, ripening yellow.

**Locality** Ban Nai Wang, Kongra District, Phattalung Province.

**Ecology** In damp, slightly shady places; altitude 80 – 120 m. Flowering and fruiting throughout the year.

**Uses** The ripe fruits are eaten fresh, (B, M). A decoction of the green fruit (3 pieces) and a handful of leaves of Melodorum siamense (Scheff.) Bân is taken as an anti-diarrheic, (M).
Myristicaceae

**Knema globularia** (Lam.) Warb.  
Vernacular  Han (หัน)

Dioecious tree, up to 20 m tall, with red sap; twigs slender, at first brown stellately hairy, later glabrescent. **Stipules** absent. **Leaves** simple, distichous; petioles 1 – 1.5 cm long, slender, scurfy; blades coriaceous, oblong or lanceolate, 8 – 18 by 2 – 4 cm, apex acute, margins entire, base cuneate, shining dark green and glabrous above, greyish-green and sparsely stellately hairy beneath; nerves 15 – 18 pairs. **Inflorescences** sub-umbell, axillary and in axils of fallen leaves, 1.3 – 1.5 cm long and wide; peduncles 4 – 6 mm long, stout; pedicels 5 mm. **Male flowers** 5 – 7 per inflorescence, globose trigonous in bud; bracts small. Perianth 3-lobed; lobes broadly ovate acute, spreading, 4 by 4 mm, thick, fleshy, scurfy pubescent outside, glabrous pinkish inside. Stamens 12 – 13; filaments united into a short staminal column; apical forming a trigonous staminal disk, red, with anthers stellately attached to margins. Pistillode absent. **Female flowers** broadly ellipsoid in bud; pedicels 5 mm, densely brown hairy. Perianth 3-lobed; lobes linear ovate, 4 mm long, scurfy pubescent outside, glabrous inside. Staminode absent. Ovary superior, ovoid, densely hairy, 1-loculed, 1-ovuled; style short; stigma 2-lobed. **Fruit** berry, ellipsoid, 2 by 1.5 cm; pericarp yellow, splitting into 2 halves at maturity, glabrescent. **Seed** 1, ellipsoid, shining black, entirely covered with bright red aril.

**Locality** Ban Hua Yang, Rattaphum District, Songkhla Province.

**Distribution** India, China, Burma, Vietnam, Laos, Cambodia, Malay Peninsula, Singapore, Sumatra, W. Java.

**Ecology** Primary and secondary evergreen forest, river banks; at altitude 80 m. Flowering November – January; fruiting January – December.

**Uses** The pounded seeds are boiled in coconut oil, and then the mixture is applied over the affected areas to treat scabies, (B, M). The timber is used for house building, (B, M).

**Material studied** UBON 887, BKF 127044

**Reference** De Wilde, Fl. Thail. 7(4) : 757. 2002.

---

**Myristica fragrans** Houtt.  
Vernacular Chan thet (จันทน์เทศ)

Evergreen tree, up to 20 m tall, bark brown, red sap. **Stipules** absent. **Leaves** simple, alternate; petioles 1 cm long, glabrous; blades thinly coriaceous, glabrous, elliptic-obleng, 7 – 13 by 2.5 – 5 cm, apex acuminate, base cuneate, margins entire, dark shiny green above, pale green beneath; nerves 6 – 11 pairs.
Inflorescences axillary raceme; peduncles 0.5 – 2 cm. Flowers unisexual, pale yellow, small 7 – 10 mm long; pedicels glabrous, 1.5 cm. Male flowers slightly smaller than the female ones; perianth urceolate, 3-lobed; lobes triangular acute. Stamens 9, connate into a cylindrical column. Ovary superior, densely hairy, 1-loculed, with a single ovule; stigma sessile, bi-lobe. Fruit peach-shaped berry, yellow, 4 – 5 cm by 3 – 4 cm; pericarp thick, fleshy, splitting open into 2 halves when ripe, showing an ovoid dark brown and shiny seed which surrounded by a lacinate red aril attached to the base of the seed. Seed 1, 1.5 – 2 cm long.

Locality Ban Ta Se, Hat Samran Subdistrict, Trang Province.

Distribution SE.Asia.

Ecology Tropical rain forest mainly the lowlands. Flowering and fruiting throughout the year. Often cultivated in home garden for its fruits.

Uses The mature fruits are edible; they are usually pickled in salt water or sugar water, and also made into dessert, (B, M).

Material studied UBON 881


Myrsinaceae

Ardisia crenata Sims var. crenata

Vernacular Tapet takai (ตาเปิดตาไก่), Ma ta a yae (มาตาอาแย

Erect shrub, 1 – 2 m tall; branches slender, terete, glabrous, generally bearing few leaves close to the apices. Stipules absent. Leaves simple, spirally arranged; petioles 4 – 10 mm; blades thinly coriaceous, elliptic-lanceolate or oblanceolate, 6 – 12 by 2 – 4 cm, apex acute to acuminate, margins shallowly crenate with gland in each marginal sinus, base cuneate, glabrous on both surfaces; glandular dots many, scattered, black; nerves 12 – 18 pairs. Inflorescences sub-umbellate, terminal on flowering branches, 3-to12-flowered; peduncles very short; pedicels 0.5 – 1 cm. Flowers bisexual. Calyx connate at base, 5-lobed; lobes ovate, acute, 1.5 mm, pale green, punctuate, glabrous, persistent. Corolla more or less fleshy, pink with dark dots, deeply 5-lobed; lobes ovate acute, 4 – 6 mm. Stamens 5, adnate to the corolla-tube and opposite the lobes, shorter than the corolla; anthers triangular-lanceolate, dehiscing apical pores, punctuate on back. Ovary superior, ovoid, glabrous, punctuate, 1-loculed, ovule1 in each locule; style slender, 5 mm long; stigma small. Fruit a drupe, globose, shining bright red, tipped by the style-base, 6 – 8 mm diam.

Locality Found in every study sites.

Distribution India, Burma, through S.China, Vietnam to Japan and Philippines, and southwards to the Malay Peninsula.
Ecology  In evergreen forest, slightly shaded and humid places; altitude near sea level to 180 m. Flowering and fruiting throughout the year.

Uses  The young leaves are eaten raw as a vegetable, with the side benefit of getting rid of helminthes. The ripe fruits are eaten fresh, (B, M). The stems together with benzoin are rubbed against earthenware pot, then a mixture obtained is applied to the affected areas to treat a disease of the fingernails, (M).

Material studied  UBON 876, BKF 65608

Reference  Larsen & Hu, Fl. Thail. 6(2) : 135. 1996.

Ardisia elliptica Thunb.

Vernacular  Ram (ราม), Pue na (ปุณา)

Shrub, 2 – 3 m tall, glabrous throughout; branchlets terete, reddish-brown. Stipules absent. Leaves simple, alternate; petioles 1.2 – 2 cm long; blades fleshy coriaceous, obovate, 8 – 13 by 3 – 6 cm, apex bluntly acute, base cuneate, margins entire, glandular dots many; nerves 13 –18 pairs. Inflorescences corymbose raceme, in axils of normal leaves on the upper parts of branches, 3 – 4 cm long; peduncles 2 cm long; pedicels 7 mm long. Flowers bisexual, rose-pink, 9 mm long, 1.5 cm across. Calyx 3 mm, split to 2/3 of its length, 5-lobed; lobes orbicular, 2.5 mm wide, green, dotted with dark red glands, margins ciliate. Corolla deeply 5-lobed; lobes lanceolate, acuminate, 9 mm long and 3 mm wide, pink, with purple glandular lines. Stamens 5, inserted near the base of the corolla; anthers lanceolate, 5 mm long, punctate on back; filaments 1 mm long. Ovary superior, glabrous, 1-loculed, ovules many; style 9 mm long. Fruit a drupe, slightly depressed globose, at first red then black, pulpy, 6 mm diam. Seed 1.

Locality  Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

Distribution  India, Cambodia, Malay Peninsula, Indonesia, New Guinea.

Ecology  In beach forest behind mangrove, also in evergreen forest; altitude near sea level. Flowering May – July; fruiting September – October.

Uses  The young leaves are eaten raw as a vegetable. The ripe fruits are eaten fresh, (B, M).

Material studied  UBON 119, BKF 077331

Reference  Larsen & Hu, Fl. Thail. 6(2) : 128. 1996.
**Ardisia fulva** King & Gamble

Vernacular Phirang kasa (พิรังกาสา)

Shrub, 1–3 m tall; young branches terete, densely tawny-villose. **Stipules** absent. **Leaves** simple, alternate; petioles 1.0 – 1.5 cm, hairy; blades coriaceous, elliptic, 9 – 18 by 3 – 5 cm, apex acuminate, margins entire, base narrowed, glabrous above, tawny-villose beneath; glandular dots many, black; nerves 20 – 22 pairs. **Inflorescences** axillary, short raceme, villose; peduncle 3 cm long; pedicels 15 mm long. **Flowers** bisexual. **Calyx** deeply 5-lobed; lobes ovate, 2.0 by 1.5 mm, puberulous outside, dotted with black glands, distinctly ciliate. **Corolla** pink, glabrous, with scattered dark purple or black dots and lines, deeply 5-lobed; lobes obovate, 5 by 4 mm, blunt. **Stamens** 5; anthers lanceolate, sagittate, 2.5 – 3.0 mm long, apiculate, punctate on back; filaments short, 1 mm long. **Ovary** superior, ovoid, glabrous, with black dots, 1-loculed, ovules numerous; styles filiform, 3.5 – 5.0 mm long. **Fruit** a depressed globose drupe, 6 – 7 mm diam., dark purple. **Seed** 1.

**Locality** Ban Hua Yang, Rattaphum District, Songkhla Province.

**Distribution** Malaysia, Burma.

**Ecology** In evergreen forest, along streams; altitude 70 m. Flowering November – February; fruiting February – June.

**Uses** The ripe fruits are eaten fresh, (B, M).

**Material studied** UBON 871, BKF 42222

**Reference** Larsen & Hu, Fl. Thail. 6(2) : 119. 1996.

**Embelia coriacea** Wall. ex A. DC.

Vernacular Wua hai (วัวหาย)

Large climber, up to 20 m long, glabrous; old branches striate and verruculose, brown. **Stipules** absent. **Leaves** simple, alternate; petioles thick, 1 – 2 cm long; blades stiff coriaceous, oblong-elliptic, 15 – 25 by 4 – 10 cm, apex acute, margins entire, base rounded or slightly cordate, glabrous, glandular dots many; nerves very fine and numerous. **Inflorescences** a terminal pyramidal panicle, 20 – 30 cm long and broad; rachis thick, pubescent. **Flowers** small, numerous, white. **Calyx** deeply 5-lobed; lobes triangular, acute, dotted with few dark glands, pubescent outside. **Petals** 5, free, ovate, acute, 1 mm long, glabrous, dotted with dark gland within. **Stamens** 5, adnate to middle of the petals. **Ovary** superior, ovoid, glabrous, red punctate, 1-loculed, ovules 2; style very short; stigma capitate. **Fruit** a globose drupe, 2 mm diam., dark purple when ripe.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** Malaysia, Sumatra, Java, Borneo.
Ecology        Climbing on big trees in humid forest; altitude 100 m. Flowering and fruiting December – February.

Uses          The stem bark is steeped in water, then this water is used as an antidote fed to the cattle that suffer from feeding on pesticide contaminated grasses, (B).

Material studied UBON 129, BKF 116256

Reference     Larsen & Hu, Fl. Thail. 6(2): 156. 1996.

*Labisia pumila* (Blume) F.-Vill. & Naves

Vernacular    Ga chi ti mo (กาจิ่ตีเมาะ)

Herb, 20 – 30 cm tall, stem ascendent. Leaves simple, spirally arranged; petioles winged, 2 – 6 cm long; blades chartaceous, glabrous, elliptic to elliptic-lanceolate, 25 – 30 by 10 – 12 cm, apex acuminate, margins entire, base decurrent on the petiole; lower surface with scattered rusty scales especially on the raised midrib; nerves numerous, thin and widely patent. Inflorescences axillary raceme of small corymb, 3 – 4 cm long 1.5 – 2 cm wide; corymb bearing 4 – 6 flowers. Bracts subulate, 1 – 2 mm long. Flowers bisexual, subsessile. Calyx tubular, very short, deeply split, 5-lobed; lobes triangular, acute, pubescent outside. Corolla rotate, pink, 2 – 3 mm, 5-lobed; lobes ovate, acute, with glandular lines and small dots. Stamens 5; anthers sessile, shorter than the corolla. Ovary superior, globose, glabrous, 1-loculed, ovule 1; style slender, 1.5 mm long. Fruit a drupe, globose, 6 mm diam., ripening red, with vertical elongate glands. Seed 1.

Locality      Ban La Lo, Su–ngaipadee District, Narathiwat Province.

Distribution Cambodia, W.Malaysia, Java, Sumatra.

Ecology       In evergreen forest, on moist sites and along streams; altitude 100 m. Flowering October – November; fruiting November – February.

Uses          The rhizome are boiled in water, and then a decoction is given to a mother to drink as a tonic after giving birth. It is said to promote uterine involution, (M).

Material studied UBON 1249, BKF 108936

Reference     Larsen & Hu, Fl. Thail. 6(2): 151. 1996.
Myrtaceae

*Melaleuca cajuputi* Powell.

**Vernacular** Met (เหม็ด), Samet khao (เสม็ดขาว)

Tree or large shrub, up to 24 m tall; bark greyish-brown, fissured and papery, flaky in coarse elongate shaggy pieces. Branches slender, pendulous. **Stipules** absent **Leaves** simple, alternate or spirally arranged; petioles 0.5 – 1 cm long; blades coriaceous, lanceolate, often slightly curved, 5 – 10 by 1.5 – 3 cm, apex acute or acuminate, margins entire, base acute, with 5 – 7 longitudinal nerves, both surfaces more or less glabrous when mature, silky hairy when young. **Flowers** bisexual, white, sessile, in groups of three arranged in pseudo-spike, 7 – 15 cm long which ending in a vegetative bud growing into a new leafy branch. **Calyx** ovoid 2 mm, pubescent, 5-lobed; lobes minute. **Petals** 5, 1.5 – 2 mm long, triangular. **Stamens** numerous grouped into 5 fasciculate bundles, white; filaments slender, 10 mm long. **Ovary** inferior, 3-loculed; ovules many. **Fruit** a capsule, cylindric, 2 – 3 mm long and wide, crowned by persistent calyx.

**Locality** Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

**Distribution** Burma, Cambodia, Vietnam, Malesia, Australia.

**Ecology** In swampy ground near coast, margin of peat swamp forest; altitude 20 m. Flowering and fruiting throughout the year.

**Uses** Whole plant is used for the treatment of post partum, bodily discomfort; it is chopped, dried and then boiled in water. A decoction is drunk daily to relieve bodily discomfort, and used as a tonic for women after giving birth. It is said to accelerate the uterine involution, (B). The young leaves are boiled in water, and a decoction is drunk daily as a tonic to promote longevity, (B, M). The stem barks are used for roof, house walls, and also made into torches. Its wood burns well, so it is commonly used as firewood. The timber which is very durable in contact with wet ground and sea water so that it is used to make posts, piles, implements, etc, (B, M).

**Material studied** UBON 1150, BKF 71317

**Reference** Parnell & Chantaranothai, Fl. Thail. 7(4) : 801. 2002.

*Rhodomyrtus tomentosa* (Aiton) Hassk.

**Vernacular** Tho (โทะ), Kue mu ting (กือมูติง)

Shrub, up to 4 m tall, with opposite branches, tomentose. **Leaves** simple, opposite; petioles 3 – 8 mm, angled, tomentose; stipules absent. Blades thinly leathery, elliptic, 3 – 10 by 2 – 4.5 cm, apex blunt, margins entire, base cuneate, glabrous or sparsely pubescent above, densely short-hairy beneath, trinerved with an
intramarginal vein. **Flowers** axillary or terminal, usually solitary, or in dichasia (3-to-7-flowered cymes), 3 cm across, with a pair of bracts at the base of each flower. Peduncles 1 – 2 cm, densely tomentose, hispid. Pedicels 1 – 3 cm, tomentose. **Calyx** funnel-shaped, 6 – 7 mm, 5-lobed; lobes obtuse, subequal, 3 – 5 mm, densely tomentose, persistent. **Petals** 5, free, patent, elliptic-obovate, 1.5 – 2 by 0.9 – 1.2 cm, rose-pink turning white or pale pink, white-tomentose on outside. **Stamens** numerous, free; filaments pink, 10 mm long, anthers yellow. **Ovary** inferior, 3-loculed; ovules numerous; style slender, 1.5 cm long. **Fruit** berry, broadly ellipsoid, 1.2 by 0.9 cm, purple, densely tomentose, crowned with the persistent calyx. **Seeds** numerous, small, reniform, light brown.

**Locality** Ban Plak Chang, Tak Bai District, Narathiwat Province.

**Distribution** Burma, Laos, Cambodia, Vietnam, China, Malaysia, Sumatra, Java, Borneo, Molucca, Celebes, Philippines.

**Ecology** Common in open sandy ground on the seashore, also in secondary forest and by roadsides; altitude near sea level. Flowering and fruiting throughout the year.

**Uses** The ripe fruits are eaten fresh; they also act as a blood circulation tonic, (B, M). A decoction of the roots is taken to cure diarrhea, (B). The roots are also used to treat abscesses; in this case, they are rubbed against an earthenware pot, using water as a solvent, then a suspension obtained is applied onto the abscesses once a day until cured, (M). The leaves are used as an ingredient in the formula F34 given to a mother after giving birth for the involution of uterus, and to accelerate the lochial discharge; this treatment is taken once a day for 7 days, (M).

**Material studied** UBON 930

**Reference** Parnell & Chantaranothai, Fl. Thail. 7(4) : 809. 2002.

---

**Syzygium gratum** (Wight) S.N. Mitra

**Vernacular** Met chun (เหม็ดชุน)

Shrub or small tree, up to 20 m tall, glabrous; twigs terete; bark pale brown. **Stipules** absent. **Leaves** simple, opposite; petioles 5 – 10 mm; blades coriaceous, lanceolate, 4 – 10 by 2 – 4 cm, apex acute, margins entire, base acute; midrib impressed on the upper surface; nerves 8 – 10 pairs; intramarginal vein 1. **Inflorescences** panicle, both terminal and upper axillary, up to 12 cm long; rachis and and branches 4-angled; bracts ovate, 3 – 4 mm. **Flowers** numerous, bisexual, sessile, white, 1.5 cm long; hypanthial cup narrowly funnel-shaped, 6 mm; pseudostipe short. **Sepals** 5, semiorbicular, membranous, 1 – 1.5 mm; **petals** 5, orbicular membranous, 1.5 – 4 mm, with gland dots 20 – 25. **Stamens** numerous, free, white, 2 – 7 mm long. **Ovary** inferior, 2-loculed; ovules 7 – 16 in each locule; style white, 9 mm. **Fruit** a berry, globose, white, 7 mm diam. **Seed** 1, globose.
Syzygium polyanthum (Wight) Walp.

**Vernacular** Phae (ผ้า), Sa mo ( samo)

Tree, up to 30 m tall; twigs terete; bark smooth sometimes flaky, whitish-grey; glabrous. **Stipules** absent. **Leaves** simple, opposite; petioles 0.6 – 1.0 cm long; blades thinly coriaceous, elliptic, 7 – 14 by 3 – 6 cm, apex caudate acuminate, margins entire, base cuneate, glabrous on both surfaces; midrib impressed on the upper surface, faint above, distinct below; nerves 7 – 11 pairs. **Inflorescences** cymose panicle, axillary or from twigs below leaves, 4 – 5 cm long; rachis and branches slender, striate; bracts triangular, 0.7 by 0.4 mm. **Flowers** bisexual, white, 4 mm across. Hypanthial cup 2.0 – 2.5 mm, funnel-shaped. Pseudostipe 1.5 – 2.0 mm. **Sepals** 4, lobes ovate rounded, 1.5 mm. **Petals** 4, free, orbicular, 2 mm, with many gland dots. **Stamens** numerous, 2.0 – 2.5 mm long. **Ovary** inferior, 2-loculed; ovules many in each locule; style 1.5 – 2.0 mm, not exceeding the stamens. **Fruit** a berry, globose to depressed globose, 1 cm diam., ripening dark scarlet to purplish-black, with persistent calyx lobes. **Seeds** 1 – 2.

**Locality** Ban Po No, Su-ngaipadee District, Narathiwat Province.

**Distribution** Burma, Indo-China, Malaysia, Java.

**Ecology** Scattered in lowland and peat swamp forest, evergreen forest, paddy fields; altitude 20 m. Flowering March – June; fruiting April – August.

**Uses** The young leaves are eaten raw as a vegetable; the ripe fruits are eaten fresh, (B, M). The young leaves as vegetable in the daily diet have been observed to promote contraction of the vagina. It is also considered as an aphrodisiac, (M). The leaves are also used as traditional medicines for the treatment of hemorrhage, leucorrhoea, skin diseases, and insect bites. A handful of the leaves is cut at the tip and the base, and then crushed and squeezed. A juice obtained is taken to treat...
hemorrhage, and also for the treatment of leucorrhoea. For
the treatment of skin diseases, the crushed leaves are steeped
in water, and then this water is used as a bath daily. A juice
from the crushed leaves of this plant species and *Psidium
guajava* L. is used to treat insect bites by applying it over
the bites. (M). The roots are used as an ingredient of the
formula F16 taken to treat diarrhea, (B). The stem bark together
with fruits of *Mimusops elengi* L. are boiled in water, and
then this water is used as a dye for fish-net, (B).

Material studied UBON 100, BKF 54142

Reference Parnell & Chantaranothai, Fl. Thail. 7(4) : 887. 2002.

*Syzygium cf. skiophilum* (Duthie) Airy Shaw

Vernacular Ta khrai ton (ตะไคร้ต์), Samo sue ka (สะموซือกา)

Tree, 3 – 5 m tall; twigs terete, glabrous; bark brown, smooth. **Stipules**
absent. **Leaves** simple, opposite; petioles 3 – 10 mm long; blades thinly coriaceous,
elliptic or obovate, 4 – 15 by 2 – 7 cm, apex caudate acuminate, margins entire,
base cuneate, shining green above, paler beneath, glabrous on both surfaces; midrib
impressed on the upper surface, and prominent beneath; nerves very fine and close,
numerous, inconspicuous; intramarginal vein 1. **Inflorescences** cymose, terminal
and axillary, few-flowered, 8–10 mm long; peduncles very short; bracts and
bracteoles triangular, minute, 0.3 – 0.5 by 0.5 mm. **Flowers** creamy white, with
pedicels 1.5 mm long. Hypanthial cup 3.5 mm long, and 2 mm diam.; funnel-shaped.
Pseudostipe absent. **Sepals** 4-lobed; lobes dentate, minute. **Petals** 4, free,
suborbicular, 1 by 1 mm, about 10 gland dots per petal. **Stamens** 6 – 7, arrange in 1
row, 0.5 – 0.7 mm long; anthers ovate, dorsifixed, minute. **Ovary** inferior, 2-loculed;
ovules many. Style 1.5 mm, exceeding the stamens. **Fruit** a berry, oblong or
subglobose, ripening bright red, smooth, glabrous, 1 by 0.8 cm. **Seed** 1,
subglobose.

Locality Ban La Lo, Su-ngaipadee District, Narathiwat Province.

Ecology In slopes of hills in evergreen rain forest; altitude 90 m. Flowering
and fruiting throughout the year.

Uses The young leaves are regionally eaten raw as a vegetable. The
ripe fruits are also edible. A decoction of the roots is taken daily,
it has been observed to reduce high blood pressure, (M).

Material studied UBON 92, BKF 57997

Reference Parrnel & Chantaranothai, Fl. Thail. 7(4) : 899. 2002.
**Syzygium zeylanicum** (L.) DC.

Vernacular  Hua ngok (หัวหงอก)

Tree, 10 – 15 m tall, with pale brown flaky bark; branches slender, young twigs slightly angled. **Stipules** absent. **Leaves** simple, opposite; petioles 2 mm long; blades leathery, elliptic or lanceolate, 3 – 6 by 1 – 3 cm, apex long acuminate, margins entire, base broadly cuneate, glabrous on both surfaces, glossy above; midrib impressed on the upper surface; nerves 10 – 14 pairs; intramarginal vein 1. **Inflorescences** cyme, up to 3 cm long, several together, both terminal and upper axillary. **Flowers** bisexual, numerous, rather dense, white, sessile. Hypanthial cup narrowly funnel-shaped, 5 mm long. **Sepals** 4 – 5, triangular, 0.5 mm. **Petals** 5, orbicular, membranous, 1.5 – 2 mm, caducous. **Stamens** numerous; filaments slender, 6 – 9 mm long. **Ovary** inferior, 2-loculed; ovules many; style and stigma 6–7 mm long. **Fruit** berry, globose, 7 mm diam., shiny white. **Seed** 1, globose.

**Locality** Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

**Distribution** India, Sri Lanka, Burma, Laos, Cambodia, Vietnam, China, Malesia.

**Ecology** In peat swamp forest, evergreen forest; altitude near sea level. **Flowering** April – June; **fruiting** July – August

**Uses** The young leaves are eaten raw as a vegetable; the ripe fruits are eaten fresh, (M).

**Material studied** UBON 750, BKF 36783

**Reference** Parnell & Chantaranothai, Fl. Thail. 7(4) : 908. 2002.

**Nepenthaceae**

*Nepenthes gracilis* Korth.

Vernacular  Mo kaeng ling (หม้อแก่งลิง)

Terrestrial climber, 2 m long; climbing stems triangular. **Stipules** absent. **Leaves** simple, sessile, spirally arranged; blades chartaceous, glabrous on both surfaces, narrowly lanceolate, 8 – 15 by 2 – 3 cm, apex acute, margins finely serrate, base decurrent; longitudinal nerves 4 – 6 from the base on each side of midrib; midrib extended into tendril, the distal part expanded into pitcher containing digestive fluid. **Pitchers** up to 12 cm long and 3 cm wide, with two fringed wings; basal half ellipsoid, gradually and slightly constricted in the middle; upper half sub-cylindrical; green, tinged reddish; mouth subovate; peristome cylindrical in section; lids orbicular, flat, 1 – 3 cm diam., with scattered glands.

**Locality** Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

**Distribution** Sumatra, Malay Peninsula, Singapore, Borneo, Sulawesi.
Ecology

In lowland peat-swamp forest, waste places near the sea, often in poor soil; altitude near sea level.

Uses

Fluid in the pitchers is used externally to treat urticaria, (M). Pitchers are commonly used as containers for a special kind of local dessert made from sticky rice; the pitchers give special fragrance to the sticky rice, and they can be eaten as well as the sticky rice in after steamed, (B, M).

Material studied  UBON 1153 , BKF 088503


Olacaceae

Erythropalum scandens Blume

Vernacular

Figure 45 E

Slender scandent shrub, glabrous; with axillary shortly bifid tendrils. Stipules absent. Leaves simple, distichous; petioles 3 – 6 cm long, thickened and wrinkled on both ends; blades triangularly ovate, slightly peltate, chartaceous, 15 – 20 by 5 – 9 cm, apex acuminate, acute, margins entire, base broadly truncate, deep green above, glaucous beneath; basal nerves 1 pair, widely divergent and ascendent, 3 – 6 upper pairs spreading, prominent beneath. Inflorescences axillary, repeatedly dichothomous and many-flowered cymes, lax, slender, up to 15 cm long; pedicels slender; bracts minute. Male flowers small, greenish-yellow. Calyx campanulate, 5-toothed; teeth distant, minute. Petals 5, free, pale greenish-yellow, ovate-triangular, acute, 2 mm, with a tuft of short white hairs inside at the base. Stamens 5, inserted at the base of the petals; filaments much shorter than the petals. Disk 5-lobed, fleshy, bright yellow, 2 mm diam., elevated in the center to form the short conical style. Ovary rudimentary present.

Locality  Ban Ton Panun , Khuan Kalong District , Satun Province.

Distribution  India, Burma, the Andaman Islands, Indo-China, SW.China, Malay Peninsula, Sumatra, Borneo, Java, Philippines.

Ecology  Scattered in primary and secondary rain forest; altitude 180 m.

Flowering February – March.

Uses  The young leaves are cooked as a vegetable, (B, M). A decoction of the whole plant is taken to allay convulsions, (M).

Material studied  UBON 1346 , BKF 089123

**Olax scandens** Roxb.

Vernacular Jok thok (จอกทอก)

Scandent shrub, 2 – 20 m long, old branches with slightly curved thorns; branchlets often horizontally spreading, young parts pubescent. **Stipules** absent. **Leaves** simple, distichous; petioles 0.5 – 1 cm long; blades thinly coriaceous, ovate-elliptic, 2 – 9 by 1 – 3 cm, apex obtuse, base slightly unequal, obtuse, glabrous on both surfaces; nerves 5–8 pairs, inconspicuous. **Inflorescences** axillary raceme, 1 – 3 per axil, simple or branched, obliqued ascending 3 cm long; peduncles and pedicels short; rachis pubescent; bracteoles minute, caducous. **Flowers** bisexual, 8 mm long, 8 – 9 mm across. **Calyx** cup-shaped, mm high, truncate dentate, after anthesis enlarged. **Petals** 3, white, 2 of them 2-partite, linear-oblong, apex acute and incurved, 12 by 1 – 2 mm. **Stamens** 8, 3 of them fertile, and 5 staminodial; anthers oblong, 1.5 mm long. **Ovary** superior, ovoid, glabrous, imperfectly 3-loculed, ovule 1 in each locule; style long; stigma obscurely 3-lobed. **Fruit** a drupe, broadly ovoid, light orange-coloured, apiculate, covered for the lower 2/3 by the enlarged firmly membranous calyx, 1.5 by 1 cm. **Seed** 1, subglobose, 9 by 6.5 mm.

**Locality** Ban Plak Plue, Mae Lan District, Pattani Province.

**Distribution** Sri Lanka, India, Burma, Indo-China, Malay Peninsula, Java.

**Ecology** Mostly in scrub, hedge of forest, often close to the sea; altitude 20 m. Flowering and fruiting throughout the year.

**Uses** The young leaves are cooked as a vegetable. The leaves are also used for the treatment of abscesses, itching; the crushed young leaves are mixed with a small amount of lime juice, and then applied as a poultice onto the affected areas, (B). In addition, the leaves or fruits are crushed, mixed with coconut oil, then the oil is applied externally to treat itching, (M).

**Material studied** UBON 869, BKF 086160


**Scorodocarpus borneensis** Becc.

Vernacular Ku lim (กุหลิม)

Tree, 10 – 40 m tall, glabrous, reeking of garlic from the cut or bruised parts. **Stipules** absent. **Leaves** simple, spirally arranged; petioles 1.5 – 2 cm long, swollen distally; blades coriaceous, elliptic, 7 – 15 by 4 – 7 cm, apex abruptly acuminate for 1–2 cm, base cuneate to rounded, glabrous, shining deep green above, paler beneath; nerves 5 – 6 pairs, distant, curving upward towards margin, prominent below. **Inflorescences** raceme; raceme solitary or 2–3 in a group, 5 – 7 mm long, arising
from the leaf axils. **Flowers** bisexual, 1–1.5 cm long, 1 cm across; pedicels 5 mm long. **Calyx** small, cupular, shortly 5-toothed. **Petals** 5, white, narrowly oblong, 8 – 10 by 2 mm, coherent by their edges until full anthesis, finally reflexed, hairy within. **Stamens** 8, in pairs on petal base; **anthers** yellow, 2 – 3 mm long. **Ovary** superior, ovoid, glabrous, 2 by 1.5 mm, 3-loculed; ovule 1 in each locule; style slender, 6 mm long, with 3-lobed stigma. **Fruit** drupe, subglobose, 3 – 4 cm diam., glabrous with numerous vertical stripes in the dry state. **Seed** 1, subglobose.

**Locality** Su-ngaipadee District, Narathiwat Province.

**Distribution** Malay Peninsula, Sumatra, Borneo.

**Ecology** In primary and secondary lowland forest; altitude 40 m. **Flowering** March – April; **fruiting** July – August.

**Uses** The young leaves are eaten raw as a vegetable, (M). The stem bark and seeds have a strong smell which is similar to that of garlic; local people sometimes use them as condiment in dishes as a substitute for garlic, (M).

**Material studied** UBON 988, BKF 18191


---

**Strombosia javanica** Blume

**Vernacular** Man mu (มันหมู), Kae mo (แก้มอ)

Tree, 10 – 25 m tall, crown dense; branches slender. **Stipules** absent. **Leaves** simple, distichous; petioles 2 cm long, slightly swollen distally; blades subcoriaceous, glabrous, shiny dark green above, ovate-oblong, 12 – 18 by 4 – 8 cm, apex acuminate, base broadly rounded, margins entire; nerves 6 – 7 pairs, flat above, raised beneath. **Inflorescence** axillary, cyme, with 3 – 7 flowers; peduncle 7 mm long, puberulous; bracts caducous. **Flowers** bisexual, greenish-white, 5–6 mm long, pedicels short. **Calyx** cup-shaped, 5-toothed, tube rather inconspicuous, 3 mm diam. **Petals** 5, ovate-lanceolate, 7.0 by 2.5 mm, reflexed at apex, hairy inside, glabrous outside. **Stamens** 5, filaments flat, adnate to the petals except for their uppermost part. Disk yellow, 5-lobed. **Ovary** superior, almost entirely covered by the fleshy disk, 2.5 mm long, 5-loculed; ovule 1 per locule. **Style** thick-columnar, 2.5 mm long; stigma subglobose. **Fruit** not found.

**Locality** Ban Khao Khram, Srinakarin Subdistrict, Phattalung Province.

**Distribution** Malay Peninsula, Sumatra, Java, Borneo.

**Ecology** Scattered in evergreen rain forest; altitude 80 – 100 m. **Flowering** March – April.

**Uses** The young leaves are eaten raw as a vegetable, (B).
Material studied UBON 84


**Oleandraceae**

*Oleandra pistillaris* (Sw.) C.Chr.

**Vernacular** Phaya nakkharat (พญานาคราช)

Terrestrial fern, 1 – 1.5 m tall; stem erect, stiff, 7 – 10 mm diam., branched; branches bearing fronds in groups of 4 – 15 close together; the groups separated remotely; stem and branches densely covered with scales; scales appressed, imbricate, base peltate 1 mm wide, dark brown; the edges paler; apical part long narrowly acuminate, ciliate when young, 5 mm long. **Stipes** 4 – 5 mm long, on phyllopodia 2 – 5 mm long, scaly. **Fronds** simple, chartaceous, oblanceolate, 25 – 30 by 3 – 4 cm, apex acuminate, margins entire or slightly undulate, base narrow, finely hairy on both surfaces, deep green; veins close, straight, at a very broad angle to the midrib, simple or forked near midrib, all free. **Sori** arranged in one row on each side of the midrib and close to it; indusia reniform.

**Locality** Ban Ton Sai, Srinakharin Subdistrict, Phattalung Province.

**Distribution** Pantropic.

**Ecology** Common on the moutains, in tropical rain forest; cultivated for the uses based on the belief of local people.

**Uses** The stem is cut into small pieces, and then a piece of them is strung on a chain, worn round the wrist. Local people have believed that this species possess magical powers; it is believed to ward off dangerous animals, (B).

Material studied UBON 1273, BKF 46075

Reference Tagawa & Iwatsuki, Fl. Thail. 3(2) : 182. 1985.

**Ophioglossaceae**

*Helminthostachys zeylanica* (L.) Hook.

**Vernacular** Tin nok yung (ตีนนกยูง), Tunjuk langet (ตุนยุลางิ)

Small, terrestrial fern, 30 – 40 cm tall; rhizome fleshy, creeping, bearing numerous fleshy root and 1 – 2 fronds. **Stipes** erect, fleshy, green, 20 – 30 cm long. **Fronds** consisting of a tripartite lamina and an erect fertile spike or sporophyll; all these four parts separating at the apex of the stipe. Lamina 20 by 30 cm, each
partite usually consisting of a terminal leaflet and one or two pairs of sessile lateral ones below it. Leaflets softly herbaceous, oblong to oblong-lanceolate, 10 – 20 by 2 – 4 cm, apex acute, margins entire to slightly and irregularly toothed, base cuneate to decurrent, glabrous on both surfaces; nerves numerous, fine, forked once or twice, free. Spike 1 on each plant, with stalk 7 – 12 cm long, cylindrical, narrow to the tip, pale yellow when mature, 10 – 15 by 0.7 – 1 cm; bearing crowded short lateral branches, each with rounded sessile sporangia.

Locality Ban Po No, Su-ngaipadee District, Narathiwat Province.

Distribution Sri Lanka, India, Malaysia, New Caledonia, Queensland.

Ecology In slightly shaded places in the lowland, in rubber plantations; altitude 20 m.

Uses The young shoots are eaten blanched as a side dish with rice, sometimes cooked in Thai-style vegetable soup with the side benefit of relieving bodily discomfort, (B, M). A decoction of this plant species and Elephantopus scaber L. is drunk daily for the treatment of impotency, (M). The leaf stalk is used to treat aphthous ulcer in children; it is slightly heated on fire until they become soft, and then squeezed. A squeezed juice is applied onto the affected areas, (B).

Material studied UBON 234, BKF 69257

Reference Tagawa & Iwatsuki, Fl. Thail. 3(1) : 38. 1979.

Opiliaceae

Champereia manillana (Blume) Merr. Figure 32 E

Vernacular Phak pa (ผักป่า), Do dae (โดเด่)

Shrub, 4 m tall, glabrous, polygamous. Stipules absent. Leaves simple, alternate; petioles 3 – 5 mm long; blades thinly coriaceous, lanceolate; 6 – 11 by 2.5 – 4 cm, apex acuminate, margins entire, base cuneate, glabrous on both surfaces; nerves 5 – 7 pairs. Inflorescences panicle, axillary, often also on older branches; the panicles solitary or in groups of 2 – 4; rachis 10 – 20 cm long; bracts minute. Flowers bisexual and female, solitary or fascicled along the branches of inflorescence. Bisexual flowers yellowish-green; pedicels 4 mm long. Sepals 5, oblong, reflexed, 1 – 1.5 mm long, 0.8 mm wide. Stamens 5, filaments as long as the tepals. Disk annular, crenulate. Ovary small, conical, half immersed in the disk. Female flowers green, smaller than the bisexual ones; pedicels 0.5 mm long, thick. Sepals 5, deltoid, 0.5 mm long. Stamens rudimentary. Disk lobed. Ovary superior, cylindric to ovoid, glabrous, 1 mm long, 1-loculed; ovule 1. Fruit a drupe, ellipsoid, 8 – 16 mm long, 5 – 10 mm across, glabrous, ripening yellowish-orange. Seed 1.

Locality Ban Yai, Su-ngaipadee District, Narathiwat Province.
Distribution  
Burma, Andamans, Malesia, Philippines, Taiwan.

Ecology  
In evergreen forest; altitude 20 m. Flowering December – March; fruiting January – April.

Uses  
The young leaves are eaten raw or cooked as a vegetable, (B). The leaves together with a small amount of turmeric rhizome and rice grains are pounded, then a poultice is applied externally as a scabicide. (M).

Material studied  
UBON 80, BKF 57477

Reference  

*Lepionurus sylvestris* Blume  
Figure 58 A

Vernacular  
Mak mok (หมากหมก)

Shrub, usually less than 1 m tall; entire plant glabrous. *Stipules* absent. *Leaves* simple, distichous; petioles 3 – 5 mm long; blades fleshy, thinly coriaceous, ovate, lanceolate, elliptic, 10 – 16 by 3 – 6 cm, apex acuminate, base cuneate, margins entire; nerves 7 – 9 pairs. *Inflorescences* axillary raceme, 2 – 4 cm long. Bracts broadly ovate, pale green; margin hyaline, shortly ciliate; densely imbricate, caducous before anthesis. *Flowers* bisexual, small 2 – 4 mm across, flowers 3 in axil of a bract; pedicels 1 – 2 mm. *Perianth* yellow, urceolate, tube 0.5 mm long, resting on the cupular hypanthium, deeply 4-lobed; lobes ovate, patent. *Stamens* 4, opposite to the perianth-lobes; filaments as long as the tube, flattened; anther-cells 2 , introse. *Ovary* superior, ovoid, 1-loculed, ovule 1 per locule; stigma shallowly 4-lobed, subsessile. *Fruit* a drupe, ellipsoid, orange-red, juicy. *Seed* 1.

Locality  
Found in every study sites.

Distribution  
Nepal, Burma, S.China, Vietnam, Malay Peninsula, Sumatra, Java, Borneo.

Ecology  
In evergreen forest, shady localities, humid places; altitude near sea level to 70 m. Flowering and fruiting throughout the year.

Uses  
The young leaves are eaten raw or cooked as a vegetable, (B, M). The roots are used as an ingredient of the formula F7 used as a tonic and also for the treatment of impotency, (M). They are also used as an ingredient in the formula F20 for the treatment of fever, (B). The roots and stems and those of *Smilax perfoliata* Lour. are chopped, dried, and macerated in local whisky. Then a tincture is drunk to treat lumbago, (B).

Material studied  
UBON 936, BKF 089104

Reference  
Hiepko, Fl. Thail. 5(1) : 100. 1987.
Orchidaceae

*Corymborchis* cf. *veratrifolia* Blume

**Vernacular** Tuga ali (ตูกะอาลี)

Erect, large terrestrial orchid, 1.5 – 2 m tall, with short rhizome; leafy stem, hard, slightly spirally twisted. **Leaves** simple, alternate; petioles short; sheath 7 – 8 by 1.5 – 2.5 cm, enclosed the stem; blades thinly coriaceous, elliptic, lengthwise plaited, 30 – 45 by 7 – 10 cm, apex acuminated, base cuneate; main nerves 12 – 13, parallel from the base to the tip of the leaves. Inflorescence terminal panicle, erect, short, widely branched. Flower and fruit not found.

**Locality** Ban La Lo, Su-ngaipadee District, Narathiwat Province.

**Distribution** Malaysia, Singapore.

**Ecology** In evergreen forest, shady localities; altitude 90 m.

**Uses** A decoction of the roots is drunk as a tonic, (M).

**Material studied** UBON 287, BKF 136353


*Cymbidium atropurpureum* (Lindl.) Rolfe.

**Vernacular** Ka re ka ron (กะเรกะรอน), Ba kong (บางกอน)

Epiphytic orchid, usually forming a dense large mass; pseudo-bulbs short, erect, hidden by leaf sheaths. **Leaves** simple, alternate; blades stiff coriaceous, oblong-linear, 30 – 70 by 3 – 3.5 cm, apex round, unequal notched. **Inflorescences** raceme, pendulous, 60 – 65 cm long, many-flowered, lax; pedicels 3 – 3.5 cm long, slender. **Flowers** 3.5 – 4 cm across. Sepals and petals subequal, oblong-lanceolate, 2.8 – 3 by 0.7 – 0.9 cm, brownish-yellow flushed purple at the base and the median. Lip 3-lobed; the side-lobes small, triangular, acute 6 mm long, purple; midlobe obovate, down-curved at the tip, with 2 longitudinal ridges on the center part of the lip, white with a yellow patch near the distal part of the ridges and a purple patch at the tip and other parts, 2.5 cm long. **Column** stout, purple, 1.6 cm long. **Pollinia** 2. **Ovary** inferior, 1-loculed; ovule numerous. **Fruit** a capsule, ellipsoid, 5 by 2.5 cm.

**Locality** Ban To Wo, Su-ngaikolok District, Narathiwat Province.

**Distribution** Burma, Sumatra, Philippines.

**Ecology** In lowland forest near sea coast, peat swamp forest; altitude near sea level. Flowering June – August; fruiting January – April.
Uses

The pseudo bulbs are heated, pounded, into which coconut oil is added. The solution obtained is applied externally to cure pimples on the children’s heads. The leaves are used to treat; they are warmed on a fire, and then squeezed. The juice obtained is dropped to the aching ears. The immature green fruits are also used to treat earache; in this case, the fruit and benzoin are rubbed against an earthenware pot. The juice obtained is dropped to the aching ears, (M).

Material studied: BK 26114


**Dendrobium crumenatum Sw.**

Vernacular: Nok krayang (นกกระยาง), Tanga tue ri (ตางาตือรี)

Epiphytic orchid, stem at the base swollen into fusiform pseudo-bulb about 8–10 cm long and 2 cm wide. Stem often branched, 100 – 120 cm long, plurifoliate, upper part of stem leafless. **Leaves** simple, sessile, alternate; blades stiff coriaceous, glabrous, elliptic, 5 – 9 by 1.8 – 2.7 cm, apex blunt retuse, margins entire, base obtuse. **Inflorescences** raceme, few-flowered; pedicels 1.8 cm long. **Flowers** white fragrant, ephemeral, 4.5 cm across, singly from tuft of dry bracts on terminal nude part of the stem. Upper sepal 2.5 cm long, lanceolate obtuse; lateral ones forming a mentum 3 cm long, curved. Petals wider and shorter, elliptic. Lip 3-lobed; side-lobes round; mid-lobe ovate with yellow papillose patch, and 5 longitudinal ridges at the lower half on the inner side of the mid-lobe. **Column** short, broad with short arms. **Pollinia** 4. **Ovary** inferior, 1-loculed; ovules numerous. **Fruit** a capsule, elliptic, 2.5 – 3 cm long, 1.5 cm wide.

Locality: Ban To Wo, Su-ngaikolok District, Narathiwat Province.

Distribution: Burma, S.China, Malay Islands.

Ecology: Common on trees in the lowlands in open places, secondary forest; altitude near sea level. Flowering and fruiting throughout the year.

Uses: The pseudo bulbs are used for the treatment of earache, centipede bites, (M); the pseudo bulbs and benzoin are rubbed against an earthenware pot, then a juice obtained is dropped into the aching ears. For the treatment of centipede bites, a pseudo bulb together with a shallot bulb and a little amount of benzoin are pounded, into which a little amount of lime juice is added. Then this mixture is used as a poultice applied to the bites.

Material studied: UBON 1225, BK 26658

**Grammatophyllum speciosum** Blume

**Vernacular** Wan phet cha hueng (วานแพงหึง), Wan hang chang (วานหางช่าง)

Robust, epiphytic orchid, pseudo-bulbs none; stem thick, terete, up to 3 m tall, 3 – 4 cm diam., with many leaves, green turning pale yellow. **Leaves** simple, distichous, linear, 30 – 40 by 2.5 – 3 cm, apex acute, sub-coriaceous. **Inflorescences** raceme, arising from the base of the stem, erect-drooping up to 2 m long, many-flowered; pedicels 8 cm long, slender. **Flowers** large, 6 – 8 cm across. Sepals and petals subequal, oval-oblong, undulate, apex blunt, light greenish-yellow, with reddish-brown spots; sepals 4 by 2 cm; petals slightly shorter and broader. Lip 3 cm long; side-lobes sub-acute, yellow, brown striped; mid-lobe much shorter, oblong, pubescent, reddish-brown, with 3 longitudinal ridges at the median part of the lip. Column 2 cm long, curved. **Pollinia 2. Ovary** inferior, 1-loculed; ovules numerous. **Fruit** a capsule, oblong-pyriform, 10 by 4 cm. **Seeds** numerous.

**Locality** Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution** Borneo, Java, Solomon Islands.

**Ecology** In lowland evergreen forest, often cultivated as ornamental; altitude 100 m. Flowering in September; fruiting in January.

**Uses**

The peduncle and rachis are sliced and macerated in spirit for 7 – 10 days. Then alcoholic macerate is taken as a tonic, (B). The Stems are used as an ingredient in the formula F8 taken as a tonic and a remedy to treat lumbago, (B). A decoction of the stems together with the whole plant of *Eurycoma longifolia* Jack is also taken as a tonic, (M). It is the largest orchid, and usually planted as an ornamental, (B, M).

**Material studied** UBON 1390, BKF 120074

**Reference**


---

**Palmae**

**Arenga pinnata** (Wurmb.) Merr.

**Vernacular** Chok (ชก)

Monoecious tree palms, 20 m tall, unarmed; monocarpic. Stem solitary, 10 – 20 m tall, 30–65 cm diam., covered by bases of broken-off leaves to ground or nearly so; crown dense, with 20 – 30 erect to spreading leaves. **Leaves** imparipinnate, 6 – 12 m long; petioles 1.5 – 2 m long, stout, with sheath at base; sheath 0.5 – 1 m long. Leaflets about 150 on each side of rachis, clustered in groups of 2 or 3 and arising from the rachis in more than one planes; blades linear, 140 – 180 by 8 – 11 cm, with auricles at base, toothed at apex, glabrous and shining dark green above, scabrous and
glaucous white beneath. **Inflorescence** unisexual, simply branched, in axil of old or fallen leaf, 100 – 200 cm long, pendulous; peduncle stout, 60 – 90 cm long; spathes 4 – 5, coriaceous; rachis 1 – 1.5 m long; rachillae spiciform, 1 – 1.5 m long; spikes bearing many flowers. The highest on the stem entirely or partly female; the lower ones male. **Male flowers** with 3 sepals; sepals orbicular-ovate, imbricate, 4 mm long, 9 mm wide, coriaceous. Petals 3, ovate-oblong, valvate, 10 mm long, 4 mm wide. Stamens numerous, 6 – 7 mm long, linear. Pistillode absent. **Female flowers** globose. Sepals 3, broadly ovate, imbricate, 10 mm long, coriaceous. Petals 3, ovate-cordate, 20 mm long, coriaceous, valvate. Staminode absent. Ovary superior, globose, 3-loculed; ovule 1 per locule. **Fruit** a drupe, oblong or subglobose, 5 cm long, ripening yellow. **Seeds** 2–3, narrowly ovoid-trigonous, flattened, 2 – 3 cm long, 2 cm wide.

**Locality** Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution** India through SE. Asia to Indonesia.

**Ecology** In evergreen forest, shaded places, hill side; altitude 100 – 300 m. Flowering and fruiting throughout the year.

**Uses** The apical bud are cooked in various ways as a vegetable. The cut young inflorescences yield palm syrup which can be made into sugar. The seeds are edible, can be eaten raw or boiled in light syrup, (B, M).


**Calamus palustris** Griff.

**Vernacular** Wai khring (หวายขริง)

Clustered, climbing palm, to 20 m long, spiny. **Leaves** simple pinnate, spirally arranged, ending in a clawed cirrus; sheaths tubular, spiny; spines 1 – 3 cm long; petioles 10 – 30 cm long; rachis 2 – 3 m long, spiny. Leaflets up to 20, mostly in group of 2, irregularly arranged on each side of the rachis; blades coriaceous, sessile, linear-elliptic, 20 – 30 by 5 – 6 cm, apex bristly, margins scabrid, base acute; main nerves 5 – 7. **Inflorescences** compound spikes, unisexual. Female inflorescence 50–130 cm long, stiff; lateral branches 3 – 5 cm long, bearing numerous spiklets; flowers small, distichous. Female ones accompanied by sterile male flowers. **Calyx** tubular, coriaceous, 3-toothed; teeth minute acute. **Petals** 6, lanceolate acute, stiff; staminodes present; pistillode present in sterile male ones. **Ovary** superior, stiff, scaly, 3-loculed; ovules 1 in each locale. **Fruit** a drupe, subglobose, scaly, light brown.

**Locality** Ban Don Sai, Pa Pha Yom District, Phattalung Province.

**Distribution** Burma to S.China, Laos, Cambodia, Vietnam, Malay Peninsula and the Andaman Islands.

**Ecology** In moist, seasonary wet or wet forest; altitude 70 m. Flowering and fruiting throughout the year.
**Uses**  
The ripe fruits are eaten fresh, (B, M). The climbing stems are used for wickerwork to make household items or furniture, (B, M).

**Material studied**  
UBON 273, BKF 118013

**Reference**  

**Caryota mitis** Lour.  
**Vernacular**  
Tao rang (เต่ารง)

Clustered, feather palm, 5 – 10 m tall, unarmed. Monoecious. Stem often with leaves to the ground. Sheaths 50 – 150 cm long, deeply split, margins with reddish-brown to black fiber. **Leaves** bipinnate, 1.5 – 3 m long, 1 – 2 m wide; petioles 50 – 150 cm long; pinnae 7 – 20 on each side of rachis, 50 – 120 cm; leaflets 7 – 15 on each side of pinna rachis; blades thinly coriaceous, glabrous, obliquely rhomboid, 7–20 by 3 –15 cm, apex jaggedly toothed, base acute, often unequal. **Inflorescence** terminal, then in leaf axils and gradually downwards, panicle, 50 cm long, composing of many spikes; spikes 20 or more, pendulous, densely arranged. **Flowers** small, unisexual, solitary or 3 together (one female between two males). **Male flowers** subglobose; sepals 3, roundish, ciliate, 4 by 3 mm, green; petals 3, ovate, 4.5 by 3 mm, pale violet; stamens numerous; anthers linear, sessile, 2–3 mm long; pistillode none. **Female flowers** smaller than the male ones; sepals and petals little different in shape and size; staminodes 3; ovary superior, 3-loculed; ovule 1 in each locule. **Fruit** subglobose, red to dark purple, 1 – 1.5 cm diam. **Seed** 1.

**Locality**  
Ban Khao Khram, Srinakarin Subdistrict, Phattalung Province

**Distribution**  
Andaman and Nicobar Islands through S.China, SE. Asia, Malay Peninsula, Borneo, Java, Sumatra, Celebes.

**Ecology**  
In varieties of habitats; including lowland, peat swamp area, disturbed and secondary forest; altitude from sea level to 110 m. Flowering and fruiting throughout the year.

**Uses**  
The heart of young shoots are cooked in various ways as a vegetable, (B, M).

**Reference**  

**Eleiodoxa conferta** (Griff.) Burret.  
**Vernacular**  
Lum phi (ลงพี), Ka lu bi (กาลูบี)

Dioecious, acaulescent, caespitose palms, 8 m tall, fiercely armed, monocarpic. **Leaves** imparipinnate, 4 – 8 m long. Sheath 60 – 80 cm long, armed with neat reflexing partial whorls of needle-like spines 3 – 4 cm long; spines white, black-tipped. Petioles 3 m long, armed as the sheath. Rachis to 4 m long, armed as
the sheath. Leaflets numerous, arranged in one plane on each side of the rachis, alternate or subopposite; blades induplicate, linear acute, 40 – 60 by 5 – 7 cm, margins armed with short spines; more or less spinulous in the costae above, smooth below. Inflorescences crowded into a head, born among leaf bases at ground level, 30 – 50 cm wide; peduncle short, stout. Male and female inflorescence rather similar. Rachis thick, 25 – 35 cm long, branching to 1 order; rachillae numerous, cylindrical catkin-like, 10 – 15 cm long, 1.5 cm diam., each subtended by persistent spathe; spathe boat-shaped, 6 – 10 cm long. Flowers of both sexes similar, small, 4 – 5 mm long, 2 – 3 mm across. Male flowers in pairs, embedded among hairy bracteoles; calyx tubular, 4 mm long, shallowly 3-lobed, yellowish-white; petals 3, free, triangular, acute, 4 mm long, 1.5 – 2 mm wide, yellowish-white with pink-dotted; stamens 6, free, 2 mm long; pistillode present. Female flowers larger; calyx tubular, 4 mm long, deeply 3-lobed, yellowish-white; petals 3, free, triangular, acute, 4 – 5 mm long, 2 – 3 mm wide, yellowish-white, pink-dotted; staminodes 6; ovary superior, broadly ovate, 4 by 3 mm, scaly, deep pink at distal end, 3-loculed; ovule 1 in each locule; stigmas 3, linear, 3.5 cm long, deep pink. Fruit a drupe irregularly rounded or depressed obovoid, 3 – 4 cm diam. Covered by imbricate, cartilaginous scales; reddish-brown to brown, 1-seeded. Seeds subglobose, bony, dark brown, with conspicuous wide chalazal pit and thick sarcotesta; sarcotesta pulpy, brownish-orange, very acid.

Locality Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

Distribution Malay Peninsula, Borneo, Sumatra.

Ecology In peat swamp forest, slightly shaded and humid places; altitude near sea level to 100 m. Flowering October – November; fruiting March – April.

Uses The ripe sour fruits are eaten fresh or pickled, (B, M). A decoction of the young shoots together with the grass leaves (unknown species) is taken daily for the treatment of diabetes, (M). The leaves are used locally for roof thatching. The stripped leaf stalks and rachis surfaces are used for mat Making, (B, M).

Material studied UBON 1154


Licuala paludosa Griff.

Densely clustered palm, 3 – 4 m tall, armed; stem often with persistent leaf sheaths. Leaves palmate, plicate, 9 –10 per stem; sheaths deeply split, margins coarsely fibrous-netted, brown; petioles 1 – 2.5 m long, orange-yellow, stiff, margins armed in basal half with reflexed dark brown thorns; blades coriaceous, nearly orbicular in outline, 100 – 150 by 100 – 150 cm, divided to base into 6 –15 segments; segments narrowly obtrianal, the center ones largest, 40 – 60 by 3.5 – 10 cm, tip truncate, jaggedly toothed. Inflorescences interfoliate, compound spike, 2 – 2.5 m long; spathe 15 cm long or more. Flowers small, bisexual, creamy white. Calyx
campanulate, glabrous, irregular split at top. **Corolla** glabrous, deeply divided, 3-lobed; lobes ovate. **Stamens** 6; filaments connate. **Ovary** superior, comprising of 3 free carpels, united by the common style. Fruit a drupe, globose, orange, 7 – 8 mm diam. **Seed** 1.

**Localities**
- Ban Lu Bo Sa Ma, Su-ngaigolok District, Narathiwat Province.

**Distribution**
SE. Asia, Malay Peninsula, Sumatra, Borneo.

**Ecology**
In peat swamp forest; altitude near sea level. Flowering and fruiting throughout the year.

**Uses**
The hearts of young shoots are eaten as a vegetable after soaked in salt water, and then cooked, (M).

**Material studied**
UBON 1037

**Reference**

**Licuala peltata** Buch.-Ham.

**Vernacular**
- Ching (ชิง)
- Kajing-kajing (กาจิง กาจิง)

Small to moderate solitary tree palm, armed. Stem erect, 3 m tall, 10 – 12 cm diam., obscurely ringed, often with persistent leaf sheaths. **Leaves** 12–15, palmate, plicate; petioles about 2 m long, green to brownish, stiff, margins thorny throughout; thorns 1 cm long, reflexed; sheaths deeply split, margins coarsely fibrous-netted, dark brown; blades coriaceous, orbicular, 150 – 200 cm across, divided to base into 18 – 20 segments; segments narrowly obtriangular, 80 by 18 cm; tip truncate, 4- to 6-lobed; lobes 5 cm long. **Inflorescences** interfoliate, compound spike, 2.5 – 3 m long, arching, comprising of spikes 3 – 5, 15 – 20 cm long. **Flowers** small, bisexual, pale green. **Calyx** cupular, 8 mm long, pubescent, 3-toothed; teeth unequal, acute. **Corolla** deeply divided into 3 lobes, linear-lanceolate acute, 8 by 3 mm, stiff, pubescent outside. **Stamens** 6; filaments short, connate at base. **Ovary** superior, comprising of 3 free carpels, sparsely pubescent at top, united by the common style and stigma. **Fruit** a drupe, subglobose, 1 cm across, orange. **Seed** 1.

**Localities**
- Ban Po No, Su-ngaipadee District, Narathiwat Province.

**Distribution**
India, Bhutan, Bangladesh through Burma to Peninsular Malaysia and the Andaman and Nicobar Islands.

**Ecology**
In moist to wet evergreen forest, cultivated as ornamental and for medicinal purposes; altitude 20 m. Flowering and fruiting throughout the year.

**Uses**
The roots together with various kinds of medicinal plants are taken as a remedy to cure urine retention. The young leaves are used to wrap some local food, (M).

**Reference**
**Licuala spinosa** Thunb.

**Vernacular** Ka pho khiao (กะพื้นเขียว), Pho (พื้น)

Densely clustered palm, 3 m tall, armed; stems often with persistent leaf sheaths. **Leaves** palmate, plicate, 10 – 15 per stem; sheaths deeply split, margins coarsely fibrous-netted, brown; petioles 1 – 2 m long, stiff, spiny the entire length; blades orbicular in outline, 70 – 100 by 70 – 100 cm, divided to base into 12 – 17 segments; segments narrowly obtriangular, the center ones largest, 40 – 52 by 8 – 10 cm; tip truncate, dentate. **Inflorescences** interfoliate, compound spike, 1.5 – 2 m long; spathe lanceolate acuminate, 30 – 35 cm long. **Flowers** small, bisexual, creamy white. **Calyx** cylindric, 3-lobed; lobes ovate, unequal, green, pubescent. **Corolla** cupular, 3-lobed; lobes triangular acute, pubescent. **Stamens** 6; filaments connate, cup-shaped. **Ovary** superior, consisting of 3 free carpels, obovate, apex truncate, glabrous, united by the common style. **Fruit** a drupe, ellipsoid, orange, 7 – 8 mm diam. **Seed** 1.

**Locality** Found in every study sites.

**Distribution** SE.Asia to Malay Peninsula, the Andaman and Nicobar Islands, Sumatra, Java, Borneo and Philippines.

**Ecology** In varieties of habitats; including beach forest, swamp fringes, secondary forest, also on limestone. It is one of few small palms tolerant of intense disturbance, even complete forest clearing, and often seen around farms, homes; altitude near sea level to 180 m. Flowering and fruiting throughout the year.

**Uses** A decoction of the roots is drunk as an antidote to the poison from food or other toxicants, (M). The young unexpanded leaves are used to wrap desserts made of glutinous rice before boiling. This meal is traditionally famous among the local people, especially for religious ceremonies, (B, M).

**Material studied** UBON 1160


---

**Metroxylon sago** Rottb.

**Vernacular** Sagu (สาคู)

Large monoecious palms, up to 15 m tall, monocarpic. Stem prostrate-ascending, unarmed, 30 – 60 cm diam. **Leaves** paripinnate, spirally arranged, crowded at apex of trunk, 5 – 7 m long; petioles robust, dilate into stem-clasping sheath, 50 – 100 cm long; sheath 75 – 125 cm long; leaflets about 60 – 90 on each side of rachis, linear acuminate, with a strong midrib, 50 – 160 by 3 – 6 cm, with
small spines along the margin and on the midrib. **Inflorescences** a terminal panicle, 4 m high, much-branched, wide-spreading; peduncles short, rust-coloured. Primary branches of the inflorescence 6 – 9, erect; the lower ones largest, up to 2 m long. Secondary lateral ones numerous, 30 – 60 cm long, spadix-like, cylindric, 7 – 13 cm long, 1.5 – 2 cm wide, densely packed with spirally arranged pairs of flowers that were in axils of bracts, each pair consisting of one male and one bisexual flower. **Male flower** small, sessile; calyx sub-campanulate, 3-lobed; lobes ovate, obtuse, 5 – 6 mm long; corolla lobes 3, oblong, 7 – 9 mm long; stamens 6, filaments in throat of corolla, anthers narrow; pistillode present. **Bisexual flower** small, perianth as those of the male ones; staminodes 6, filaments connate into a tube; ovary superior, cylindric, scaly, incompletely 3-loculed, 3-ovuled; style conical; stigmas 3. **Fruit** a drupe, depressed-globose, 2.5 – 4.5 cm diam., covered by imbricate cartilaginous scales, ripening yellowish-brown, 1-seeded. **Seed** subglobose, 2 – 3 cm diam., bony.

**Locality** Ban Lu Bo Sa Ma, Su-ngikolok District, Narathiwat Province.

**Distribution** New Guinea, Malaysia, Indonesia.

**Ecology** Common in swampy areas, seasonally flooded places; altitude 20 m. Flowering and fruiting throughout the year.

**Uses** The apical buds are usually made into traditional dish eating in the religious ceremonies of Muslim people. The stems or trunks contain a lot of starch that is used as an ingredient in various kinds of food and dessert that need stickiness property. Starch in the trunks is also used directly to feed animals such as chickens or ducks, (B, M). The roots are used for the treatment of diabetes, fever; a handful of the roots of this plant species together with those of *Oroxylum indicum* (L.) Kurz. and garlic are boiled with water, then a decoction is drunk daily to treat diabetes. Water in which the roots of *Metroxylon sagu* Rottb. are soaked is used to bath and pour over the head of the patient to relieve fever, (M). The leaves are used for roof thatching. The stripped surfaces of leaf rachis are woven into mats and other utensils. Sap from the cut leaf stalk is sometimes sed to eliminate dark spots and acne on the faces; it is smeared on the faces for 4 – 5 minutes, and then rinsed out, (B, M).

**Material studied** UBON 926

Nypa fruticans Wurmb.

Clustered, acaulescent palm, 2 – 3 m tall, unarmed; stem subterranean, stout, prostrate, creeping, branching dichotomously. **Leaves** 10 – 15 per stem, pinnate, erect; sheath deeply split, glabrous; petioles 30 – 100 cm long, base often persistent as a conical stub; rachis 5 – 9 m long, with 2 ranks of leaflets; leaflets numerous, pointing upwards and slightly forwards, 100 – 150 by 5 – 8 cm, stiff, linear-lanceolate, apex acuminate, margins entire, glabrous. **Inflorescences** interfoliar, near stem apex, composing of female head surrounded by male spikes, 1 – 1.5 m long; peduncles 80 – 100 cm long; spathes numerous. Male spikes cylindrical, 10 – 15 cm long. **Male flowers** numerous, small; perianth segments 6, hardly differentiate into calyx and corolla; stamens 3, filaments entirely connate; pistillode absent. **Female flowers** numerous, larger than the male ones; perianth segments 6, minute; staminode absent; ovary superior, composing of 3 free carpels; ovule 1 in each carpel. **Fruit** drupelets, densely packed in a spherical head; fruiting head 30 – 40 cm diam., drooping; individual fruits obovoid, 10 by 7 cm, woody, blackish-brown. **Seed** 1.

**Locality** Ban Ta Se, Hat Samran Subdistrict, Trang Province.

**Distribution** Sri Lanka, E. India, Burma, SE. Asia, Malesia, New Guinea, Solomon Islands to N. Australia.

**Ecology** In soft mud of estuarine habit, including mangrove forest, coastal fringes of brackish water swamp, salt marches, bays, and river mouths. Flowering and fruiting throughout the year.

**Uses** Stalks of the young inflorescences are eaten after boiling and then cooking. The young seeds are eaten fresh; sometimes they are put into syrup and prepared as a dessert. The cut stalks of the fruit bunches yield a sweet fluid which is a good beverage, either fresh or boiled. This fluid is sometimes fermented into vinegar, alcoholic beverage or a palm wine. It can be dried and made into sugar bars which can be kept for a long time to be used in cooking or dessert making, (B, M). The young shoot is used as an ingredient in the formula F14 to treat diabetes, (M). The young and unexpanded leaves, after sun drying, are commonly made into cigarette wrappers. The mature leaves are used locally for roof thatching, and also used to wrap local desserts, (B, M).

Oncosperma tigillarium (Jack) Ridl.  

Vernacular La own (หลาโอน), Ni bong (นิบง)

Monoecious, tall palms, up to 25 m tall, polycarpic, usually clustered and many-stemmed, forming dense clumps. Stems grey, 10 – 15 cm diam., straight, with many black prickles of 2 – 6 cm or more length. Leaves pinnate, spirally arranged, up to 3 – 4 m long; with numerous, drooping leaflets; petioles 30 – 60 cm long, spiny; sheath 75–100 cm long, forming a conspicuous crownshaft, spiny; rachis 4 m long, unarmed, at first densely scaley. Leaflets many on each side of the rachis, linear, acuminate, 60 – 100 by 2 – 3 cm, elegantly pendulous. Inflorescence infrafoliar, panicle of many long spikes, 60 – 80 cm long; peduncle aculeate, 10 – 12 cm long; spike up to 40 cm long; spathe large, boat-shaped. Male flower yellow; sepal 3, ovate, shortly acuminate, imbricate, 3 mm long; petals 3, oblong, subulately acuminate, valvate, 8 – 10 mm long; stamens 6, 5 mm long; filaments broad; anthers linear, longer than the filaments; pistillode columnar. Female flowers subglobose; sepals 3, suborbicular, like the petals, imbricate; petals 3, slightly larger than the sepals, 3 – 4 mm long; staminodes 6; ovary superior, 3-loculed; ovule 1 in each locule; stigmas 3, sessile. Fruit a drupe, globose, 1 cm diam., ripening dark purple. Seed 1, globose.

Locality Ban Sae, Su-ngaipadee District, Narathiwat Province.

Distribution Malaysia, Java, Borneo, Sumatra.

Ecology Along the inland fringes of mangrove forest and other low, wet, swampy places; altitude 20 m. Flowering and fruiting throughout the year.

Uses The apical buds are cooked in various ways as a vegetable, (B, M). The long and straight stems, with hard and durable wood are used in construction, for piling, rafters and flooring, (B, M). The leaves are used for roofing; leaf sheaths are made into water buckets. This plant is also an elegant ornamental, (B, M).


Phoenix paludosa Roxb.

Vernacular Peng (ปี๊ง)

Clustered palm, growing in dense clumps, up to 5 m tall, armed, dioecious; stem erect, 4 – 7 cm diam. Leaves pinnate, 2 – 3 m long, drooping; sheaths greyish-black, persistent as a stiff, fibrous network; petiole short; leaflets 50 – 65 on each side of rachis, more or less irregularly arranged in more than one plane, linear acuminate, 25 – 30 by 1 – 1.5 cm, pale green above, conspicuous greyish beneath; lower leaflets modified into stiff, needle-like spines. Fruit ovoid-ellipsoid, with persistent perianth, maturing from yellow-green to orange then black, 10 – 12 by 7 – 10 mm.
Locality  Ban Ta Se, Hat Samran Subdistrict, Trang Province.

Distribution  India, Bangladesh, Andaman Islands, SE.Asia, Malay Peninsula N.Sumatra.

Ecology  In coastal areas along the inland sides of mangrove forest, on stiff soil, always in open habitats; altitude near sea level. Flowering February – April; fruiting June – December.

Uses  The apical buds or fleshy terminal parts of stems are cooked as a vegetable. (M).


Salacca wallichiana  Mart.

Vernacular  Kam (กํา)

Dioecious, shrubby palm up to 12 m tall. Stems 20 – 30 cm diam., creeping, with very spiny leaves. Leaves 12 – 18 per stem, pinnate, ascending, 3 – 5 m long; sheaths 1 m long; armed with dense, partial whorls of spines; spines flat, linear-triangular, almost perpendicular to the sheaths, some pointing downwards; petioles 1 m long, armed with spines as the sheaths; rachis 2 – 3 m long. Leaflets 40 – 50 pairs, irregularly arranged and fanned in groups of 2 – 5, end pair with truncate and jaggedly toothed tips, linear, 60 – 75 by 6 – 8 cm. Female inflorescence interfoliar, 1 – 2 m long, pendulous, usually lying on the ground, with few branches each with up to 4 reddish spikes; spikes cylindric, 10 by 3 – 4 cm. Female flowers in axils of bracts, accompanied by hairy bracteoles. Calyx tubular, 3-fid, 10 mm long. Petals 3, connate at base; lobes ovate, acute, 7 by 5 mm, yellow, red at tip. Staminodes 6. Ovary superior, setose, 3-loculed; ovule 1 in each locule; style short; stigmas 3, red. Fruit a drupe, occurring in dense heads, obovoid, 6 by 3 – 4 cm; exocarp thin, entirely covered by reddish-brown scales. Seed 1 – 3, ovoid.

Locality  Ban Ta Se, Hat Samran Subdistrict, Trang Province.

Distribution  Burma, Malay Peninsula.

Ecology  Commonly found under shade, humid places; altitude near sea level to 100 m. Flowering November – December; fruiting June – August.

Uses  The sourish ripe fruits can be a substitute for lime juice in cooking, whereas the ripe sweet ones are eaten fresh or pickled, (B, M). A decoction of the leaf rachis is taken to treat urticaria, (M).

Material studied  UBON 1361, BKF 32273

Pandanaceae

*Freycinetia cf. angustifolia* Blume

**Vernacular**  Ka pria (กะเปรียะ)

Climber on tree trunk, with adventitious roots; stem slender, 6 – 12 mm diam., very long. **Leaves** simple, spirally arranged; blades thin, narrowly linear, 17–30 by 0.5 – 0.8 cm, glabrous, unarmed except at extreme apex, serrate-dentate along the margins and on the midrib dorsally; apex gradually attenuate-filiform; leaf base sheathing the stem, with membranous auricles; auricles 15 – 20 mm long, caducous, entire, fragile. Flowers and fruit not found.

**Locality**  Ban Cho Kot, Su-ngaipadee District, Narathiwat Province.

**Distribution**  Malaysia, Sumatra, Java, Burma, Philippines.

**Ecology**  In peat swamp forest; altitude near sea level.

**Use**  A handful of the stems and leaves are boiled with three glasses of water. They are boiled until the volume is 1/3 of original volume. Then a glass of the decoction is taken as an abortifacient; the treatment is done repeatedly 3 times, (B).

**Material studied**  UBON 685, BKF 089497


*Pandanus immersus* Ridl.

**Figure 66 C**

**Vernacular**  Toei nam (เตยน้ํา), Ku wa ai (กูวาไอ)

Stout, dioecious pandan, 2 – 3 m tall; growing immersed in water; the stem hardly rising above. **Leaves** simple, close, spirally arranged, 3-ranked; sheath of leaf-base short; blades linear, erect, thickly coriaceous, 100 – 300 by 10 – 15 cm, apex long acuminate, margins and midrib at the adaxial surface sharply aculeate. **Inflorescence** terminal, at first erect but often soon nodding. **Male inflorescence** a branched spike, solitary, 50 – 80 cm long, with pale large bracts; **male flowers** naked, minute, numerous; stamens numerous; pistillode absent. **Female inflorescence** a terminal spike, ellipsoid, solitary; flowers naked; staminode absent. Ovaries densely congested. **Fruit** a globose mass of woody angular drupes; drupes small with a very short curved style.

**Locality**  Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

**Ecology**  In humid, open places; by streams, forming dense thickets; altitude near sea level.
Uses A decoction of the roots is drunk frequently during the day as drinking water with side benefit to relieve debility, (M). The dried stripped leaves are woven into mats, hats, baskets and other utensils, (B, M).


Parkeriaceae

Adiantum flabellulatum L. Figure 19 F

Vernacular Kut kan dam (กูดก้านดาม), Rue bo tue la ko (รือบือตือลาโค

Terrestrial fern, rhizome short-creeping, 4 mm diam., covered with brown linear scales. Stipes distinctly grooved on upper surface, blackish-brown, basal portion covered with scales, hairy in grooves and glabrous elsewhere, 20 – 30 cm long, 1.5 mm diam. Lamina pinnately compound, triangular, 10 – 20 cm long and wide, the main rachis rather short, bearing 2 – 3 pinnae on each side, the lower pinnae usually the largest and often once or twice branched. Leaflets fan-shaped to subquadangular, up to 2.0 by 1.3 cm, base broadly cuneate, apex moderately acute, sterile fronds with toothed margins; fertile fronds with lobes and sinus; glabrous on both surfaces; sori at margins of the leaflets, reflexed soral flaps elongate, 2 – 3 mm long.

Locality Ban Ta Se Tai, Su-ngaipadee District, Narathiwat Province.

Distribution India, Burma, SW. and S. China, Taiwan, throughout Malesia and northwards to S.Japan.

Ecology On humus-rich soil in dense forest at low altitude; altitude 20 m.

Uses The whole plant is used as an ingredient in the formula F29 used to relieve severe lumbago, (M).

Material studied UBON 249, BKF 083029


Hemionitis artifolia (Burm.f.) Moore. Figure 55 A

Vernacular Phang kran (พังกราน)

Terrestrial fern; rhizome short, bearing a tuft of fronds, scaly; scales narrow, concolorous, brown, 2 – 3 mm long, entire. Stipes dark brown, grooved on adaxial surface, up to 20 cm long in fertile, and up to 8 cm long in sterile fronds, pubescent. Sterile fronds simple, chartaceous, narrowly ovate, 5 – 10 by 2.5 – 5.5 cm, apex obtuse, base deeply cordate, margins entire, sparsely hairy on lower surface; veins reticulate, obscure. Fertile ones simple, subdeltoid, 3 – 5 by 2 – 3 cm, apex
moderately acute, base cordate, margins entire, thinner than the sterile ones, glabrous above, pubescent beneath. Sporangia placed along veins, forming a network all over the lower surface.

Locality Ban Huay Ngo, Khok Pho District, Pattani Province.

Distribution Sri Lanka, India, S. China, Indo-China, Malaysia, Philippines.

Ecology On muddy soil in dense forest; altitude 40 m.

Uses The whole plant is used as an ingredient of the formula F12 taken as a remedy to relieve chest complaints, (B). A decoction of the whole plant alone is taken as a refrigerant, (M).

Material studied UBON 242, BKF 116343


Piperaceae

Piper caninum Blume

Vernacular Phrik nok (พริกนก)

Slender climber; branchlets pubescent. Leaves simple, alternate; petioles 1 – 2 cm long, pubescent; blades thinly coriaceous, variable in shape and size, narrow lanceolate to ovate, 5 – 12 by 3 – 6 cm, apex acuminate, base rounded or cuneate, margins ciliate, entire, sparsely pubescent on nerves and veins beneath, 3- to 5-nerved at base. Inflorescence spike, leaf-opposed, unisexual; rachis pubescent; bracts peltate, densely white hairy above, 0.5 – 1.5 mm wide; peduncles 0.5 – 1.0 cm long. Male spikes slender, 1.5 – 2.0 cm long; male flowers very small, perianth absent; stamens 2. Female spikes thicker and blunter; female flowers very small, perianth absent; ovary superior, 1-loculed, ovule 1; stigmas 3 – 5, sessile. Fruit subglobose drupe, 3 mm diam., stipitate, bright red.

Locality Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

Distribution Java.

Ecology Climbing on trees in evergreen forest, shady places; altitude 80 m. Flowering and fruiting throughout the year.

Uses The mature green fruits are cooked in curries, (B).

Material studied UBON 85, BKF 121463

Plantaginaceae

*Plantago major* L.

**Vernacular** Ya en yuet (หญ้าเอนยืด)

Annual herb, 10 – 30 cm tall; stem very short, erect. **Stipules** absent. **Leaves** simple, in a radical rosette; petioles 3 – 8 cm long, sheathing at the base; blades herbaceous, spathulate, 5 – 20 by 1 – 10 cm, apex obtuse, margins shortly to coarsely dentate, base attenuate, glabrous, strongly 5-nerved from the base. **Inflorescence** spike, upper axillary, slender, erect, 10 – 20 cm long, with flowers on the upper half; bracts 1 – 3 mm long. **Flowers** small, 3 mm long, bisexual, pale green, sessile. **Sepals** 4, oval-oblong, acute, scarious, persistent. **Corolla** white, salver-shaped, 4-lobed; lobes ovate acute, scarious. **Stamens** 4, inserted in the middle of the tube, far exserted. **Ovary** superior, ovoid, 2-loculed; ovules numerous; style filiform, 4 – 6 mm; stigma minute. **Fruit** a small capsule, thin-walled, dehiscing transversally.

**Locality** Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution** Europe, Asia.

**Ecology** In open waste ground, roadsides, agricultural field; altitude near sea level. Flowering and fruiting throughout the year.

**Uses** The whole plant together with the leaves of *Orthosiphon aristatus* (Blume) Miq. in equal proportion are boiled in water, and then a decoction is taken 1 cupful once a day as a diuretic, (B). Whole plant is also used for the treatment of fever associated with menstruation; in this case, 5 plants together with a central part of a dried corn cob are chopped, boiled in water, and then a decoction is taken 3 times a day, (M).

**Material studied** UBON 1278, BKF 104193


Plumbaginaceae

*Plumbago indica* L.

**Vernacular** Chetta mun phloeng daeng (เจตมูลเพลิงแดง)

Herb, 1 m tall, much-branched near the base. **Stipules** absent. **Leaves** simple, spirally arranged; petioles short; blades herbaceous, ovate-oblong, 5 – 11 by 2 – 5 cm, apex acute, margins entire, base acute, glabrous on both surfaces; nerves 8 – 10 pairs. **Inflorescence** a terminal raceme, 10 – 30 cm long; rachis glabrous;
bracteoles 3 subtending each flower. **Flowers** red, bisexual, subsessile. **Calyx** red, tubular, 8 – 9 mm long, 5-lobed, outer surface covered with stalked glands. **Corolla** salver-shaped, tube 2 – 4 cm long, 5-lobed; lobes obovate spreading 1 cm long, manifestly apiculate, glabrous. **Stamens** 5, free, opposite the corolla segments. **Ovary** superior, glabrous, 1-loculed, 1-ovuled; style short, hairy at base, 5-branched. Fruits not found.

**Locality** Ban Pa Ye, Su-ngaipadee District, Narathiwat Province.

**Distribution** SE.Asia.

**Ecology** Cultivated as ornamental and for medicinal purposes; altitude 20 m. Flowering throughout the year.

**Uses** The young leaves are used as a condiment in curries, (B). They are also used as an anthelmintic in cattle; they are mixed with *Blumea balsamifera* (L.) DC leaves, pickled in salt water, and then fed cattle, (B). A decoction of the whole plant (a handful of it boiled in one litre of water) is taken daily as a contraceptive, (M). A decoction of the roots is taken as a diaphoretic, 1–2 times a day, (B).

**Material studied** UBON 1400, BKF 127250


**Plumbago zeylanica** L. (Fig. 69 A)

**Vernacular** Chetta mun phloeng khao (เจตมูลเพลิงขาว)

Herb, 1 m tall. **Stipules** absent. **Leaves** simple, spirally arranged; petioles 0.2 – 1 cm long; blades herbaceous, ovate, 5 – 9 by 3.5 – 4.5 cm, apex acuminate, margins entire, base attenuate, glabrous on both surfaces; nerves 8 – 10 pairs. **Inflorescence** a terminal raceme, 6 – 30 cm long; rachis with sessile glands; bracteoles 3, subtending each flower. **Flowers** white, bisexual, subsessile. **Calyx** green, tubular, 9 – 12 mm long, 5-lobed, outer surface covered with stalked glands. **Corolla** salver-shaped, tube 1.8 – 2 cm long, 5-lobed; lobes obovate, spreading, 7 by 4 mm, mucronate, glabrous. **Stamens** 5, free, opposite the corolla segments; anthers bluish-violet. **Ovary** superior, glabrous, 1-loculed, 1-ovuled; style short, 5-branched. **Fruit** oblong, acute, 8 mm long, with 5 furrows, enclosed in persistent calyx. **Seed** 1.

**Locality** Ban Ton Sai, Srinakharin Subdistrict, Phattalung Province.

**Distribution** SE.Asia.

**Ecology** In open or slightly shady places; roadsides; dry localities. Often cultivated as ornamental and for medicinal purpose; altitude 90 m. Flowering and fruiting throughout the year.
Uses

A decoction of the whole plant is taken as an antipyretic, (B). A decoction of the roots is taken as a blood circulation tonic, and to treat numbness, (M).

Material studied UBON 1391, BKF 66062


Polygonaceae

Polygonum odoratum Lour.

Vernacular Hom chan (หอมจัน), Chan hom (จันหอม), Kue song (กือซง)

Herb, 30 – 40 cm tall, glabrous, aromatic. Stipules membranous, forming a tube encircling stem, ciliate. Leaves simple, alternate; petioles 2 mm long; blades herbaceous, lanceolate, 4 – 6 by 1.5 – 2 cm, apex acuminate, margins ciliate, base cuneate, glabrous above, sparsely pubescent beneath; nerves 13 – 15 pairs. Inflorescence spiciform raceme, terminal, 8 – 10 cm long, slender, hardly branching; bracts tubular, membranous, ciliate; pedicels 5 mm long, slender. Flowers bisexual, pink, 7 mm across, 3- to 4- flowered in axil of a bract. Perianth lobes 5, subequal, elliptic to suborbicular, 3 – 4 by 2 – 3 mm. Stamens 8, white. Ovary superior, trigonous, 1-loculed, 1-ovuled; style trifid nearly to base; stigmas capitate. Fruit a nut.

Locality Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

Ecology Common in moist places, slightly shade; often cultivated for its edible leaves; altitude near sea level. Flowering and fruiting throughout the year.

Uses The young leaves are eaten raw as a vegetable, (B, M). The roots are used as an ingredient in the formula F37 used to treat herpes infection; they are chewed and then spat onto the affected areas, (M).

Material studied UBON 169, BKF 55101

Reference Hook.f., Fl. Br. Ind. 5 : 45. 1885.

Polygonum tomentosum Willd.

Vernacular Ueang (เอื้อง)

Herbs, 30 – 40 cm tall, almost covered with hairs; stem usually unbranched. Stipules membranous, forming a sheath encircling the stem, hairy. Leaves simple, alternate; petioles 5 mm long; blades herbaceous, lanceolate, 13 – 17 by 3 – 5 cm, apex long-acuminate, margins entire, base attenuate, soft hairy on both sides.
**Inflorescence** a spike-like raceme, axillary, 5 – 8 cm long; bracts tubular, ciliate; pedicels 2 mm long. **Flowers** bisexual, white, 5 mm across, 4- to 6- flowered in axil of a bract. **Perianth** lobes 5, ovate, acute, 3.0 by 2.5 mm. **Stamens** 5 – 8, unequal. **Ovary** superior, lenticular, glabrous, 1-loculed; ovule 1; styles bifid. **Fruit** a nut, orbicular, biconvex, shiny black, 2.0 by 2.5 mm.

**Locality** Ban Thale Noi, Khuan Khanun District, Phattalung Province.

**Distribution** Tropical Asia, Africa.

**Ecology** Common in ditches, swamps and other wet places; altitude near sea level. Flowering and fruiting throughout the year.

**Uses** The young leaves are cooked in a sour curry, (B). The young leaves are eaten raw to treat diarrhea, (B).

**Material studied** UBON 1284, BKF 085299


**Polypodiaceae**

**Drymoglossum piloselloides** (L.)Presl.

**Vernacular** Klet nakkharat (เกล็ดนาคราช), Pi ti (ปีติ)

Epiphytic fern; rhizome long creeping, slender, densely covered with small scales; scales dark brown, ovate, irregularly toothed. **Frons** distinctly dimorphic. Sterile fronds with short stipes 2 – 8 mm long, laminae nearly circular, coriaceous, 1 – 4 by 1 – 2 cm, apex rounded, margins entire, base rounded to cuneate, sparsely stellately hairy on both surfaces. Fertile fronds with stipes 5 – 10 mm long, laminae linear-lanceolate, coriaceous, 3 – 15 by 0.5 – 1 cm, apex round, gradually narrowing towards attenuate base, margins entire. **Sori** forming a continuous marginal lines 2 mm wide, dark brown.

**Locality** Ban Plak Pla, Kosit District, Narathiwat Province.

**Distribution** Himalaya, Indo-China, S.China, Malesia.

**Ecology** Common on tree-trunks in forests; altitude near sea level.

**Uses** The whole plant together with a small amount of turmeric rhizome and rice grains are crushed, and then a mixture is applied over the affected areas to treat urticaria, (M). The leaves are pounded, mixed with white egg, and then this mixture is applied externally to obliterate the scars, (B).

**Drynaria quercifolia** (L.) J.Sm.

**Vernacular** Hua wao (หัวว้อ)

Epiphytic fern; rhizome creeping, 1.5 – 2 cm diam., densely covered with scales; scales dark brown, peltate, ovate, 3 by 2 mm; apex acuminate, base rounded, margin fimbriate, apical part caducous. **Fronds** in 2 kinds, distinctly dimorphic; nest-leaves sessile, ovate-oblong, 17 – 23 by 16 – 22 cm, shallowly lobes; lobes rounded at apex, entire, subdeltoid, up to 6 by 4 cm; normal leaves stalked, stipes 12-18 cm long; laminae coriaceous, pinnatifid, oblong, 40 – 50 by 25 – 35 cm, apex acute, base narrowly winged; lobes oblong-lanceolate; apex caudate acuminate, 20 by 5 cm; veins raised on both surfaces, anastomosing. **Sori** rounded, naked, placed on the whole lower surface of the normal leaves.

**Localities** Ban Huay Ngo, Khok Pho District, Pattani Province.
Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution** Malesia, tropical Australia.

**Ecology** On tree-trunks, or on stones in dense evergreen forest; altitude 40 - 80 m.

**Uses** The rhizomes are used as an antihypertension, and a remedy to treat herpes infection. A decoction of the rhizomes is drunk daily as a substitute for tea in the treatment of hypertension. For the treatment of herpes infection, a small piece of rhizome together with betel quid are chewed, and then spat onto the affected areas 2 – 3 times a day for 3 – 4 days, (M).


**Myrmecophila sinuosa** (Wall. ex Hook.) Nakai ex H. Ito

**Vernacular** Tan mangkorn (ตานมังกร), Karong (การง)

Epiphytic ferns with creeping, hollow ant-inhabited rhizomes. Rhizomes thick, 1.0 – 1.5 cm diam., scaly; scales peltate, rounded, bi-coloured with dark central portion and pale edge, 2 mm diam. **Fronds** simple, in 2 kinds; fertile fronds linear, 15.0 cm by 3.5 cm; sterile ones linear, narrower, 15.0 by 0.7 – 1.5 cm; both fertile and sterile ones thickly chartaceous, apex acute, base cuneate, margins entire, midrib raised on both surfaces; veins visible, copiously anastomosing. **Sori** rounded, orange, arranged in one row at each side of the midrib, naked in distinct hollow which raised on upper surface,

**Localities** Ban Ta Se Tai, Su-ngaipadee District, Narathiwat Province.

**Distribution** Malaysia, Sumatra, Cambodia, Vietnam.

**Ecology** On tree trunks in partly shaded area in tropical rain forest; altitude near sea level to 100 m.
Uses  The whole plant is used to treat venomous bites; it is rubbed against an earthenware pot, using water or a washing from uncooked rice as a solvent. Then a mixture obtained is applied to the bites, (M).

Material studied  UBON 901, BKF 34945


Platycerium coronarium  (D. Koenig ex O. F. Mull.) Desv.

Vernacular  Khao ho sida (ข้าวห่อสีดา)

Epiphytic fern; rhizome short-creeping, more than 1 cm diam., fleshy, apex covered by brown scales; scales triangular, 1.5 by 1.0 mm. Fronds close, in two kinds. Scale-leaves (or nest-leaves) erect, sessile, persistent, 30 – 40 cm long, dichotomously lobed; lobes round at apex; basal portion thick and fleshy; main veins raised on both surfaces, dichotomous. Normal leaves pendulous, 100 – 200 cm long, several times dicotomously branching; branches 2 – 4 cm wide; lower branch unequal, bearing short sterile branch and a single fertile lobe, upper branching almost equal. A fertile lobe almost circular, 10 – 15 cm broad, stalked, the whole concave lower surface covered with densely stellate hairs and sporangia.

Locality  Ban Huay Ngo, Khok Pho District, Pattani Province.

Distribution  Burma, Vietnam, Cambodia, Malesia.

Ecology  On trunk of large tree in evergreen forest, secondary forest; altitude 40 m.

Uses  A decoction of the fertile leaves is taken daily as an Antihypertension, (B). The stem together with benzoin are rubbed against an earthenware pot, using water as a solvent, then a suspension is applied onto the affected areas to treatment of aphthous ulcer, (M).

Material studied  UBON 1401


Pontederiaceae

Monochoria elata  Ridl.

Vernacular  Phlong (พล่อง), Phak top (พักตบ)

Aquatic herb, up to 100 – 150 cm tall, rooting in the mud, glabrous; stem erect. Leaves simple, rosulate, emersed; petioles up to 60 cm long, sheathing at the base; blades coriaceous, narrow lanceolate-hastate, 10 – 13 by 2 – 3 cm, apex
acuminate, margins entire, base hastate, glabrous on both surfaces. **Inflorescence**
terminal raceme, erect, 8 – 12 cm long, 15 – 60 flowers, with a large bract. **Flowers**
bisexual, actinomorphic, pale blue; pedicels slender, 1.5 cm long. **Tepals** 6, almost
free; 3 outer ones ovate-lanceolate, 12 by 4 mm; 3 inner ones obovate, 13 by 7 mm. **Stamens**
6 inserted on the base of the perianth, unequal; 5 with smaller, yellow
anthers; the sixth with larger blue ones. **Ovary** superior, ovoid, 3-loculed, ovules
numerous; style filiform; stigma minutely 6-lobed, short hairy. **Fruit** capsule,
ellipsoid 1 cm long. **Seeds** many, small, oblong.

**Locality** Ban Thale Noi, Khuan Khanun District, Phattalung Province.

**Distribution** Malay Peninsula.

**Ecology** In rice fields, on canal-banks, on mud-flats in river; altitude near
sea level. Flowering November – January.

**Uses** The young shoots and young inflorescences are eaten raw or
cooked as a vegetable, (B).

**Material studied** UBON 282


**Proteaceae**

*Helicia robusta* (Roxb.) R.Br. ex Wall.  
Figure 54 E

**Vernacular** Niang rok ([เนียงรอก]), Hang rok ([หางรอก])

Small tree, 6 – 10 m tall; branchlets rufous pilose. **Stipules** absent. **Leaves**
simple, spirally arranged; petioles very short; blades subcoriaceous, obovate, 15 –
25 by 7 – 12 cm, apex shortly acuminate, margins coarsely and sharply serrate, base
narrowly and slightly cordate, upper surface glabrous, lower surface sprinkle with
finely appressed hairs; midrib and nerves conspicuous on both surfaces; nerves 12 –
14 pairs. **Inflorescence** raceme, in the axils of the present or fallen leaves, 12 – 25
cm long; rachis and pedicels in bud densely covered with appressed hairs, later very
laxly hairy; bracts triangular, minute. **Flowers** in pair, slender, bisexual; pedicels
5 – 7 mm long, connate above the base. **Perianth** light yellow or white, puberulous
outside, 2 – 2.3 cm long, before anthesis narrow and straight; perianth segments 4,
during anthesis free, initially erect, afterwards revolute, narrow with a broadened top.
**Stamens** 4, nearly sessile, inserted at the base of perianth-segments, anthers oblong,
connective apiculate. Disk well-developed of 4 separate glands, white c. 0.5 mm
high. **Ovary** superior, ovoid, 1.5 by 1 mm, glabrous, 1-loculed; ovules 2 in each
locule; style slender, 1.8 cm long; stigma clavate. **Fruit** a drupe, subglobose, 2 – 3
cm diam. **Seeds** 1 – 2, subglobose.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Pattalung Province.

**Distribution** India, Bangladesh, Burma, Malaysia, Philippines.
Ecology In lowland evergreen forest, rubber plantations; altitude 80 m. Flowering January – April; fruiting May – September.

Uses The young leaves and young inflorescences are eaten raw as a vegetable, (B).

Material studied UBON 858, BKF 3305


Pteridaceae

Stenochlaena palustris (Burm.f.) Bedd. Figure 73 E

Vernacular Lam theng (ลำเท็ง)

Terrestrial or epiphytic fern, scrambling over swampy ground or climbing on tree-trunk. Rhizome terete, 5 – 8 mm diam., green, glabrous, only scaly at the apex; scales peltate, brown. Stipes 15 – 20 cm long, glabrous; rachis slightly grooved on the upper surface. Fronds simply pinnate, distinctly dimorphic, red when young, 40 – 70 cm long, with about 5 – 18 pairs of pinnae and a similar terminal pinna. Sterile pinnae shortly stalked, coriaceous, oblong, 10 – 15 by 2 – 3 cm, apex acuminate, margins sharply and irregularly serrate, base cuneate, glabrous, shiny green above; veins close, straight at a broad angle to the midrib, simple or forked. Fertile pinnae as many as the sterile ones, 15 – 20 by 0.3 – 0.5 cm, with sporangia on the whole lower surface.

Locality Ban To Daeng, Su-ngaikolok District, Narathiwat Province.

Distribution India, Indo-China, Malesia, Australia.

Ecology Common in rather wet ground in open places; climbing on tree in secondary forest, forest edges in the lowland; at altitude near sea level.

Uses The young leaves are cooked in various ways as a vegetable, (B, M); they are also eaten raw to treat biliuria, (B). A piece of young stem (4 cm long) together with few flowers of Microcos tomentosa Sm. and a small piece of a young leaf of Licuala spinosa Thunb. are chewed, and then spat to the affected areas to treat herpes infection, (M).

Material studied UBON 1171

Reference Tagawa & Iwatsuki, Fl. Thail. 3(2) : 259. 1985.
Rhamnaceae

Zizyphus mauritiana Lam.

**Vernacular** Phut sa (พุทรา)

Small tree, up to 7 m tall; young branches densely hairy; branchlets usually drooping. **Leaves** simple, distichous; petioles 0.5 – 1.5 cm long, with 2 stipular prickles at node near the base; blades coriaceous, ovate-elliptic, 3 – 6 by 2 – 4 cm, apex rounded or obtuse, margins shallowly serrate, base obliquely cuneate, shining dark green and glabrous above, except on nerves, tomentose beneath; tri-nerved at base, with marginal veins conspicuous. **Inflorescence** cymose, axillary, 1.5 cm long; peduncles 5 mm long; pedicels 8 mm long. **Flowers** bisexual, small, 4 mm across. **Calyx** greenish-yellow, funnel-shaped, tube very short, 5-lobed; lobes triangular acute, densely pubescent outside. **Petals** 5, free, shortly clawed, yellowish-white. Disk filling the calyx-tube, slightly lobed. **Stamens** 5, inserted within petals. **Ovary** half-inferior, 2-loculed; ovules 1 in each locule; styles 2, connate at the base. **Fruit** a drupe, globose, glabrous, 1.5 – 2 cm diam., ripening yellow. **Seed** 1.

**Locality** Ban To Daeng, Su-ngaikolok District, Narathiwat Province.

**Distribution** Tropical Africa, India.

**Ecology** In dry areas, open places, roadsides; altitude near sea level. Flowering May – July; fruiting August – February.

**Uses** The mature green fruits and the ripe ones are eaten fresh or pickled, (B, M). The leaves are soaked in water, and then this water is used to bath a corpse before being buried, (M).

**Material studied** UBON 1382


Rhizophoraceae

Bruguiera cylindrica (L.) Blume

**Vernacular** Thua khao (ถั่วขาว)

Tree, up to 23 m tall, with knee-like pneumatophores. **Stipules** lanceolate, 2.5 – 3.5 cm long. **Leaves** simple, opposite; petioles 1 – 4 cm long; blades coriaceous, elliptic, 7 – 12 by 2 – 5 cm, apex acuminate, margins entire, base cuneate, glabrous on both surfaces, dark green above, paler beneath. **Inflorescence** cyme, 3-flowered, in axil of the upper leaf; peduncles 6 – 8 mm long; pedicels 1 – 4 mm long. **Flowers** bisexual, pale green. **Calyx** campanulate, tube 4 – 6 by 2 mm, 8-lobed; lobes subulate-lanceolate, half length of the calyx. **Petals** 8, free, 3 – 4 mm long, obovate, 2-lobed with 2 or 3 bristles at the apex, caducous. **Stamens** 10, 1.5 – 2.5 mm long. **Ovary** inferior, 2 – 4 locules; ovules 2 in each locule; style filiform;
stigma 2 – 4 lobes. **Fruit** included in the calyx tube. **Seeds** germinating and hypocotyl growing from the fruit while on the tree; hypocotyl cylindric, slightly curved, 8 – 15 by 0.5 cm.

**Locality** Ban Ta Se, Hat Samran Subdistrict, Trang Province.

**Distribution** SE.Asia, N.Australia.

**Ecology** In mangrove forest, on stiff clay. Flowering and fruiting throughout the year; altitude at sea level.

**Uses** A juice form the crushed fruits is taken to treat diarrhea, (M).

**Material studied** UBON 1097, BKF 62310


*Ceriops tagal* (Perr.) C.B. Rob.

**Vernacular** Prong daeng (โปรงแดง), Mae (แหม)

Tree, up to 20 m tall; stem with stilt roots, up to 1 m tall. Pneumatophores present. **Stipules** lanceolate, 1.5 – 2.5 cm long. **Leaves** simple, decussate, clustered at the end of the twigs; petioles 1.5 – 3.5 cm long; blades thickly coriaceous, obovate to ovate-oblong, 5 – 10 by 2 – 5 cm, apex obtuse or sometimes slightly emarginated, margins entire, base cuneate, glabrous; midrib prominent beneath; nerves inconspicuous. **Inflorescence** condensed cyme, in axils of the upper leaves, 2 – 3 cm long; bracts and bracteoles 2 at the base of the flowers; pedicels short. **Flowers** bisexual, 7 mm long, 1 cm across. **Calyx** deeply 6-lobed; lobes ovate, acuminate, 4 mm long, reflexed in fruit. **Petals** 5, free, white turning light brown, oblong, coherent at the base with unicinate hairs, 3.5 by 2 mm, with 3 clavate appendages at the apex. **Stamens** 10, 3 mm long, alternately longer and shorter. **Ovary** semi-inferior, 3-loculed; ovule 2 in each locule; style short; stigma minute. **Fruit** ovoid. Seed germinating and hypocotyl growing from the fruit while on tree; hypocotyl 15 – 25 cm long, clavate, tapering to the apex, ridged and sulcate.

**Locality** Ban Ta Se, Hat Samran Subdistrict, Trang Province.

**Distribution** E. Africa, Madagascar, Tropical Asia, Malesia, Australia.

**Ecology** In mangrove forest; altitude at sea level. Flowering and fruiting throughout the year.

**Uses** The young fruits are eaten raw as a vegetable, (M).

**Material studied** UBON 1094

**Rhizophora apiculata** Blume

**Vernacular** Kong kang (โกงกาง), Phangka bai lek (พังกาใบเล็ก)

Tree, up to 30 – 40 m tall, with stilt roots arising at close to right angles to the main trunk; crown narrow, pyramidal. **Stipules** lanceolate, 4 cm long, red. **Leaves** simple, decussate; petioles 2–2.5 cm long; blades coriaceous, elliptic, elliptic-oblong, 7 – 18 by 4 – 8 cm, apex acute, margins entire, base cuneate, glabrous on both surfaces; midrib raised beneath; nerves inconspicuous. **Inflorescence** stiff, 2-flowered, symmetrically paired, in the axils of leaf-scar; peduncles very short, thick; bracteoles cupular, fleshy. **Flowers** bisexual, sessile, 3 cm diam. at anthesis. **Sepals** 4, free, fleshy, ovate, acute, concave, brownish-yellow, 1.5 by 0.7 cm. **Petals** 4, free, oblong, shorter than the sepals, white, membranous, caducous. **Stamens** 8–12, sessile. **Ovary** semi-inferior, 2-loculed; ovules 2 in each locule. **Fruit** berry, obpyriform, 2 – 2.5 cm long, brown, rough, bearing the persistent calyx. **Seed** 1. Seeds germinating in the fruit attached to the tree; hypocotyls protruding from the fruit, cylindric club-shaped, blunt, purplish-green, 30 – 40 cm long, 10–12 mm diam.

**Locality** Ban Ta Se, Hat Samran Subdistrict, Trang Province.

**Distribution** Sri Lanka, SE.Asia, throughout Malaysia to Micronesia and N.Australia.

**Ecology** Common in mangrove forest; altitude at sea level. Flowering and fruiting throughout the year.

**Uses** The wood is used as fuel and for the production of charcoal; it is also used for construction of furniture and implements, (B, M).

**Material studied** UBON 1064, BKF 130435


**Rhizophora mucronata** Lamk

**Vernacular** Kong kang (โกงกาง), Phangka bai yai (พังกาใบใหญ่)

Tree, up to 27 m tall, with stilt roots similar to those of *R. apiculata* but curve somewhat more as they seek the muddy substratum. **Stipules** lanceolate, 7 mm long, red. **Leaves** simple, decussate; petioles 3 – 4 cm long; blades coriaceous, broadly elliptic to oblong, 11–18 by 5 –10 cm, apex acute, margins entire, base cuneate, glabrous on both surfaces; nerves inconspicuous. **Inflorescence** 2 – 3 times forked, 2- to 8-flowered, in leaf axils; peduncles 3 – 5 cm long; pedicels 4 – 8 mm; bracteoles connate at their base, 2-lobed; lobes deltoid, acute. **Flowers** bisexual, 2 – 2.5 cm diam. at anthesis. **Sepals** 4, free, fleshy; lobes triangular, 1.2 by 0.6 mm, pale yellow. **Petals** 4, free, white, membranous, lanceolate, caducous, 12 by 4 mm, densely hairy along the margins. **Stamens** 8, sessile. **Ovary** semi-inferior, 2-loculed; ovules 2 in each locule. **Fruit** berry, elongate-ovoid, 3 – 8 by 2 – 3.5 cm, brown,
rough, bearing the persistent calyx. **Seed** 1. Seeds germinating in the fruit attached to the tree; hypocotyls cylindric, strongly rugose, 35 – 60 cm long, 1.5 – 2 cm diam.

**Locality** Ban Ta Se, Hat Samran Subdistrict, Trang Province.

**Distribution** E. Africa through Asia and Malaysia to NE. Australia and the Pacific Islands.

**Ecology** Common in mangrove forest; altitude at sea level. Flowering and fruiting throughout the year.

**Uses** The wood is used as fuel and for the production of charcoal, (B, M).

**Material studied** UBON 1067, BKF 076424


---

**Rubus moluccanus** L. **Figure 70 B**

**Vernacular** Fa laep (ฝ้าแลบ)

Climbing shrub; branches grey-tomentose, covered with minute hooked prickles. **Stipules** joined to the stem, pinnatifid, segments lanceolate. **Leaves** simple, alternate; petioles 5 – 6 cm long; blades suborbicular, 10 – 14 by 8 – 11 cm, 3- to 8-palmatifollobed; lobes acute, denticulate; base deeply cordate; sparsely hairy above, tomentose beneath; nerves 5 – 7 pairs. **Inflorescence** terminal and axillary panicles, 5 – 10 cm long; pedicels 1 cm long; bracts ovate, incised. **Flowers** bisexual, white, 1.5 cm across. **Calyx** campanulate, tomentose outside, 5-lobed; lobes ovate acuminate, incised, 5 – 9 mm long. **Petals** 5, free, ovate, 4.5 by 3.0 mm. **Stamens** numerous, free; filaments flattened; anthers hairy at apex. **Ovary** superior of 40 free carpels, on convex receptacle; styles filiform, longer than the filaments; stigma bilobed. **Fruit** globose, 1.5–2 cm diam., reddish, consisting of numerous drupelets.

**Locality** Ban Ton Sai, Srinakharin Subdistrict, Phattalung Province.

**Distribution** Burma, Laos, Vietnam, Malay Peninsula, Indonesia.

**Ecology** In open places, roadsides; altitude 80 m; cultivated for medicinal purpose. Flowering and fruiting throughout the year.

**Uses** The young leaves are cooked as a vegetable, (B). The stems and leaves are used as ingredients in the formula F1 used as a blood circulation tonic, and for the treatment of bodily discomfort, (B).
**Material studied**  UBON 1048 ,  BKF 99070


**Rubiaceae**

*Chassalia curviflora* (Wall.) Thwaites

Vernacular  Plai sarn (ปลายสาร)

Erect shrub up to 2 m tall, glabrous. **Stipules** broadly triangular, each pair slightly fused at the base. **Leaves** simple, opposite; petioles 8–10 mm long; blades elliptic, 10 – 13 by 4 – 6 cm, apex acuminate, margins entire, base narrowed, glabrous, shining dark green; nerves 6 – 7 pairs. **Inflorescence** terminal cyme, 2.5 – 5.0 cm long, branches succulent and white. **Flowers** bisexual, small, white. **Calyx** campanulate with 5 short triangular lobes. **Corolla** tubular, 2 cm long, slightly curved at tip, pubescent inside, 5-lobed; lobes short, ovate, valvate, white, hardly expanded, mouth yellow. Disk purple, conic truncate. **Stamens** 5, subsessile, inserted at the upper part of the corolla tube, included. **Ovary** inferior, 2-loculed; ovule 1 per locule; style bifid. **Fruit** a globose drupe, ripening black, born on the thicken white fleshy branches. **Seeds** 2.

**Locality**  Ban Mai, Su-ngaipadee District, Narathiwat Province.

**Distribution**  India, Sri Lanka, Malay Islands.

**Ecology**  In evergreen rain forest; altitude near sea level. Flowering and fruiting throughout the year.

**Uses**  The young leaves and young inflorescences are eaten raw as a vegetable. It is said to increase potency in men; for this purpose, it can be taken alone or used in combination with fresh leaves of *Polyscias fruticosa* (L.) Harm. The roots are rubbed against an earthenware pot, using water as a solvent, and then a suspension is taken as an poison antidote, (B, M).

**Material studied**  UBON 360 ,  BKF 084604


*Gynochthodes sublanceolata* Miq.

Vernacular  Phan samo (พันสมอ), Nang dam (นางดํา), Pe tae (ปแต)

Slender woody climber, stem terete, 3 – 5 m long, glabrous. **Stipules** small, ovate acuminate. **Leaves** simple, opposite; petioles 0.4 – 0.7 cm long; blades thinly coriaceous, elliptic-lanceolate, 5 – 9 by 1 – 4 cm, apex pionted, acute to acuminate,
margins entire, base cuneate, glabrous on both surfaces; nerves 5 – 6 pairs. **Inflorescence** axillary umbell. **Flowers** bisexual, white, small. **Calyx** cup-shaped, very short, truncate. **Corolla** salver-shaped, tube short 3 mm long, hairy inside, deeply 5-lobed; lobes broadly lanceolate, acute. **Stamens** 5. **Ovary** inferior, 4-loculed; ovule 1 in each locale; style bifid. **Fruit** a drupe, globose, 0.8 cm in diam., ripening black. **Seeds** 2 – 4.

**Locality** Ban Pa Ye, Su-ngaipadee District, Narathiwat Province.

**Distribution** Borneo, Sumatra.

**Ecology** In secondary forest, slightly shady places, wet places and along peat swamp margins; altitude near sea level. Flowering and fruiting throughout the year.

**Uses** The young leaves are eaten raw as a vegetable with the side effect of relieving flatulence; a juice from the crushed leaves is used in traditional rice cooking, this cooked rice becomes dark purple and it is usually made into a favorite authentic dish “Khaw Yam”, (B, M).

**Material studied** UBON 1172, BKF 132808


*Hedyotis capitellata* Wall. ex G.Don

**Vernacular** Tong haeng yan (ตองแห่งยัน), Ne ma ka koh (นีมากาโคะ)

Climbing herb; stem slender, much-branched. **Stipules** of each pair of leaves connate at base and adnate to base of petioles, forming a sheath with small coarse teeth. **Leaves** simple, opposite; petioles 0.5 –1.0 cm long; blades thinly coriaceous, elliptic, 6 –10 by1.5 – 4 cm, apex acuminate, base cuneate, margins entire, glabrous on both surfaces; nerves 3 – 4 pairs, curving upwards. **Inflorescence** panicle consisting of many heads, axillary and terminal, 8 cm long; head 1.5 cm diam. **Flowers** bisexual, small, white. **Sepals** 4, shortly connate; lobes acute. **Petals** 4, shortly connate, 5 mm long, lobes linear, apex obtuse, pubescent inside. **Stamens** 4, filaments pubescent. **Ovary** half-inferior, 2-loculed, ovules many in each locale. **Fruits** loculicidal capsule, crowned by calyx-limb.

**Locality** Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

**Distribution** Burma, Laos, Vietnam, Malay Islands.

**Ecology** Common in lowland and secondary peat swamp forest; altitude near sea level. Flowering and fruiting July – October.
Uses

The whole plant is used as an ingredient in the formula F26 used to treat insect bites and contusion, (M). The roots together with benzoin are rubbed against an earthenware pot, then a mixture obtained is used to cure venereal sores; it is applied externally onto the affected areas, (M).

Material studied
UBON 366, BKF 088237

Reference

Hedyotis corymbosa (L.) Lamk
Vernacular
Ya lin ngu (หญ้าลิ้นงู)

Erect herb, up to 30 cm tall, branches from base; stem quadrangular, glabrous, pale green. Stipules interpetiolar, membranous, with several marginal bristles up to 2 mm long. Leaves simple, opposite; petioles often indistinct; blades thinly herbaceous, linear-lanceolate, 1.0 – 2.5 by 0.3 – 0.4 cm, apex acute, base narrowed, margins finely denticulate; midrib distinct, other veins obscure. Inflorescence axillary, cymose, 1.5 – 2.5 cm long; pedicels 9 mm long. Flowers few, bisexual, 2 mm long. Calyx campanulate, 4-lobed; lobes triangular, 1 mm long, green. Corolla campanulate, white with pale purple patch, 4-lobed; lobes elliptic, very finely papillose inside, throat with a ring of white bristles which close the throat. Stamens 4, minute, inserted slightly above the base of corolla tube. Ovary inferior, 2-loculed, ovule numerous; style bifid. Fruit a capsule, ellipsoid, slightly compressed, flat-topped, crowned with the calyx lobe, ripening pale brown, 1.5 by 2.0 mm.

Locality
Ban Huay Ngo, Khok Pho District, Pattani Province.

Distribution
Tropical and subtropical region of the World.

Ecology
Common in open place, sandy places; altitude 40 m. Flowering and fruiting throughout the year.

Uses
A decoction of the whole plant is taken as a remedy for the treatment of cancer, (B).

Material studied
UBON 1355, BKF 35556

Reference

Hedyotis pachycarpa Ridl.
Vernacular
Tong haeng (ตองแห้ง)

Erect herb, up to 60 cm tall, stem and branches terete, glabrous, green. Stipules comb-shaped, with spiny lobes, 1.0 by 0.6 cm. Leaves simple, opposite; petioles 3 mm long; blades thickly membranous, lanceolate, 9 – 11 by 2.5 – 4 cm, apex
acuminate, base long narrowed, margins entire, glabrous on both surfaces; nerves 7 – 8 pairs, distinctly raised on the lower surface. **Inflorescence** axillary cyme, sessile, 1.5 cm across. **Flowers** small, 4 mm long. **Calyx** campanulate, 4-lobed; lobes lanceolate, rather broad acute, 2 mm long, pubescent outside. **Corolla** campanulate, white, 2.5 mm long, 4-lobed; lobes ovate, 1 mm long, pubescent inside. **Stamens** 4, white. **Ovary** inferior, 2-loculed, ovules numerous; style bifid. **Fruit** a globose capsule.

**Locality** Ban Ton Panun, Khuan Kalon District, Satun Province.

**Distribution** Malay Peninsula, S.Vietnam, Cambodia.

**Ecology** Common in open places or in light forest, humid forest; altitude 70 m. Flowering and fruiting throughout the year.

**Uses** A decoction of the roots is taken as a remedy to stop post partum hemorrhage, (M).

**Material studied** UBON 378, BKF 52051


**Hydnophytum formicarum** Jack

**Vernacular** Hua roi ru (หัว roi ru)

Epiphytic shrubs, 30 – 60 cm tall; stem at base markedly thickened to large superterrestrial tubers which tunnelled and perforated forming an ant's nest; tuber large, irregularly lobed, brown fleshy, with roots from its base. **Stipules** triangular, cuspidate. **Leaves** simple, opposite; petioles 2 – 3 mm long; blades thickly coriaceous, glabrous, elliptic, 4 – 8 by 2 – 5 cm, apex blunt, base cuneate, margins entire; nerves 4 – 5 pairs, slightly raised on upper surface, inconspicuous beneath. **Flowers** few together in axils of leaves, bisexual, sessile, 3 mm long. **Calyx** small, ovoid cylindric, limb truncate, sparsely pubescent outside. **Corolla** salver-shaped, white; tube 2 mm long, glabrous outside, hairy inside, 4-lobed; lobes fleshy, elliptic obtuse, 2 mm long. **Stamens** 4, exserted. **Ovary** inferior, 2-loculed; ovules 2 per locule; style 2.5 mm long, glabrous; stigma 2-branched. **Fruit** narrowly ovoid, constricted at tip, orange-red, pulpy.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** Borneo.

**Ecology** On trees, both near the sea and in mountain forest; altitude 110 m. Flowering and fruiting December – February.

**Uses** The whole plant is chopped, dried, and then pounded. Then 1 teaspoonful of the powder is mixed with a glass of water, and drunk as a blood circulation tonic. The whole plant is also
used as an ingredient in the formula F5 taken as a tonic and to relieve lumbago, (B). The swollen bases of the stems are used to relieve fever; they are chopped, and soaked in water. Then this water is used as a bath for a patient. The stem is also used as an ingredient in the formula F11 to treat cancer, (M).

Material studied UBON 397, BKF 089459


Ixora javanica (Blume) DC. Figure 56 F

Vernacular Khem thong (เข็มทอง)

Shrub, up to 3 m tall, glabrous. Stipules interpetiolar, connate at base into a short sheath, needle-like acuminate. Leaves simple, opposite; petioles 5 – 8 mm long; blades coriaceous, elliptic-oblong, 7 – 13 by 3 – 5 cm, apex broadly acuminate, base cuneate, margins entire; nerves 6 – 8 pairs. Inflorescence terminal, compound cyme, 8 cm across; peduncles red, sparsely pubescent. Flowers bisexual, orange. Calyx campanulate, small, 4-lobed, red. Corolla orange, salver-shaped, tube 3 cm long, 4-lobed; lobes ovate, blunt, 9.0 by 5.5 mm. Stamens 4, filaments much shorter than the corolla-lobes. Ovary inferior, 2-loculed; ovule 1 per locale; style slightly exserted; stigma 2-branched, orange. Fruit a globose drupe, 8 mm diam., ripening black.

Locality Ban Ton Panun, Khuan Kalong District, Satun Province.

Distribution Malaysia.

Ecology Common in secondary forest, edges of forest; altitude 50 m. Flowering and fruiting throughout the year.

Uses A decoction of the roots is taken daily as a blood circulation tonic, (M).

Material studied UBON 381, BKF 106699


Lasianthus hirsutus (Roxb.) Merr. Figure 57 D

Vernacular Ruesi som (ฤาษีสม)

Erect shrubs, 2 – 3 m tall, hairy. Stipules triangular, pubescent, 5 – 10 mm long, not connate into a tube. Leaves simple, opposite, mostly all in one plane; petioles 0.8 – 1.0 cm long, densely pubescent; blades coriaceous, obovate-lanceolate, 20 – 24 cm by 4 – 7 cm, apex acuminate, margin entire, base slightly unequal (on one side acute, on the other side obtuse-rounded), distinctly pubescent on both sides; nerves 7 – 13 pairs. Bracts dissimilar, numerous, densely covered with long rough hairs on both sides; the outer one foliaceous, ovate, 2.0 – 2.5 cm by 0.8 – 0.1 cm, inner ones lanceolate, slightly shorter than the outer ones. Inflorescences
fascicles, axillary and opposite, sessile. **Flower** bisexual, white. **Sepals** 5, connate at base, 2.8 mm long, densely pubescent. **Corolla** funnel-shaped, 1.5 cm long, tube short, glabrous outside, pilose inside in the widened part, glabrous towards base; lobes 5, acuminate, 4 mm long. **Stamens** 5, in throat of corolla; anthers 2-locular, longitudinal dehiscent; filaments short, glabrous. **Ovary** inferior, 5-loculed; ovule 1 in each locule; style 8 mm long; stigma 5-lobed. **Fruit** a drupe, obovoid, blue, pulpy, sparsely pubescent; crowned by a conspicuous, pubescent calyx. Pyrenes 5, 1-seeded.

**Locality** Ban Bon Khuan, Rattaphum District, Songkhla Province.

**Distribution** India, Bangladesh, Malaysia, Indonesia, China, Indo-China, Burma, Philippines.

**Ecology** Common in hill forest, on limestone; altitud 120 m. Flowering and fruiting throughout the year.

**Uses** The whole plant is usually added to various traditional remedies used to treat various ailments and diseases; it is believed to promote the remedies more powerful. A decoction of the roots is taken as a tonic, (M). The crushed leaves mixed with a little amount of lime juice, and then used as a poultice applied over the affected areas to cure a rash due to irritant hairy caterpillars,(B).

**Material studied** UBON 798, BKF 94470


*Mitragyna speciosa* (Roxb.) Korth. Figure 63 C

**Vernacular** Thom (ทอม)

Tree, up to 25 m tall, glabrous. **Stipules** lanceolate, 4.5 by 2 cm. **Leaves** simple, opposite; petioles 4 – 5 cm long; blades elliptic, oblong-ovate, 19 – 22 by 10 – 12 cm, glabrous above, glabrous to slightly hairy beneath; apex acuminate, margins entire to serrate near the apex, base rounded; nerves 15 – 17 pairs, midrib and nerves red and prominent beneath, with pale-hairy domatia at the nerve axils. **Inflorescence** globose head, terminal, 2.5 – 3.5 cm across; peduncles 5 mm long, with 2 petioled leafy bracts; inter floral bracteoles many, spatulate, 6 mm long, pale green. **Flowers** bisexual, small, dense. **Calyx** tubular, 1 – 2 mm long, truncate, membranous. **Corolla** deep yellow, salver-shaped, tube 6 mm long, glabrous outside, densely hairy inside at the throat, 5-lobed; lobes lanceolate, 5 by 2 mm, thickened at tip, glabrous. **Stamens** 5, filaments short, inserted at the corolla throat; anthers lanceolate cordate, 2 mm long. **Ovary** inferior, 2-loculed; ovules numerous; style exerted, 1 cm long; stigma mitriform. **Fruiting** heads globose, 3 – 4 cm across, black; fruitlets ellipsoid, dehiscent from the apex downwards. **Seeds** small, numerous.

**Locality** Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.
Distribution  Malaysia, Sumatra, Borneo, Philippines, New Guinea

Ecology  In secondary forest, near streams and swamps; cultivated; altitude near sea level. Flowering September – October; fruiting December–February.

Uses  The leaves are eaten raw to treat diarrhea and abdominal pain. A decoction of the leaves of this plant species and young shoot of *Nypa fruticans* Wurmb. is drunk daily for the treatment of diabetes, (M). They are used as an ingredient in the formula F30 used to relieve lumbago, (B).

Material studied  UBON 794


*Morinda citrifolia* L.

Vernacular  Yo ban (ยอยบาน), Yo (ยอ)

Tree, up to 9 m tall; branchlets obtusely quadrangular, glabrous; bark greyish-brown, shallowly fissured. *Stipules* interpetiolar, broadly triangular. *Leaves* simple, opposite; petioles 1 – 1.5 cm long; blades thickly herbaceous, broadly elliptic or elliptic-lanceolate to obovate, 20 – 30 by 14 – 16 cm, apex acute or obtuse, margins entire, base acute, glabrous on both surfaces, glossy dark green above, paler beneath, with hairy domatia in nerve-axils underside; nerves 6 – 8 pairs. *Inflorescences* axillary head; heads subglobose, 1.5 by 1.5 cm; peduncles 3 – 4 cm long, slender. *Flowers* bisexual. *Calyx* tubes cohering forming the flowering head, green, fleshy. *Corolla* white, salver-shaped, tube 1 cm long, glabrous outside, hairy at the throat inside, 5-lobed; lobes oblong acute, 5 mm long, reflexed. *Stamens* 5, inserted just below the throat, included. *Ovary* inferior, 4-loculed; ovule 1 in each locule; style slender, 2-branched. *Fruit* syncarp, ovoid, fleshy bullate, 10 by 5 cm, ripening pale yellow.

Locality  Ban Hua Yang, Rattaphum District, Songkhla Province.

Distribution  India to Indo-China and Malesia.

Ecology  Cultivated in villages; altitude 70 m. Flowering and fruiting throughout the year.

Uses  The young leaves are cooked as a vegetable, (B, M). A cupful of a decoction of the fruits is drunk daily as a Tonic, (M). The fruits are pickled in rice water, into which a little amount of salt is added, and then the fruits are fed to cattle as a tonic for good overall health, (B).

Material studied  UBON 1270 , BKF 59110

**Morinda elliptica** (Hook. f.) Ridl.  
Vernacular  
Yo pa (ยอป้า), Yo (ยอ)

Tree, to 16 m tall. Bark greyish-brown. **Stipules** interpetiolar, broadly triangular. **Leaves** simple, opposite; petioles 1 – 2 cm long; blades coriaceous, narrowly elliptic, often slightly folded up along the midrib, 10 – 19 by 3.5 – 7 cm, apex acute, margins entire and slightly undulate, base cuneate, glabrous on both surfaces, dark green above, paler beneath with hairy domatias in nerve-axils underside; nerves 6 – 9 pairs. **Inflorescences** head, terminal, subgloboal or ovoid, 0.8 – 1 cm long, many-flowered; peduncles 2 – 5 cm long, slender. **Flowers** bisexual. **Calyx** tubes cohering forming the flowering heads, green. **Corolla** white, salver-shaped, tube 6-9 mm long, slender, glabrous on both sides; lobes 4 – 5, linear triangular, 9 by 2–3 mm, reflexed. **Stamens** 4 – 5, inserted in the throat, exserted. **Ovary** superior, 2-loculed; ovules 1 in each locule; style 2-branched. **Fruit** syncarp, globose to ovoid or oblong, 2.5 – 3.5 by 2 – 2.5 cm, ripening black.

**Locality** Ban Hua Yang, Rattaphum District, Songkhla Province.

**Distribution** Burma, throughout Malaysia.

**Ecology** Common in the open places and secondary forest in the lowlands, on rock by the sea; altitude 70 m. Flowering and fruiting throughout the year.

**Uses** The young leaves are eaten cooked; local people usually use a juice from the crushed leaves for rice cooking, (B, M). A decoction of the fruits is drunk to relieve hiccough, nausea, (B). The stem is cut and then soaked in water until the water becomes yellow, and then this water is used to dye fabric, (B).

**Material studied** UBON 1267, BKF 081089


---

**Mussaenda glabra** Vahl.

Vernacular  
Balix a-da (บาลิกอาดะ)

Climber, glabrous. **Stipules** bifid, narrow-lanceolate, 2 – 3 mm long, puberulous **Leaves simple**, opposite; petioles 8 mm long; blades coriaceous, elliptic, 9 –11 by 3 – 4.5 cm, apex acuminate, margins entire, base tapered, glabrous or puberulous on nerves beneath; nerves 5 – 6 pairs. **Inflorescences** compound cyme, terminal, spreading. **Flowers** bisexual, 2 cm long. **Calyx** campanulate, 4 – 5 mm long, 5 hairy teeth; in one to serveral flowers in an inflorescence with one lobe distinctly enlarged, white, glabrous, broadly ovate, 8 by 6 cm, apex acute, base rounded, with long stalk. **Corolla** orange, narrowly funnel-shaped, hairy, 5-lobed; lobes ovate, 5 mm long, expanded. **Stamens** 5, inserted below the throat. **Ovary**
inferior, 2-loculed, ovules numerous; style filiform, bifid, 2 cm long. **Fruit** green, berry, oblong, glabrous. **Seeds** many.

**Locality** Ban Lu Bo Sa Ma, Su-ngaikolok district, Narathiwat Province.

**Distribution** Malay Islands.

**Ecology** Common in the lowland in open places, edges of forest, primary forest, secondary forest; altitude 20 m. Flowering and fruiting throughout the year.

**Uses** The young leaves are eaten raw as a vegetable with the side benefit of curing flatulence, (M).

**Material studied** UBON 370, BKF 36592


*Mussaenda wallichii* G.Don

**Locality** Ban Khoa Khram, Srinakarin Subdistrict, Phattalung Province.

**Ecology** In evergreen forest, by the streams; altitude 100 m. Flowering and fruiting throughout the year.

**Uses** The whole plant is used as an ingredient in the formula F6 used by men as a tonic; it is said to increase potency, (B).

**Material studied** UBON 1059, BKF 48228

**Reference** Hooker, Fl. Brt. Ind. 3 : 88. 1880
**Paederia foetida** L.  

**Vernacular** Yan pha hom (ยานพาโหม)  

Slender twiner, stem terete, young parts pubescent. **Stipules** interpetiolar, triangular, entire, caducous. **Leaves** simple, opposite, foetid when bruised; petioles 0.5 – 2.0 cm long; blades membranous, ovate to lanceolate, 6 – 10 by 2 – 4 cm, apex acute, base rounded, margins entire. Upper surface glabrous, lower surface pubescent only on midrib and veins; nerves 4 – 5 pairs. **Inflorescences** axillary cymose panicle, much-branched, up to 30 cm long. **Flowers** bisexual, 8 mm long, 7 mm through. **Calyx** campanulate, 2 – 5 mm long, 5-toothed; teeth triangular, green. **Corolla** funnel-shaped, 5-lobed, densely white-floccose outside, dark purple inside; tube within in upper half with numerous long, claviform, and purple hairs; lobes recurved, 2.5 mm long and 3 mm wide, margins crispy, glabrous, white. **Stamens** 5, inserted in corolla-tube at different levels. **Ovary** inferior, 2-loculed; ovule 1 per locule. **Fruit** a drupe, globose; shiny orange-yellow, 4–6 mm diam. **Seeds** 2.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** Burma, Malay Islands, China, Japan.

**Ecology** Common in open places, edges of forest; altitude 80 m. Flowering and fruiting December – February.

**Uses** The young leaves are eaten raw as a vegetable, (B, M). The crushed leaves is used as a poultice applied over the affected areas to relieve joint pain, (B, M).

**Material studied** UBON 387, BKF 120229


---

**Prismatomeris tetrandra** (Roxb.) K. Schum.  

**Vernacular** Duk kai (ดูกไก่)

Shrub, 2 – 3 m tall, glabrous, branches 4-angled. **Stipules** interpetiolar, subtriangular, bifid. **Leaves** simple, opposite; petioles 0.5 – 1 cm long; blades chartaceous, ovate to elliptic, 5 – 15 by 1.8 – 6 cm, apex acuminate, margins entire, base cuneate, glabrous; nerves 5 – 7 pairs; tertiary veins on lower surface of dry leaves darker than the blade and distinct. **Inflorescences** terminal umbel, 4 – 5 cm long; peduncle 0.5 – 2 cm long; pedicels 1 – 1.5 cm long, slender. **Flowers** bisexual, c.10 per inflorescence, white. **Calyx** cup-shaped with 5 minute teeth, green, glabrous, 2 mm long. **Corolla** salver-shaped, tube cylindric 7 mm long, glabrous, 5-lobed; lobes narrowly triangular, acute, 6 by 2 mm, valvate. **Stamens** 5, inserted slightly below throat, included; anthers 2.5 mm long. **Ovary** inferior, 2-loculed; ovule 1 in each locule; style filiform, bifid, 5 mm long. **Fruit** not found.
Locality Ko Chap Pi Yai, Palain District, Trang Province.

Distribution Malaysia, Indo-China.

Ecology In open areas, secondary forest, rocky seashores; altitude at sea level. Flowering March – April.

Uses The whole plant is used as an ingredient in the formula F28 taken to relieve lumbago, (M). A decoction of the roots is taken as a tonic. The roots are also used as an ingredient in the formula F20 for the treatment of fever, (B).

Material studied UBON 1084, BKF 134817


**Psychotria viridiflora** Reinw. ex Blume

Vernacular Khem (เข็ม)

Shrub, 1.0 – 1.5 m tall, glabrous. **Stipules** ovate, glabrous, with finely ciliate margins, caducous. **Leaves** simple, opposite; petioles 1.5 – 2.0 cm long; blades submembranous, elliptic to linear lanceolate, glabrous, lower side with domatias in axils of nerves, 13 – 20 by 4 – 5 cm, apex narrowed, base attenuate, margins entire; nerves 8 –10 pairs, prominent beneath. **Inflorescences** terminal panicle, 4 – 6 cm long; peduncles short; rachis and pedicels sparsely pubescent. **Flowers** bisexual, small, 5 mm long, greenish-white. **Calyx** cupular, 5-lobed; lobes truncate, 1.5 mm long, sparsely pubescent outside. **Corolla** wide tubular; tube 1.5 mm long, glabrous on both sides; throat densely hairy; lobes 5, 2 mm long and 1 mm wide, ovate-oblong, glabrous. **Stamens** 5, exserted. **Ovary** inferior, 2-loculed; ovule 1 per locule; style 3 mm long, thickened towards apex, glabrous. **Fruits** baccate, ellipsoid, 3 mm long. **Seeds** 2, plano-convex, innerface smooth, back 5-ridged.

Locality Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

Distribution Burma, Java, Sumatra, Borneo.

Ecology In evergreen rain forest, rubber plantations; altitude 80 m. Flowering and fruiting January – February.

Uses The young inflorescences are cooked in Thai-style vegetable soup, (B).

Material studied UBON 395

**Saprosma indicum Dalz.**

Vernacular  Tud (ตุด)

Shrub, up to 2 m tall, foetid when bruised, glabrous. **Stipules** broadly triangular, 3-to 5-fid. **Leaves** simple, opposite, usually markedly unequal in size; petioles 3 mm long; blades membranous, glabrous, elliptic or lanceolate; larger leaves 9 – 12 cm long and 4 – 5 cm wide; smaller ones 5 – 7 cm long and 3 – 3.5 cm wide, apex acute to acuminate, margins entire, base cuneate; nerves 7 – 9 pairs, raised on both sides. **Inflorescences** terminal cyme, few-flowered. **Flowers** bisexual, small, sessile, white. **Calyx** funnel-shaped, short, with 4 triangular lobes. **Corolla** funnel-shaped, 8 mm long, throat villous, 4-lobed; lobes ovate, acute 3 by 2 mm. **Stamens** 4, inserted at the throat; filaments 0.5 mm long; anthers linear lanceolate, 1 mm long. **Ovary** superior, 2-loculed, ovule 1 per locule; style filiform bifid. **Fruit** small drupe, obovate-oblong, up to 1 cm diam., smooth, ripening blue. **Seed** 1.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** India.

**Ecology** Tropical rain forest, slightly shady places; altitude 100 m. Flowering and fruiting October – February.

**Uses** The young leaves are eaten raw or cooked in curries as a vegetable, with the side benefit of curing flatulence, (B). The stems and leaves are chopped, dried, and then pounded. The powder obtained is mixed with hot water, and then taken as a remedy to relieve flatulence, (B).

**Material studied** UBON 392


---

**Uncaria sclerophylla (Hunt.) Roxb.**

Vernacular  Ka he (กาเฮะ)

Woody climber; branches 4-angled, ferruginous pubescent, with strong and downward-curving hooks from the leaf-axils. **Stipules** interpetiolar, caducous. **Leaves** simple, opposite; petioles 1 – 1.5 cm long; blades coriaceous, elliptic, 10 – 14 by 6 – 7 cm, apex blunt or subacute, base rounded or slightly cordate, margins entire, glabrous above, hairy on veins beneath; nerves 10 pairs. **Inflorescences** axillary, globose head, 4 – 5 cm across; peduncles 5 – 6 cm long, pubescent. **Flowers** bisexual, yellow, slender, 1.5 cm long; pedicels 1 – 1.3 cm long. **Calyx** cylindric, ferruginous pubescent, 4 mm long, tube short, 5-lobed, lobes triangular. **Corolla** salver-shaped, tube slender, slightly widened at apex, 1 cm long, 5-lobed; lobes oblong 2.5 mm long, appressed long hairy outside, glabrous inside. **Stamens** 5, inserted at apex of corolla-tube. **Ovary** inferior, 2-loculed, ovules numerous; style filiform, glabrous, exserted; stigma claviform.
Locality  Ban Ka Lo Se La, Su-ngaikolok district, Narathiwat Province.

Distribution  Malaysia, Indonesia.

Ecology  Common in lowland, peat swamp and upland forest, along roadsides, open places; altitude near sea level. Flowering September – March.

Uses  The roots and benzoin are rubbed against an earthenware pot, then a mixture obtained is used as a scabicide applied to the affected areas. A juice from the crushed leaves is used as a scabicide as well, (M).

Material studied  UBON 362, BKF 191220


**Rutaceae**

*Clausena excavata* Burm. f.

Vernacular  Mui (หมู่)

Shrub, 2 – 4 m tall, pubescent, aromatic. **Stipules** absent. **Leaves** imparipinnate, alternate, 15 – 30 cm long; petioles 2 – 3 cm long. Leaflets 15 – 30, alternate; petiolules 2 mm long; blades herbaceous, ovate, slightly unequal-sided, 2 – 7 by 1 – 3 cm, apex acuminate, margins rather entire, base oblique; mature ones glabrous above, thinly hairy beneath especially on midrib and nerves, densely dotted with pellucid glands. **Inflorescences** terminal panicle, 15 – 20 cm long; rachis and rachilla pubescent. **Flowers** bisexual, creamy white; pedicels 1 – 2 mm. **Calyx** cup-shaped, 1 mm, shallowly 4-lobed, glabrous. Petals 4, free, oval, concave, 5 by 3.5 mm, glabrous. **Stamens** 8, free; anthers ovate-oblong, 2 mm; filaments short, abruptly much broadened towards the base. **Ovary** globose, pubescent, 4-loculed; ovules 2 in each locule; style short; stigma capitulate, 4-lobed. **Fruit** berry, ellipsoid, 1 by 0.6 cm, pulpy pale pink, translucent.

Locality  Ban Khao Khram, Srinakharin Subdistrict, Pattalung Province.

Distribution  Himalaya, China, throughout SE. Asia.

Ecology  In humid forest, rubber plantations, forest edges; altitude 90 m. Flowering and fruiting February – May.

Uses  The young leaves are eaten raw as a vegetable, (B, M). The leaves are used to accelerate fruit ripening by keeping them in the container in which the unripe fruits are kept. Sometimes, the stems is cut and sharpened at one end, and then used to gore along the axis of some fruits, such as jackfruit, to ripen it, (B).
Euodia roxburghiana (Cham.) Benth. ex Hook. f.

**Vernacular**: Ya khong (ยาคง)

Small tree, 10 – 20 m tall; bark greyish-brown, smooth; branches glabrescent; young twigs, leaves and flower stalks pubescent. **Stipules** absent. **Leaves** digitately 3-foliolate, opposite; petioles 3 – 9 cm long; petiolules 0.5 – 1.6 cm long; blades thinly leathery, elliptic, 6 – 20 by 2 – 6 cm, apex pionted acuminate, margins entire, base cuneate, glabrous on both surfaces, with translucent punctate glands, aromatic when crushed; nerves 10 –16 pairs. **Inflorescences** a cymose panicle, axillary, 8 – 10 cm long. **Flowers** bisexual, white. **Sepals** 4, green, ovate, 1.5 mm long, puberulous outside. **Petals** 4, oblong-acuminate, 3.0 by 1.5 mm, glabrous, with pellucid dots. **Stamens** 4, free, 3 – 4 mm long. **Ovary** superior, puberulous, 4-loculed; ovules 2 in each locule; style short; stigma 4-lobed. Disk yellow, sparsely hairy. **Fruits** 3- to 4- follicled; follicles unequal sides, obovoid, 5 – 6 by 3 – 4 mm, opening lengthwise. **Seeds** 4 – 8, ovoid, shiny black.

**Locality**: Ban Pa Ye, Su-ngaipadee District, Narathiwat Province.

**Distribution**: Indo-China, Malesia.

**Ecology**: Common in lowland near sea coast, peat swamp forest, primary and secondary forest; altitude 10 – 20 m. Flowering and fruiting December – May.

**Uses**: The young leaves are eaten raw as a vegetable, with the side benefit of decreasing high blood pressure, (B, M). The crushed leaves mixed with lime juice are used as an anthelminthic in children by applying it over the children’s abdomen, (B).

Material studied UBON 147, BKF 82643


Feroniella lucida (Scheff.) Swingle

**Vernacular**: Sang (สัง), Masang (มะสัง)

Tree, up to 15 m tall; top of branchlets pubescent; branches armed with axillary thorns; thorns up to 4 cm long. **Stipules** absent. **Leaves** imparipinnate, spirally arranged or fascicled in axils of fallen leaves; petioles 2 cm; rachis 4 cm, short hairy; leaflets 5 – 9, opposite, sessile or subsessile, thinly coriaceous,
pellucid-dotted, obovate, 1 – 3 by 0.5 – 2.5 cm, apex emarginated, margins finely crenulate, base acute, pubescent on both surfaces; upper surface shining dark green; the lower dull; nerves 3 – 4 pairs. **Inflorescences** axillary panicle, 6 – 7 cm long; pedicels 1 – 1.5 cm, sparsely pubescent. **Flowers** bisexual and male on the same plant, pure white, open long before anthesis. **Sepals** 5 – 6, connate, segments narrowly triangular, green, pubescent on both sides, caducous. **Petals** 5 – 6, free, oblong, acute, 1.5 by 0.6 cm. **Stamens** 16 – 24, free; the base of filaments widen into a scales, hairy and cohering, white; anthers oblong, yellow. **Ovary** superior, depressed globose; glabrous, 1-loculed; ovules many. **Fruit** a berry, depressed globose, 4 – 5 cm diam.; pericarp thick, hard. **Seeds** many, embeded in pulp.

**Locality** Ban Thale Noi, Khuan Khanun District, Phattalung Province.

**Ecology** Cultivated in villages, in slightly shady and moist places; altitude near sea level. Flowering and fruiting December – February.

**Uses** The leaves and flowers are eaten raw as a vegetable, (B, M).

**Material studied** UBON 1240


**Glycosmis pentaphylla** (Retz.) DC.

**Vernacular** Nam khao (น้ําข่าว), Na pae (นาแป)

Erect shrub, unarmed, 1 – 2 m tall. Buds densely covered by short rusty-red hairs. **Stipules** absent. **Leaves** imparipinnate, spirally arranged; petioles 2 – 3 cm long. Leaflets 5 (–7), alternate; petiolules short; blades subcoriaceous, glabrous, pellucid-dotted, elliptic-lanceolate, 5 – 11 by 2 – 4 cm, apex obtuse, margins entire, base acute; nerves numerous, fine. **Inflorescences** axillary panicle, 3 – 7 cm long. **Flowers** many, bisexual. **Sepals** 5, connate at base, triangular, acute, 5 – 7 mm long, pale green, pubescent. **Petals** 5, free, oblong-lanceolate, obtuse, 4 by 2 mm, white, glabrous, gland-dotted; disk cushion-shaped. **Stamens** 10, free, unequal; filaments subulate, 2 – 3 mm long. **Ovary** superior, glabrous, 5-loculed; ovule 1 in each locule; style very short; stigma broadened, flat. **Fruit** a berry, depressed globose, 8 mm diam., juicy, pale pinkish-white. **Seeds** 1 – 2.

**Locality** Ban Ro Tan Ba Tu, Muang District, Narathiwat Province.

**Distribution** India, Sri Lanka, Burma, Malaysia, SW.China, Indo-China.

**Ecology** Edges of forest, in secondary forest; altitude 30 m. Flowering and fruiting throughout the year.

**Uses** The leaves are used as a contraceptive; a handful of the them is cut at the tip and base, and then crushed and squeezed. A squeezed juice obtained is given to women after days of giving
birth to drink 3 times a day for 2 weeks (every other weeks), (M). The roots are used for the treatment of herpes infection; they are rubbed against an earthenware pot, using a washing from uncooked rice as a solvent, and then a suspension is applied to the affected areas, (B). The leaves of this plant species and those of *Eurycoma longifolia* Jack are crushed, and then smeared on the body of a patient with sickness due to sorcery, and accompanied with an incantation. It is believed to ward off bad spirits form the body, (M).

Material studied UBON 791, BKF 68292


*Micromelum hirsutum* Oliv.

Vernacular Lam phi phai (ลําผีพาย)

Shrub, 2 – 4 m tall, almost all parts tawny tomentose. Stipules absent. Leaves imparipinnate, alternate, 15 – 25 cm long; petioles 1 – 3 cm long; petiolules 3 – 7 mm long; leaflets 7 – 13, alternate or subopposite, membranous, lanceolate, slightly unequal-side, 3 – 10 by 2 – 4 cm, accrescent towards the top of the rachis, apex acuminate, margins shallowly dentate-crenate, base oblique, densely pubescent on both surfaces, pellucid-dotted; nerves 5 – 10 pairs. Inflorescences terminal cymose panicle, densely tomentose. Flowers bisexual, greenish-white, 8 mm across; pedicels 4 mm. Calyx cupular, shallowly dentate, 5-toothed. Petals 5, free, oblong-lanceolate, 5.0 by 1.8 mm, densely appressed-pubescent outside. Stamens 10, inserted round a disk; filament linear-subulate, alternate ones shorter. Ovary ovoid, superior, densely hairy, 5-loculed; ovules 2 per locule; style columnar, short, thinly hairy; stigma capitate. Fruit a berry, ovoid to oblong, densely pubescent, ripening deep orange, pulpy, 1.2 cm long, 7 mm wide.

Locality Ban Huay Ngo, Khok Pho District, Pattani Province.

Distribution Indo-China, Burma, Andamans.

Ecology In shaded secondary forest, edges of forest, humid places; altitude 40 m. Flowering and fruiting December – May.

Uses The young fruits are cooked in curries, (B). The stems and leaves of this plant species are pounded, and then the powder is usually used to accompany those of various kinds of plants which will be sprinkled around the house; it is believed to drive evil spirits away, (B).

Material studied UBON 159, BKF 37272

Zanthoxylum nitidum (Roxb.) DC.

Vernacular Pha grut (ผ้ากรูด)

Dioecious climbing shrub, armed with short curved thorns. Stipules absent. Leaves imparipinnate, alternate, up to 40 cm long; petioles 7 cm long; rachis slender, strongly armed. Leaflets 7–9, petiolules 2–4 mm long; blades coriaceous, elliptic, 5–11 by 2–5 cm, apex bluntly cuspidate, margins glandular crenate, base rounded, glabrous and shining above, short pubescent beneath; nerves 8–15 pairs. Inflorescences axillary panicles, 5–10 cm long. Flowers unisexual. Female flowers small, 2–3 mm long; pedicels 1–3 mm long. Sepals 4, broadly triangular, green with red margin, 1 mm long. Petals 4, pale yellow with red margins, ovate, 3 by 2 mm. Ovary superior, consisting of 4 carpels, free, globose, glabrous; each carpel with 2 ovules. Stigmas coherent at anthesis, peltate. Fruit aggregate of 1–4 follicles; follicles subglobose, 5–7 mm diam., 2-valved; ripening red, pericarp pellucid. Seeds 1.

Locality Ban Huay Ngo, Khok Pho District, Pattani Province.

Distribution India, Ryukyu Islands, S.Vietnam, Sumatra, Malay Peninsula, Java, Philippines, New Guinea.

Ecology In evergreen rain forest, slightly shady places; altitude 40 m. Flowering and fruiting March–May.

Uses The young leaves are eaten raw as a vegetable, with the side benefit of a laxative. (B). A decoction of the whole plant is drunk as a substitute of drinking water to treat hemorrhoids, (M). The roots are used for the treatment of wounds; they are rubbed against an earthenware pot, using water as a solvent. Then a suspension is applied over the wounds daily until cured. In addition, the crushed leaves are also used as a poultice applied onto the wounds, (B).

Material studied UBON 741, 1395; BKF 121679


Salicaceae

Salix tetrasperma Roxb.

Vernacular Sanun (สนุน), Dalu (ดาลู)

Dioecious tree, up to 10 m tall; branches more or less drooping, young shoot glabrescent. Stipules small, subulate, caduceous. Leaves simple, spirally arranged; petioles 2 cm long, red; blades chartaceous, ovate-lanceolate, 14–16 by 2.5–3.5 cm, apex acuminate, base narrowed to rounded, subequal, margins finely serrate,
glabrous and shining on the upper surface, glaucous beneath; midrib prominent, lateral nerves numerous, distinct. **Male inflorescence** 8 cm long, catkin; rachis densely pubescent. **Male flowers** sessile, with suborbicular bract; perianth absent. Stamens 10 – 12, free, filaments 2.5 – 3.0 mm long, thin. Disk fleshy. Female plant not found.

**Locality** Ban Ton Panan, Khuan Kalong District, Satun Province.

**Distribution** Tropical Asia.

**Ecology** Along stream in evergreen forest; altitude 70 – 100 m. Flowering December – January.

**Uses** A juice of crushed leaves is used to wash hair as a substitute for hair shampoo. The durable wood is used for house building, (M).

**Material studied** UBON 146, BKF 108481


Sapindaceae

**Amesiodendron chinense** (Merr.) Hu

**Vernacular** Khan (ขัน)

Tree up to 25 m tall; with buttress up to 1.8 m tall, crown dense, widely spreading. **Stipules** absent. **Leaves** paripinnate, alternate, 25 – 30 cm long; petioles 3 – 5 cm; petiolules 3 – 5 mm long. Leaflets 6 – 12, opposite; blades chartaceous, ovate to falcate, 7 – 19 by 2 – 4 cm; apex long-tappering, acuminate; margins coarsely serrate; base acute; glabrous on both surfaces; nerves 10 – 15 pairs. **Inflorescences** terminal and in the upper leaf axils, panicle; widely and laxly branched, 10 – 20 cm long; rachis thick, stiff, pubescent. Bracts caducous; bracteoles minute. **Flowers** unisexual, pink; female and male flowers on the same panicles. **Female flowers** minute, 2 mm across. Sepals 5, slightly connate at base, triangular, 1 mm long, pubescent, light brown. Petals 5, free, elliptic to orbicular, with triangular scale; scale woolly. Staminodes 7 – 8. Ovary superior, globose, pubescent, 3-loculed; ovule 1 per locule; style pink, pubescent, 2 mm long. **Male flowers** slightly larger than the female ones. Sepals and petals like those of the female; stamens 6 – 8, red; filaments hairy, 5 mm long, distinctly exserted. **Fruit** capsule, dark brown, usually with 2 partly connate globular lobes; 2 – 2.5 cm diam., loculicidally dehiscent; pericarp thick and woody, glabrous on both surfaces. **Seeds** 1 – 2, globose, 1.5 – 2 cm diam., smooth, shining reddish-brown, with conspicuous sarcotesta around the hilum.

**Locality** Ban Nai Wang, Khongra District, Phattalung Province.
Distribution China, Indo-China, Malay Peninsula, Sumatra.

Ecology In primary rain forest, on well-drained soil; altitude 120 m. Flowering April – June; fruiting September – October.

Uses The seeds are eaten after cooked. Seed oil is used as a hair tonic, to give shiny-black hair. It is applied externally to cure cracked and inflamed soles, (M).

Material studied UBON 1029, BKF 078357


Guioa pleuropteris (Blume) Radlk. Figure 53 B

Vernacular Som ling (ส้มลิง), Taet ling (แตตลิง)

Tree, up to 30 m tall; young twigs pubescent. Stipules absent. Leaves paripinnate, alternate, rachis winged especially when young; petioles 1 – 10 cm long; leaflets 4 – 10, subopposite, subsessile; blades coriaceous, ovate or elliptic to obovate, 5 – 15 by 3 – 6 cm, lower ones much smaller than upper ones, asymmetrical especially the base and the apex, apex obtuse to acuminate, often mucronate, base cuneate, margins entire, pubescent on both surfaces; nerves 5 – 6 pairs. Inflorescences axillary to terminal panicle, up to 20 cm long, pubescent. Flowers bisexual, white to pink, small, 3 – 5 mm across. Sepals 5, free, ovate, 1 – 2 mm long, unequal, margins ciliate. Petals 5, free, elliptic to obovate, white, 2.5 by 1.0 mm, apex rounded, with 2 scales at the base inside; scales 1 – 2 mm high, apex not broadened, bifid. Disk glabrous, yellow. Stamens 8, filaments hairy, white; anthers pink. Ovary superior, hirsute at base, 3-loculed; ovules 1 per locule. Fruits loculicidal capsules, obcordate, with 3 well-developed lobes, stipitate, 1 – 2 by 1 – 2.5 cm, glabrous, ripening red. Seeds 3, orbicular, completely covered by an orange aril.

Locality Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

Distribution Burma, S. Cambodia, S. Vietnam, Malay Peninsula, Sumatra, Borneo, Philippines.

Ecology Primary and secondary forest, edges of forest, along river-banks; on a variety of soils; altitude near sea level to 110 m. Flowering and fruiting January – April

Uses The ripe fruits are eaten fresh and also used as sour flavor in some local dishes. The young leaves are eaten raw as a diuretic, (B).

Material studied UBON 137, BKF 122456

Lepisanthes alata (Blume) Leenh.  

Shrub, up to 6 m tall; twigs glabrous. Leaves paripinnate, spirally arranged, 20–40 cm long; petioles and leaf-rachis on either side with a 2–4 mm broad wing; pseudo-stipules oblique ovate, 2–3 by 3–2 cm, base deeply cordate, apex acuminate, penninerved. Leaflets sessile, 8–12, opposite, thinly chartaceous, glabrous, lanceolate, 10–20 by 1.8–4 cm, apex tapering long acuminate, base oblique, margins entire, purple when young then turn green; nerves 10–13 pairs.

Inflorescences in the axils of fallen or present leaves, panicle, often drooping, 40–50 cm long; rachis dark red, puberulous when young. Flowers dark red to purple, 8 mm diam., on 2–7 mm long pedicels, mostly unisexual, male and female ones on the same plant. Sepals 5, ovate, dark red, 3–6 by 2–3 mm, outer ones slightly smaller than inner, the inner partly petaloid with crenulate margin. Petals 5, suborbicular, up to 4 by 3 mm, sessile, sparsely short-hairy outside in the basal half; scale at base of each petal erect, slightly hood-shaped, 1/3–1/5 as long as the petal. Disk glabrous, yellow. Stamens 7–8; anthers 1.5 mm; filaments 0.5 mm, pubescent. Ovary superior, ellipsoid, red, glabrous, 3-loculed; ovule 1 per locule; style very short; stigma dome-shaped, slightly 3-lobed. Fruit trigonous-obovoid drupe, 3 by 2 cm, dark purple to nearly black when ripe; pulp rather thick, fleshy. Seeds 1–3, ellipsoid, flattened, 1.5 by 1.0 cm.

Locality Ban Ka Lo Se La, Su-ngai kolok District, Narathiwat Province.

Distribution Malay Peninsula, Java, Borneo.

Ecology Cultivated for its fruits, in slightly shady and humid places; altitude near sea level. Flowering December–February; fruiting April–May.

Uses The young leaves are eaten raw as a vegetable. The ripe fruits are eaten fresh, (M).

Material studied UBON 134


Lepisanthes fruticosa (Roxb.) Leenh.  

Small tree, 6–10 m tall, glabrous. Leaves imparipinnate with strongly reduced terminal leaflet, spirally arranged; petioles 6 cm long; petiolules 0.5–1.0 cm long; pseudo-stipules present, suborbicular, sometimes very oblique, 3.0 by 2.8 cm. Leaflets 3–14 pairs, opposite; rachis terete to laterally flattened, in the upper part often marginate to exceptionally narrowly winged, glabrous; blades narrowly lanceolate, coriaceous, glabrous on both surfaces, 9–25 by 2–8 cm, apex obtuse to
acuminate, margins entire, base oblique acute. Inflorescence panicle, ramiflorous and cauliflorous, solitary or in fascicle, pendulous, 15 – 20 cm long, glabrous.

Flower bisexual, red, scentless, 9 mm across. Sepals 5 – 6, unequal, elliptic, glabrous, 2 – 4 by 1.5 – 3 mm. Petals 5 – 6, free, broad ovate, 1.5 – 3 by 1 – 2 mm, glabrous, with short claw; claw ciliate. Stamens 8, free, filaments red, hairy; anthers yellow. Ovary superior, ovoid, 2-loculed; ovule 1 per locule; stigma sessile. Fruits ovoid drupe, dark red, 1 – 3 by 0.5 – 2 cm; pulp fleshy, sweet. Seeds mostly 2, subglobose, flattened.

Locality Ban Hau Yang, Rattaphum District, Songkhla Province.

Distribution Burma, Indo-China, Malesia, Moluccas, Lesser Sunda Islands.

Ecology Cultivated for its fruits; altitude 30 m. Flowering February – March; fruiting April – May.

Uses The young leaves are eaten raw as a vegetable. The ripe fruits are eaten fresh; the seeds are also eaten after boiled, (B, M). The leaves of this plant are used in ceremony performed before rice – harvesting season, (B).

Material studied UBON 144, BKF 88785


Lepisanthes rubiginosa (Roxb.) Leenh.

Shrubs to small trees, up to 16 m tall; branches terete, densely short hairy when young. Leaves paripinnate, spirally arranged; petioles 7 – 10 cm long, not winged; petiolules up to 5 mm long; rachis not winged. Pseudo-stipules absent. Leaflets 6 – 12, subopposite, ovate (mainly lower ones) to obovate (upper ones), stiff chartaceous, 6 – 15 by 3.5 – 8 cm, apex obtuse to acute or acuminate, margins entire, base rounded to broadly cuneate, pubescent on both surfaces mainly beneath; nerves 8 – 12 pairs. Inflorescences terminal panicles, to 50 cm long, erect, with many branches, densely ferrugineous tomentose. Flowers unisexual, white to yellow, sweet-scented; pedicels 1 – 2 mm long. Sepals 5, free, orbicular-ovate, 1.2 – 2.8 by 1.2 – 3 mm. Petals 4 – 5, free, obovate, 2 – 4 by 1.5 – 2.2 mm, crenulate in upper half; scale single with two apical clavate crests, 1.5 – 3 mm long. Stamens 8, filaments flattened with long white hairy, 3 – 5 mm long. Ovary superior, densely appressed hairy, 3-loculed; ovules 1 per locule. Fruits drupe, 3-lobed; lobes spreading, 8 – 13 by 7 – 8 mm, dark purple to nearly black when ripe, subglaucous. Seeds oblong-ellipsoid, 9 – 11 by 4 mm, shiny brown to black.

Locality Ban Ton Panun, Khuan Kalong District, Satun Province.

Distribution S. and SE.Asia, China, Malesia, N.Australia.
Ecology
In secondary forest, waste land, along roads, river banks, forest edges; altitude 40 – 80 m. Flowering February – April; fruiting May – July.

Uses
The ripe fruits are eaten fresh, (B, M). The roots are used as an ingredient in the formula F17 used to treat hemorrhage and dysmenorrheal, (M). They are also used as an ingredient in the formula F24 for the treatment of fever, nausea, (B). An extract of the crushed leaves is applied to the face to reduce the appearance of dark spots. The leaves are also used for the treatment of burns, fever and cold. The young leaves are chewed, and then spat on the burns. The crushed leaves are pasted on the fore head of children to cure fever and cold, (B).

Material studied
UBON 781, BKF 122234

Reference

Sapotaceae

*Ganua motleyana* Pierre ex Dubark

Figure 50 A – B

Vernacular
Sa tieo (สะเตียว)

Tree, up to 40 m tall; stem columnar, laticiferous; young leaves reddish-brown; pneumatophores knee-like. **Stipules** minute. **Leaves** simple, spirally arranged; petioles 1.5 cm long; blades coriaceous, elliptic to oblong, 6 – 15 by 4 – 7 cm, apex acuminate, base cuneate, glabrous on both surfaces, shining dark green above, pale green beneath; midrib raised on both surfaces; nerves 10 – 17 pairs; intramarginal vein present. **Flowers** in cluster of 10 – 16, arising from axils of leaves or their scars; pedicels 1 – 1.2 cm long. **Sepals** 4, ovate, 3 – 4 by 3 – 4 mm. **Corolla** white, cupular, 6 mm long, 8-lobed; lobes obovate-oblong, 3 by 1.5 mm, reflexed, glabrous outside, pubescent inside at the throat of the corolla tube. **Stamens** 16, inserted in a ring of hairs on the corolla tube; filaments 1 mm long; anthers lanceolate, 1.5 mm long, pubescent. Ovary superior, glabrous, 6-loculed; ovule 1 in each locule; style twice as long as the corolla; stigma minute. **Fruit** obovate-oblong, glabrous, 3 by 2 cm, with persistent style. **Seeds** 1 – 2, obovate-oblong, flattened, brown, 2 by 1 cm.

Locality
Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

Distribution
Malaysia, Indonesia.

Ecology
Common in swampy lowland and peat swamp forest; altitude near sea level. Flowering July – August; fruiting October – December.

Uses
The young leaves are eaten raw as a vegetable, (M). A handful of the chopped stem bark of this plant species together with
those of *Cratoxylum arborescens* (Vahl) Blume are soaked in coconut oil, and then the oil is used as a massaging oil to relieve joint pain, (M). The timber is used for house building, (B, M).

Material studied  UBON 998 , BKF 089249


**Selaginellaceae**

*Selaginella willdenowii* (Desv.) Baker

**Vernacular** Ya rang kai (หญารังไก)

Herbaceous; stems scandent, usually forming bushes of more than 2 m long, 1 – 3 mm diam; the main stem glabrous, sparsely bearing leaves and rhizophores. Rhizophores geotropic, dichotomously branching, bearing root in the ground. **Leaves** simple, herbaceous, dimorphic, densely arranged in 4 rows on the lateral branches of the stems; the ventral two sessile, patent, oblong, slightly falcate, 2.5 – 3 by 1–1.5 mm, apex acute, margins entire, base rounded to subtruncate, with small auricles at acroscopic base, glabrous on both surfaces; dorsal leaves much smaller than the ventral ones, 1 – 1.8 by 0.5 – 0.8 mm, falcate, apex acute, appressed to the stems, directed distally; strobili squarroid, solitary at apex of the lateral branches, 6 – 8 by 2 mm; sporophyll uniform, ovate, herbaceous, 1 by 1 mm, apex acute. **Spores** heterosporous.

**Locality** Ban Ton Panan, Khuan Kalong District, Satun Province.

**Distribution** Burma, Indo-China, Malaysia, Sumatra, Java, Philippines.

**Ecology** In moist evergreen forest, shady places; altitude 100 –120 m.

**Uses** The young leaves are eaten raw as a vegetable, (B).

Material studied  BKF 35592


**Schizaeaceae**

*Lygodium microphyllum* (Cav.) R.Br.

**Vernacular** Li phao yung (ลิเภายุง) , Libu chue ning (ลิบูชือนิง)

Terrestrial fern; rhizome creeping, densely covered with dark brown hairs. **Stipes** 8 – 10 cm long, glabrous, shining dark brown, with narrowly wing in the upper part. **Froonds** pinnately compound, twining to several meters. Rachis like the
upper part of the stipes, long, slender; primary rachis-branches short, 4 – 5 mm long, the apex densely covered with brown hairs, dormant; each one bearing a pair of secondary rachis-branches 7 – 15 cm long, with 4 – 5 alternate pinnately arranged pinnules on each side, and a simple or forked terminal pinnules; pinnules herbaceous, light green, glabrescent, with distinct slender stalk about 2 – 3 mm long. Sterile pinnules deltoid to oblong-subdeltoid, 2 – 3 by 0.5 – 1 cm, apex acute to obtuse, margins entire, base truncate to slightly cordate. Fertile pinnules usually shorter than the sterile ones, oblong or triangular, 1 – 3 by 0.8 – 1.5 cm, apex obtuse, base truncate, margins fringed with narrow lobes; lobes 2 – 4 mm long, 1 mm wide, bearing two rows of sporangia; Sporangia indusiate.

Locality Found in every study sites.

Distribution Africa, Polynesia, Australia, the Ryukyu Islands.

Ecology Climbing on bushes or on branches of tall trees in open places, in swamp and fairly dry places; altitude near sea level to 100 m.

Uses A decoction of the whole plant is drunk daily as a substitute of drinking water to treat numbness, (M). The rhizomes of this plant species and those of Lygodium salicifolium Presl. are boiled in water, and then a decoction is taken as a refrigerant, and for the treatment of anorexia, (B). The leaf stalks and rachis are used for wickerwork, to make small articles such as hats, hand bags, etc, (B, M).

Material studied UBON 232, BKF 130169

Reference Tagawa & Iwatsuki, Fl. Thail. 3(1) : 60. 1979.

Lygodium salicifolium C.Presl.

Vernacular Li phao (ลิเภา), Libu bue sa (ลิบูบือซา)

Terrestrial fern; rhizome short, densely covered with dark brown hairs. Stipes 20 cm long, sparsely finely pubescent. Fronds pinnately compound, twining, to several meters. Primary rachis-branches very short, the apex densely covered with brown hairs, dormant; each one bearing a pair of secondary rachis-branches 7 – 15 cm long, with 4 – 5 alternate pinnately arranged pinnules on each sides, and a simple or forked terminal pinnules; pinnules herbaceous to soft papyraceous, light green, glabrous, oblong-lanceolate, 8 – 10 by 1.5 – 2 cm, apex acute or obtuse, margins minutely dentate, base cordate, with very short stalk. Sporangia indusiate, arranged in two rows along lobes protruding at margins of the pinnules; indusia glabrous.

Locality Ban Pa Ye, Su-ngaipadee District, Narathiwat Province.

Distribution Assam to Yunnan, Indo-China, Taiwan, Malesia, New Guinea
Ecology

Common in light shaded damp places, in tropical evergreen forest; altitude 20 m.

Uses

It is used in a similar way as the preceding species, (B, M).

Material studied UBON 1177, BKF 59861

Reference Tagawa & Iwatsuki, Fl. Thail. 3(1) : 64. 1979.

**Schizaea dichotoma** (L.) Sm.

*Figure 71 C*

**Vernacular** Tan phrao (ตานพร๊าว)

Small terrestrial fern, erect, up to 35 cm tall; rhizome creeping, densely covered with shiny brown hairs. **Stipes** 10 – 25 cm long, narrow, winged above. **Froonds** 7 – 10 cm long and wide, dichotomously branched, branching 2 – 6 times. Distal branches with wider wings to form narrow laminae of about 2.0 mm wide. Sporangia-bearing lobes at apex of the distal branches, 7 – 10 pairs, forming distinct sorophores of 2 – 4 mm long, pinnately arranged. **Sporangia** covered by the reflexed edges of the lamina part, exposed at maturity, sessile, ovoid, with apical annulus. Spores kidney-shaped.

**Locality** Ban To Daeng, Su-ngaikolok District, Narathiwat Province.

**Distribution** Tropical Asia, Australia, New Zealand.

**Ecology** In secondary forest, rubber plantations, humid and slightly shady places; altitude near sea level.

**Uses** The whole plant of this species together with those of **Schizaea digitata** (L.) Sw., and mushroom (unknown species) are burned to ashes, into which coconut oil is added, and then a mixture is applied to the abscesses and pustules on the heads of children, (B).

**Material studied** UBON 235, BKF 095962

**Reference** Tagawa & Iwatsuki, Fl. Thail. 3(1) : 57. 1979.

**Schizaea digitata** (L.) Sw.

*Figure 71 D*

**Vernacular** Tan (ตาน)

Small terrestrial fern, erect, grass-like, 20 – 25 cm tall. Rhizome short, bearing many crowded fronds. **Froonds** simple, linear erect, 20 – 35 cm long, 2 – 4 mm wide, with prominent midrib, bearing at the apex a group of sporangia-bearing lobes; lobes 7 – 20, erect, all equal, 2 – 5 cm long, c. 1 mm wide; sporangia arranged in two double rows and almost covering the lower surface of the lobes.
Locality  
Ban To Daeng, Su-ngaikolok District, Narathiwat Province.

Distribution  
Tropical Asia to Polynesia.

Ecology  
In rather dry ground in slightly shady places, often in rubber plantations; altitude near sea level.

Uses  
It is used in a similar way as the preceding species, (B).

Material studied  
UBON 239, BKF 130153

Reference  
Tagawa & Iwatsuki, Fl. Thail. 3(1):58. 1979

Scrophulariaceae

*Lindernia crustacea* (L.) F. Muell.

Vernacular  
Kerak nasi (กีรักนาซิ)

Prostrate to decumbent annual herb, 5 – 20 cm tall; stem quadrangular, sparsely pubescent on the angles and the nodes, green to dull dark violet. *Stipules* absent. *Leaves* simple, opposite; petioles 1 – 2 mm long; blades thinly herbaceous, broadly ovate, 5 – 8 by 4 – 8 mm, apex subacute or obtuse, margins distinctly subacute-serrate, base subtruncate to rounded; glabrous except for pubescent on the margin and the nerves beneath; pinnately nerves, 3-pairs. *Flowers* bisexual, violet, solitary and axillary; pedicels 5 – 10 mm long. *Calyx* tubular, 4 mm long, glabrous, prominently 5-angled, shortly 5-lobed; lobes triangular, acute. *Corolla* bilabiate, 8 mm long; upper lip erect, ovate, tip with a pair of rounded lobes; lower lip with three rounded lobes, spreading. *Stamens* 4, didynamous; anterior pair with arched filaments; each with a blunt linear spur, arising near the base. *Ovary* superior, ellipsoid, glabrous, 2-loculed; ovules numerous; style filiform; stigma with 2 unequally flat lobes. *Fruit* a capsule, ellipsoid, 4 – 5 mm long, 2 mm diam., glabrous, enclosed within persistent calyx. *Seeds* numerous, small, ellipsoid, with very minutely papillate.

Locality  
Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

Distribution  
India, Ceylon, Burma, China, Japan, Malesia, Philippines, Australia, Polynesia.

Ecology  
In waste ground, roadsides, riversides, rice-field, swamp areas; altitude near sea level. Flowering and fruiting throughout the year.

Uses  
A whole plant together with two leaves of *Hedyotis capitellata* Wall. ex G. Don and few rice grains are grounded, and then a poultice is applied on the bites of venomous insects, or applied as a scabicide to the affected areas, (M).

Material studied  
UBON 1255, BKF 080972

Reference  
Yamazaki, Fl. Thail. 5(2) : 193. 1990.
Scoparia dulcis L.

Vernacular Kratai cham (กระตาจาม), Ya tai bai (หญ้าใต้ใบ)

Erect annual herb, 20 – 50 cm tall, glabrous, much-branched; branchlets 6-angled. **Stipules** absent. **Leaves** simple, opposite; petioles very short; blades thinly coriaceous, obovate to ovate-oblong, 7 – 20 by 5 – 10 mm, apex obtuse, margins irregularly serrate in the upper part, lower part entire, base attenuate to the petiole, densely gland-dotted on both surfaces. **Flowers** solitary or in fascicles, axillary, bisexual, white, ebracteolate; pedicels slender, 4 – 6 mm long. **Calyx** campanulate, 4-lobed, 1.5 mm long; lobes elliptic, subacute, ciliate. **Corolla** rotate, 3 mm long, 6 – 7 mm across, 4-lobed; lobes elliptic, 2 mm long, obtuse, white hairy at lower part inside. **Stamens** 4, subequal, inserted on the base of the corolla tube. **Ovary** superior, globose, 2-loculed; **ovules** numerous; **style** filiform; stigma capitulate. **Fruit** capsule, globose, slightly emarginate at the top, ripening brown. **Seeds** numerous, small, ellipsoid, light brown.

**Locality** Ban Cho Kot, Su-ngaipadee District, Narathiwat Province.

**Distribution** Pantropical.

**Ecology** Common weed on waste ground, roadsides, dried up rice-field, sandy river-banks; altitude 10 m. Flowering and fruiting throughout the year.

**Uses** A decoction of the whole plant is taken to relieve flatulence. Sometimes, the crushed leaves mixed with lime juice, and then applied over the abdomen of children to relieve flatulence as well, (B, M).

**Material studied** UBON 220, BKF 091981

**Reference** Yamazaki, Fl. Thail. 5(2) : 218. 1990.

Simaroubaceae

*Brucea javanica* (L.) Merr.

Vernacular Mai dat (ไม้ดัด), Rachadat (ราชดัด), Cha da (ชาดะ)

Shrub, 3 – 5 m tall, pubescent; stem terete. **Stipules** absent. **Leaves** imparipinnate, alternate, 20 – 25 cm long; petioles 15 cm long. **Leaflets** 3 – 15, opposite; petiolules 4 – 5 mm long; blades membranous, obovate to lanceolate, 4 – 10 by 2 – 5 cm, apex acuminate, margins bluntly serrate, base rounded, sparsely pubescent above, densely pubescent beneath; nerves 9 – 10 pairs. **Inflorescences** panicle, upper axillary, 10 – 60 cm long; peduncles short; bracts small. **Flowers** unisexual, red, 2 – 3 mm across. **Sepals** 4, ovate, 0.5 mm long, green, red and hairy at the tip. **Petals** 4, oblong, 1 by 0.5 mm, red, sparsely pubescent. Disk thick, 4-lobed. **Stamens** 4, with short filaments, inserted between the lobes. Staminodes 4 in the female ones. **Ovaries** superior, 4, free, ovate glabrous, 1-
loculed, 1-ovuled; styles free, short, subulate, widened in club-shaped stigma, bent outward. **Fruit** drupe, ovoid, with 2 ribs, 5 mm long, 1 – 4 together.

**Locality** Ban La Lo, Su-ngaipadee District, Narathiwat Province.

**Distribution** Sri Lanka, SE.Asia, China, N.Australia.

**Ecology** In secondary forest, rubber plantations, forest edges, slightly shady places; altitude 40 m. Flowering and fruiting throughout the year.

**Uses** The ripe fruits are pounded, mixed with coconut oil, and then a mixture is applied as a scabicide on the affected areas, (B). They are also used as an agent to avoid boils and acne by swallowing a ripe fruit daily, (M). In addition, the ripe fruits together with garlic and mushroom are pounded and mixed with coconut oil. Then a solution is applied externally to cure sores, (B).

**Material studied** UBON 766, BKF 2580


**Eurycoma longifolia** Jack.

**Vernacular** Lai phueak (ไหลเผือก), Trueng badan (ตรึงบาดาล)

Shrub, 5 – 6 m tall, slender, often unbranched. **Stipules** absent. **Leaves** imparipinnate, up to 1 m long, spirally arranged, crowded at the tip; petioles 5 – 10 cm long; leaflets numerous, sessile, opposite; blades coriaceous, ovate-lanceolate, 5 – 10 by 1.5 – 3 cm, apex acute, margins entire, base oblique cuneate, glabrous on both surfaces; nerves inconspicuous. **Inflorescences** panicle, axillary, 30–35 cm long, pendulous, lax; rachis, pedicels, sepals, and petals covered with glandular hairs; bracts very small, caducous; pedicels 6 – 7 mm long. **Flowers** small, unisexual, red; male and female ones on the same plant. **Calyx** small, 5-lobed, lobes triangular acute, longer than the tube. **Petals** 5, free, lanceolate, larger than the calyx, 4 – 5 by 2 – 3 mm. **Stamens** 5, 1.5 – 2.5 mm long, alternating with staminodes; staminodes 5, yellow. Pistillode present in the male flowers. **Ovaries** 5, free, superior, 1-loculed, 1-ovuled; style attached adaxially near the top and mutually connate; stigma peltate, 5-lobed. **Fruit** a nut, 1 – 5, spreading, ellipsoid, 10 – 15 by 5 – 10 mm, glabrous, ripening yellowish-brown.

**Locality** Ban Pluk Plue, Mae Lan District, Pattani Province.

**Distribution** Burma, Laos, Cambodia, Indo-China, Malesia.
Ecology In primary and secondary evergreen forest, beach forest; on sandy soil; altitude 20 – 40 m. Flowering and fruiting throughout the year.

Uses The whole plant is used as a tonic; it is chopped and mixed with the sliced stems of *Grammatophyllum speciosum* Blume, boiled in water. Then a decoction is taken, (M). A decoction of the root is taken daily as a tonic, antihypertension, and to treat urinary stone (M). The roots are also used as an ingredient in the formula F8 used as a tonic to relieve bodily discomfort and lumbago, (B). The stems are used as an ingredient in the formula F6 used as a tonic to increase potency in men, (B). The leaves are used for the treatment of sickness due to sorcery; the leaves of this plant together with those of *Glycosmis pentaphylla* (Retz.) DC. are ground, and then the mixture is smeared on the body of the patient. It is believed to get rid of evil spirits from the body, (M).

Material studied UBON 978, BKF 106539


**Smilacaceae**

**Smilax myosotiflora** A. DC. Figure 72 F

Vernacular Lek thong daeng (เหล็กทองแดง)

Perennial climber, 2 – 5 m long; stem slender but rigid, smooth, internodes 10 cm long, 1 – 2 mm thick. Root thickened, forming round storage roots, pale yellow inside. **Stipules** absent. Tendrils 6 – 13 cm long, slender, often becoming brownish. **Leaves** simple, alternate; petioles 1.5 – 3.0 cm long, slightly twisted and sheathing at base; blades herbaceous, glabrous, ovate – lanceolate, 8 – 15 by 3 – 7 cm, apex acuminate, base rounded or slightly cordate, margins entire; 3-nerved, separate from the base, finely reticulate. **Inflorescence** a single axillary umbel, globose, 1.5 cm across; peduncles 2 – 3 cm long. **Flowers** unisexual, yellowish-green. **Female flowers** small, 5 mm across; perianth 6, free, outer tepals ovate-elliptic, apex subobtuse; inner ones linear-oblong, apex obtuse; staminodes 3, needle-like; ovary superior, ovoid, 2 – 2.5 mm long, 1.2 mm wide; stigma 3, recurved. **Fruit** subglobose berry, ripening dark purple, 7 – 9 mm across. **Seeds** 1.

Locality Ban Pa Ye, Su-ngaipadee District, Narathiwat Province.

Distribution Malay Peninsula.

Ecology In evergreen rain forest, humid and shady places; altitude 20 m. Flowering and fruiting November – February.
Uses

The tubers are used as an ingredient of the formula F7 taken as a tonic for the treatment of impotency. They are also used as an ingredient of the formula F8 taken to treat lumbago, bodily discomfort, (B).

Material studied

UBON 262, BKF 7813

Reference


Solanum indicum L.

Vernacular

Waeng (วัง)

<table>
<thead>
<tr>
<th>Uses</th>
<th>The tubers are used as an ingredient of the formula F7 taken as a tonic for the treatment of impotency. They are also used as an ingredient of the formula F8 taken to treat lumbago, bodily discomfort, (B).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material studied</td>
<td>UBON 262, BKF 7813</td>
</tr>
</tbody>
</table>

Solanaceae

Erect shrub, 2 m tall, tomentose, prickly. Stipules absent. Leaves simple, alternate; petioles 2 cm long, stellately hairy; blades membranous, ovate, 4 – 8 by 3 – 5 cm, apex acute, base oblique truncate, margins pinnately lobed, lobes blunt; stellately hairy on both surfaces; nerves 4 – 5 pairs. Inflorescence axillary raceme or terminal, 5 – 8 cm long. Flowers bisexual, tomentose. Calyx campanulate, densely tomentose outside, 5 mm long, 5-lobed; lobes lanceolate acute. Corolla rotate, blue-violet, 12 mm long, densely tomentose outside. Stamens 5, filaments short, anthers narrowed upward, with terminal pores. Ovary superior, glabrous, 2-loculed, ovules numerous; style columnar, pubescent; stigma small. Fruit globose berry, glabrous, ripening shiny orange, 7 – 9 mm across. Seeds numerous, discoid.

Locality

Ban Ton Panun, Khuan Kalong District, Satun Province.

Ecology

In open places, waste ground, roadsides; altitude 80 m. Flowering and fruiting throughout the year.

Uses

A decoction of the whole plant is taken as an antidiabetes, it is drunk at one cupful, 1 – 2 times a day daily, (B, M).

Material studied

UBON 216, BKF 52706

Reference


Solanum involucratum Blume

Vernacular

Uek muak (อึกหมวก)

Herb, 30 – 40 cm tall, armed with straight prickles, stellately hairy almost all parts. Stipules absent. Leaves simple, alternate; petioles 5 – 7 cm long, hairy and prickles; blades membranous, ovate, stellately hairy all over, and armed along main veins on both surfaces, 18 – 20 by 10 – 15 cm, apex acute, margins triangular-lobed, base subcordate; nerves 4 – 5 pairs. Inflorescence axillary, short-peduncled racemes, 4 cm long. Flowers bisexual, white; pedicels 1 – 1.5 cm. Calyx
campanulate, 1 cm long, 5-lobed; lobes ovate-lanceolate, 6 by 4 mm, hairy and prickly as on the stems. **Corolla** rotate, 9 mm across, 5-lobed; lobes 7 by 4 mm, pubescent on outer surface. **Stamens** 5, 4 mm long, filaments very short; anthers yellow, dehiscing by apical pores, glabrous. **Ovary** superior, densely pubescent, 4-loculed; ovules numerous. **Fruits** berry, globose, 2.5 cm diam., densely pubescent, almost entirely enclosed in enlarged calyx. **Seed** numerous, reniform.

**Locality** Ban Ton Sai, Srinakharin Subdistrict, Phattalung Province.

**Distribution** Java.

**Ecology** Cultivated for medicinal purpose; altitude 100 m. Flowering and fruiting throughout the year.

**Uses** The whole plant is used as an ingredient in the formula F1 taken as a blood circulation tonic and to relieve bodily discomfort, (B).

**Material studied** UBON 994


**Stemonaceae**

**Stemona tuberosa** Lour.

**Vernacular** Non tai yak (หนอนตายหยาก)

Climbing herb; stem slender, glabrous, with tuberous roots. **Stipules** absent. **Leaves** simple, alternate; petioles 5 – 7 cm long; blades thinly chartaceous, ovate-cordate, 10 – 16 by 6 – 9 cm, apex acuminate, margins entire, base deeply cordate, glabrous on both surfaces; prominent nerves 13–15, with parallel cross nervules. **Inflorescence** axillary raceme, few-flowered, pendulous; peduncles slender, 5 – 7 cm long. **Flowers** unisexual, 3 – 4 cm long. **Perianth** 4, in 2 series, subequal, lanceolate, acute, slightly connate at base, pink, backs green. **Stamens** 4, petaloid; filaments short; connective broad. **Ovary** superior, 1-loculed; ovules many; stigma sessile. **Fruit** a capsule, oblong, 2 – 2.5 cm long.

**Locality** Ban Hua Yang, Rattaphum District, Songkhla Province.

**Ecology** In primary and secondary evergreen forest; altitude 20 m. Flowering and fruiting throughout the year.

**Uses** The tuberous roots are crushed and soaked in water. Then this water is applied on the affected areas to cure scabies, and also used to wash hair; it is considered to kill head-lice, (B).

**Material studied** UBON 920, BKF 115925

Sterculiaceae

Heritiera littoralis Dryand.

**Vernacular** Du hun (ดุหุน)

Tree, to 20 m tall; bark grey to brown with longitudinal fissures. **Stipules** caducous. **Leaves** simple, spirally arranged; petioles 1 – 2 cm long, stout; blades coriaceous, elliptic, oblong-ovate to ovate-elliptic, 10 – 20 by 4 – 10 cm, apex broadly acute, margins entire, base obtuse, dark green and glabrous above, densely silvery-grey scaly beneath; nerves 5 – 8 pairs, faint. **Inflorescence** panicle, in upper axillary, 5 – 8 cm long, densely pubescent; pedicels 3 – 4 mm. **Flowers** small, unisexual. **Calyx** campanulate, 4 mm, pale green with a purple center, 4-lobed; lobes triangular 1 – 2 mm, pubescent on both sides. **Petal** none. **Stamens** 4, on a globose head at the end of a slender staminal column. **Fruits** samara, ellipsoid, woody, 6 by 4 mm, with a longitudinal ridge, glabrous, shiny brown.

**Locality** Ban Ta Se, Hat Samran Subdistrict, Trang Province.

**Distribution** India, Burma, Cambodia, Vietnam, Malay Peninsula, Indonesia, Australia.

**Ecology** In mangrove forest; altitude at sea level.

**Uses** The wood is used for house building, making household items, and other construction. The fruits are used as a toy for children, (M).

**Material studied** UBON 1358

**Reference** Phengklai, Fl. Thail. 7(3) : 578. 2001.

Taccaceae

*Tacca chantrieri* Andre

**Vernacular** Nang khruan (นางขรุณ), Khang khao (ตันข้าว)

Herb, up to 40 cm tall; rhizome cylindric, 1.5 cm diam. **Leaves** simple, 3 – 12 together, rosulate; petioles erect, 15 – 25 cm long, 5 – 7 mm diam., sheath 3 – 10 cm long; blades herbaceous, glabrous, elliptic, oblong to lanceolate, 25 – 40 by 9 – 15 cm, apex acuminate, margin entire, base oblique, obtuse; nervation pinnate; nerves 8 – 12 pairs. **Inflorescences** umbellate, up to 40 cm long. Involucral bracts 4, decussate, green to dark purple; 2 outer bracts ovate or lanceolate, 4 – 6 by 2 – 3 cm; 2 inner bracts thinner, ovate to oblong, 4.5 – 6.5 by 4 – 6 cm. **Floral** bracts 6 – 12, filiform, 10 – 15 cm long, pale green or greenish-violet. **Flowers** bisexual, greenish to dark purple, 1 – 2.5 cm long and 0.6 – 2 cm across. **Pedicels** 1.5 – 3 cm long. **Perianth** 6-lobed, mostly reflexed during anthesis and persistent as a small remnant.
3 outer lobes ovate or triangular, 5 – 12 by 3 – 8 mm; 3 inner ones broadly ovate or triangular, 4 – 11 by 4 – 12 mm. **Stamens** 6, epipetalous, greenish-yellow. **Ovary** inferior, obpyramidal, 6-ribbed, 1-loculed, ovules numerous; style single; stigma 3-fid, reflexed. **Fruit** berry-like, triangular oblong, 2 – 4 by 1 – 2 cm, green or dark purple, each side with longitudinal ridges, crowned by persistent perianth. **Seeds** many, reniform.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** S.China, India, Bangladesh, Burma, Malay Peninsula, Laos, Vietnam.

**Ecology** In evergreen forest, shaded and humid places; altitude 50 –100 m. Flowering and fruiting February – August.

**Uses** The rhizomes are sliced, dried, and then macerated in local whisky. Then this alcoholic macerate is taken as an aphrodisiac, and also for good overall health. Sometimes these sliced rhizomes in local whisky are ingested for that purposes as well, (B). The whole plant is used as an ingredient of the formula F2 taken as a blood tonic and to relieve bodily discomfort, (B, M).

**Material studied** UBON 921, BKF 29734

**Reference** Phengklai, Fl. Thail. 6(1) : 3. 1993.

*Tacca integrifolia* Ker Gawl.

**Vernacular** Nang khruan (นางครวญ), Khang khao dam (คกาวดํา)

Herb, up to 80 cm tall; rhizome cylindric, 3 cm diam. **Leaves** simple, 3 –12 together, rosulate; petioles erect, 50 cm long, sheath 3 – 10 cm long; blades herbaceous, glabrous, oblong to lanceolate, 15 – 60 by 15 – 20 cm, apex acuminate, margins entire, base attenuate; nervation pinnate; nerves 8 – 12 pairs. **Inflorescences** umbellate, up to 60 cm long. Involutral bracts 4; 2 outer bracts opposite, elliptic to lanceolate, 1.5 – 14.0 by 0.5 – 7.0 cm, green to purple, veined black; 2 inner ones inplanted together more or less in the axil of one of the outer bracts, thinner than the outer ones, oblanceolate or spathulate, 2.5 – 22.0 by 1.0 – 11.0 cm, white, shaded purple. Floral bracts filiform 6 – 12, white or greenish-yellow, 12 – 15 cm long. **Flowers** greenish-violet, 1.5 – 3.0 cm long and 0.5 – 3.0 cm across. Pedicels 0.5 – 4.0 cm. **Perianth** 6-lobed, mostly reflexed during anthesis; 3 outer lobes elliptic, triangular or oblong, 6 – 15 by 4 – 9 mm; 3 inner ones ovate to obovate, 5 – 15 by 5 – 16 mm. **Stamens** 6, epipetalous, greenish-yellow. **Ovary** inferior, obpyramidal, 6-ribbed, 1-loculed, ovules numerous; style single; stigma 3-fid, reflexed. **Fruit** a berry-like, slightly 6-ribbed, green to black, 2.5 – 5 cm long, 2 – 3 cm wide, crowned by persistent perianth. **Seeds** many, ovoid, concave.
Locality  Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

Distribution  China, India, Bangladesh, Burma, Malay Peninsula, Borneo, Java, Sumatra.

Ecology  In evergreen forest, shaded and humid places; altitude 50 – 100 m. Flowering and fruiting February – August.

Uses  This plant is used in a similar way as Tacca chantrieri Andre, (B, M).

Material studied  UBON 935, BKF 088379


Thymelaeaceae

Linostoma pauciflorum Griff.

Vernacular  Pha mi (พ่าหมี)

Woody climber, up to 10 m long; branches slender, glabrous. Stipules absent. Leaves simple, opposite; petioles 1.5 – 2 mm; blades thinly coriaceous, broadly elliptic, 1 – 4 by 1.8 – 2 cm, apex obtuse and mucronate, margins entire, base obtuse to rounded, glabrous, rather glaucous beneath. Inflorescence terminal or axillary, umbelliform, on 5 – 10 mm long peduncle, pendulous, few-flowered, provided with 2 opposite leafy bracts; bracts usually smaller than but sometimes as large as the ordinary leaves, ovate-oblong, 2 – 4 by 1 – 2 cm, creamy white, membranous, with less lateral nerves than the leaves; pedicels short. Flowers bisexual, pale yellowish-green. Calyx tube slender, 6 – 10 mm long, slightly narrowed towards both ends, 5-lobed; lobes elliptic, 3 – 10 by 1 – 3 mm, glabrous, spreading. Petaloid appendages 10, filiform, 5 mm long, fleshy. Stamens 10, unequal, exserted. Ovary superior, ellipsoid, 4 – 6 mm long, sericeous, 1 -loculed; ovule 1; style filiform, 1 – 1.5 by 6 – 7 mm. Seed 1, globose.

Locality  Ban Hat Sung, Pa Pha Yom District, Phattalung Province.

Distribution  Burma, Malay Peninsula, Sumatra, Borneo.

Ecology  Evergreen forest, secondary forest, rubber plantations; altitude 40 m. Flowering and fruiting September – October.

Uses  The roots are cut, and then mashed, into which a proper amount of urine is added, then dried. They are wrapped by the leaves of Senna alata (L.) Roxb., and it is smoked as a cigarette to relieve nasal polyp, (B). The whole plant is chopped, and scattered over a fish pond to poison fish, (B, M). It is also used as an insecticide; in this case, it is pounded, into which water is added. Then a squeezed juice is sprayed on the plants, (B).
Material studied  UBON 211 , BKF 125572

Reference  Peterson , Fl. Thail. 6(3) : 236. 1997.

**Tiliaceae**

*Corchorus capsularis* L.  
Vernacular  Po kra chao (ปอกระเจา), Ka ching ba yu (กาจิงบายู)

Annual herb, erect, up to 2 m tall; branches glabrescent, red. **Stipules** linear-subulate, 3.5 mm long. **Leaves** simple, spirally arranged; petioles slender, 1 – 3 cm long, red, pubescent on the upper sides; blades thinly coriaceous, lanceolate oblong, 5 – 10 by 2 – 4 cm, apex acuminate, margins serrate, base rounded with a pair of filiform appendages and 3-nerved, glabrescent; secondary nerves 3 – 6 pairs. **Flowers** bisexual, small, yellow, solitary or in cymes, opposite the leaf. **Sepals** 5, free, lanceolate, red, 3 by 1 mm, glabrescent at base. **Petals** 5, free, yellow, spatulate, 4 by 1 mm, glabrescent at base. **Stamens** many, free. **Ovary** superior, 6-to 9-loculed; locules 2-ovuled; style subulate; stigma pointed. **Fruit** a capsule, subglobose, with 10 – 13 longitudinal ridges, 0.9 by 1.2 cm, red when ripe.

**Locality**  Ban Ka Lo Se La, Su-ngaikolok District, Narathiwat Province.

**Distribution**  India, Burma, China, Vietnam, Malay Peninsula, Indonesia, Philippines.

**Ecology**  In open places, swamp areas; altitude near sea level. Flowering and fruiting October – December.

**Uses**  The leaves together with few rice grains are pounded, and then a poultice is applied onto the affected areas to treat abscesses, contusion, and ulcer, (M).

Material studied  UBON 207, BKF 105350

Reference  Phengklai, Fl. Thail. 6(1) : 32. 1993.

**Ulmaceae**

*Trema canabina* Lour.  
Vernacular  Kira (กีร่า)

Shrub, up to 6 m tall, much-branched; branchlets slender, spreading, often drooping, densely silvery-hairy when young. **Stipules** linear lanceolate, caducous. **Leaves** simple, alternate; petioles 8 – 10 mm long; blades thinly coriaceous, narrow
ovate-lanceolate, 4 – 8 by 2 – 3.5 cm, apex caudate acuminate, base rounded, margins serrulate, glabrous on both surfaces except for the midrib and nerves which sometimes sparsely hairy when young; 3-nerved at base, nerves 4 – 5 pairs, sunken above, raised beneath. **Inflorescence** axillary panicle, lax, 1.5 – 2 cm long. **Flowers** unisexual, male and female flowers on the same plant. **Male flowers** 1.2 mm diam., perianth 5-lobed; lobes oblong-lanceolate, 1 – 1.5 mm long, membranous; stamens 5; pistillode present. **Female flowers** 1.5 mm diam.; perianth 5-lobed; lobes, ovate acute, 1.5 mm long, membranous; staminode absent; ovary superior, ovoid, glabrous, slightly compressed, 1-loculed, 1-ovuled; styles 2, short. **Fruit** a drupe, ovoid, slightly compressed, 2.5 by 2.0 mm, ripening orange.

**Locality** Ban Ka Lo Se La, Su-ngai kolok District, Narathiwat Province.

**Distribution** Burma, China, Indo-China, Malesia, Australia.

**Ecology** Common in lowland secondary forest, edges of forest, roadsides; altitude near sea level to 20 m. Flowering and fruiting throughout the year.

**Uses** A chip of the bark is bruised, and then kept in mouth for 30 minutes to treat aphthous ulcer, (M).

**Material studied** UBON 199, BKF 079665

**Reference** Soepadmo in Fl. Mal. Ser. 1. 8(2) : 50. 1977.

**Trema tomentosa** (Roxb.) Hara.

**Vernacular** Kira (คิร่า)

Shrub, up to 10 m tall; branches spreading, more or less horizontal; young parts densely covered with silvery hairs. **Stipules** linear-lanceolate, 5 mm long, pubescent. **Leaves** simple, alternate; petioles 1.0 – 1.5 cm long; blades thin- to thick - coriaceous, ovate-lanceolate, 8 – 15 by 4 – 6 cm, apex acuminate-caudate, margins serrate throughout, base cordate, asymmetrical; upper surface sparsely hairy, rough; under surface densely covered with silvery simple hairs; 3-nerved at base, nerves 5 – 6 pairs. **Inflorescences** axillary panicle, condensed, 1.5–2.0 cm long. **Flowers** unisexual; male and female ones on the same plant. **Male flowers** 1.5 – 2.0 mm long, perianth 5-lobed; lobes membranous, ovate, 1 mm long, margin hairy; stamens 5, filaments 1 mm long, flat, glabrous; pistillode present. **Female flowers** 1 mm long; staminode absent; ovary superior, subglobose, glabrous, 1-loculed, 1-ovuled; styles 2, densely hairy. **Fruit** a drupe, subglobose, 4 by 3 mm, ripening black.

**Locality** Ban To Wo, Su-ngaikolok District, Narathiwat Province.

**Distribution** East tropical Africa, Madagascar, SE.Asia.
Ecology
Common in the lowland, peat swamp forest, hills, as a pioneer plant invading and occupying newly opened up habitats on various kinds of soils, including limestones; altitude near sea level. Flowering and fruiting throughout the year.

Uses
This plant is used in a similar way as *Trema cannabina* Lour, (M).

Material studied
UBON 204, BKF 26988

Reference

**Urticaceae**

*Laportea interrupta* (L.) Chew

Vernacular
Kalang tang kai (กะลังตังไก่)

Monoecious annual herb, up to 60 cm tall, with slightly stinging hairs; stem week, often woody at base. **Stipules** intrapetiolar, bifid, 3 mm long. **Leaves** simple, alternate; petioles slender, 5 – 8 cm long, pubescent; blades thinly chartaceous, broadly ovate, 6 – 7 by 5 – 6 cm, apex pointed, margins serrate, base rounded to truncate, sparsely irritant hairy on both surfaces especially on the midrib and veins underneath; nerves 4 – 6 pairs, prominent, the basal pair reaching to more than half the length of the blades. **Inflorescences** axillary spike, bisexual, up to 18 cm long, sometimes with short branches. **Flowers** unisexual, green, crowded in groups along the spike and branches. **Male flowers** minute; sepals 4, cymbiform, with few irritant hairs at the apex; petal none; stamens 4, opposite the sepals; pistillode minute. **Female flowers** minute; sepals 4, unequal; the two lateral ones larger, almost enclosing the ovary, glabrous; petal none; ovary ovoid, asymmetric; stigma linear, trifid, greatly reflexed, the central branch longest. **Fruit** achene, asymmetrically ovoid, flattened, small.

Locality
Ban Huay Ngo, Khok Pho District, Pattani Province.

Distribution
Africa, India, Sri Lanka, Japan, China, SE.Asia and Malesia to Queensland and the Pacific Islands.

Ecology
In waste ground, open places, garden beds; altitude near sea level. Flowering and fruiting throughout the year.

Uses
The roots are rubbed against earthen pot, using the washing from uncooked rice as a solvent. Then the suspension is applied to the affected areas to treat herpes infection, (B).

Material studied
UBON 1254, BKF 104700

Reference
Poikilospermum suaveolens (Blume) Merr.  

Vernacular: Mu ru (มูรู)

Dioecious woody climbers; with many, long adventitious roots. Twigs glabrous; periderm splitting into transverse brown flakes. **Stipules** boat-shaped, caducous. **Leaves** simple, alternate; petioles 8 – 10 cm long, terete; blades coriaceous, glabrous, broadly ovate, 10 – 12 by 8 – 10 cm, apex obtuse, margins entire, base round or subcordate; nerves 9 – 11 pairs, very straight and prominent. **Male inflorescence** axillary, 4 – 6 cm long, solitary, branched dichotomously 2 – 3 times; peduncular bracts paired, foliaceous, boat-shaped, 5 – 8 by 4 – 6 mm, persistent. **Male flowers** purple, sessile, 1 – 2 mm long, as broad, born crowded together on swollen peduncular receptacle, forming floral capitula; floral capitula many, 0.5 cm diam.; tepals 2 – 3, pubescent outside; stamens 2, 1 mm long. **Female inflorescence** axillary, 5 – 7 cm long, solitary, branched once or twice; peduncular bracts paired, boat-shaped, slightly longer than those of the male or the same; floral capitula 3 – 4 cm diam., normally 2 in each inflorescence. **Female flowers** purple, pedicellate; pedicels 1 cm long, white. Perianth tubular, glabrous, 2 – 3 mm long, 1 – 2 mm across, 4-lobed; lobes very short, imbricate, obtuse and strongly incurved at the apex. Ovary superior, glabrous, 1 – 2 mm long, 1-loculed; ovule 1. **Fruits** achene, ellipsoid, 3 – 5 by 1 mm, entirely covered by the persistent perianth. **Seed** 1.

**Locality** Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

**Distribution** India, China, Indo-China, Nicobar Islands, Malay Peninsula, Sumatra, Java, Borneo, Philippines, Celebes and Moluccas.

**Ecology** In tropical rain forest, slightly shady places; altitude 90 – 110 m. Flowering and fruiting April – August.

**Uses** The roots are used as cordage. The climbing stems especially the large ones, when cut, yield quite amount of drinking water for emergency use by thirty trekkers. This sap is considered to treat helminthes in children. The cut stem that is lighted at one end is usually used as a torch for honey-collecting on a tall tree, (B, M).

**Material studied** UBON 1026

Verbenaceae

*Avicennia alba* Blume

**Vernacular** Pi pi (ปีปี)

Tree, up to 20 m tall; twigs terete, pendulous; bark grey to black, smooth. Pneumatophore present. **Stipules** absent. **Leaves** simple, opposite; petioles 1–2 cm long; blades coriaceous, elliptic-lanceolate to lanceolate, 7–12 by 2–5 cm, apex acuminate, margins entire, base narrowed, glossy dark green above, silvery grey beneath; nerves inconspicuous. **Inflorescences** spike-like cymes, 3–6 cm long, tawny tomentose, terminal and upper axillary; bracteoles 3. **Flowers** bisexual, yellow, sessile, 5–6 mm across. **Sepals** 5, connate at base, suborbicular, slightly unequal, 2 mm long, imbricate. **Corolla** campanulate, 4-lobed; lobes ovate, 3 mm long, densely hairy outside. **Stamens** 4, inserted in the throat of corolla tube, short. **Ovary** superior, ovoid, densely hairy, 1-loculed, 4-ovuled; style 2-lobed, lobes linear, acute, erect. **Fruit** not found.

**Locality** Ko Sukon, Palian District, Trang Province.

**Distribution** India, Burma, Indo-China, Malesia to N.Australia.

**Ecology** In mangrove forest; in newly well-drained mud banks often on the sea-face, associated with *Sonneratia alba* J. Sm., *Rhizophora mucronata* Poir. Flowering February – April.

**Uses** The leaves are burned, and then smoke obtained is used as an antidote to fumigate the inflamed areas caused by poisonous marine fish, (M).

**Material studied** UBON 1089, BKF 63449


*Avicennia marina* (Forsk.) Vierh.

Shrub, 5–8 m tall, much branched; twigs 4-angled; stem often bifurcated, bark greyish-white. Pneumatophores present. **Stipules** absent. **Leaves** simple, opposite; petioles 4–14 mm long; blades coriaceous, ovate to elliptic, 3–8 by 2.5–4.5 cm, apex obtuse, margins entire, base cuneate, glossy dark green above, greyish-white beneath; nerves inconspicuous. **Inflorescences** cymose head, 3–4 cm long, terminal and upper axillary; peduncles 1–5 cm long; bracteoles 3. **Flowers** bisexual, orange-yellow, sessile, 8–10 mm across. **Sepals** 5, free, suborbicular, edges ciliate, slightly unequal, 3–4 mm long, imbricate. **Corolla** campanulate, 4-lobed; lobes ovate, 3.5–4.5 mm long, densely hairy outside. **Stamens** 4, inserted in the throat of corolla tube, short. **Ovary** superior, ovoid, densely hairy, 1-loculed, 4-ovuled; style 2-lobed; lobes linear, acute, recurved. **Fruit** not found.
Locality Ko Sukon, Palian District, Trang Province.

Distribution Along shores of the Red Sea and the western Indian Ocean to the Cape of Good Hope, eastward along the coasts of tropical Asia, Malesia, Australia, Taiwan, Ryukyu and the Pacific Islands.

Ecology In mangrove forest; a pioneer species colonizing the fringe of mangroves facing the sea-face in directly exposed situations; most gregarious on sandy soil, commonly associated with *Bruguiera cylindrica* (L.) Blume. Flowering February – June.

Uses The leaves of this plant are used in a similar way as *Avicennia alba* Blume, (M).

Material studied UBON 1092, BKF 119805


*Callicarpa candicans* (Burm.f.) Hochr.  

Vernacular Tamo bue si (ตาโมบือซี)

Shrub, 1 – 3 m tall; branches densely stellate-hairy. **Stipules** absent. **Leaves** simple, opposite; petioles 1 – 2 cm long; blades herbaceous, oval-elliptic, 10 – 18 by 5 – 8 cm, apex acuminate, margins finely serrate-dentate, base attenuate, glabrous above, except on the midrib stellate-hairy, densely yellow gland-dotted; nerves 6 – 8 pairs. **Inflorescence** panicle consisting of many cymes, terminal or in upper axillary, 2 cm long; peduncles and pedicels short; bracts inconspicuous, pubescent. **Flowers** bisexual, pale violet, numerous, small, 2.5 mm long. **Calyx** campanulate, 1.5 mm long, densely stellate-hairy, minutely 4-toothed. **Corolla** campanulate, 2.5 mm long, 4-lobed; lobes rounded. **Stamens** 4, 4.5 mm long, exserted. **Ovary** superior, glabrous, 2-loculed; ovules 2 in each locule; style slender 5 – 6 mm long; stigma widened. **Fruit** a drupe, globose, 4 mm diam., ripening dark violet, glabrous, subtended by persistent calyx.  **Seeds** 4.

Locality Ban La Lo, Su-ngaipadee District, Narathiwat Province.

Distribution Malay Islands to Australia.

Ecology In open places, edges of forest; altitude 50 m. Flowering and fruiting throughout the year.

Uses The leaves are used as a contraceptive; a handful of the young leaves are boiled with two litre of water. It is boiled until the volume is ½ of original volume. Then this decoction is taken; carried out for 4 – 5 days, (M). The roots are used for the treatment of post partum; its decoction is given to a mother to drink after giving birth. It is considered to accelerate uterine involution, (M).
Callicarpa longifolia Lam.

Shrub, 2 – 3 m tall; branches densely stellate-hairy. Stipules absent. Leaves simple, opposite; petioles 0.5 – 1.5 cm long; blades herbaceous, oblong-lanceolate, 8 – 16 by 3 – 7 cm, apex long acuminate, margins finely serrate-dentate, base cuneate, thinly stellate-hairy above with the exception of the midrib and large nerves, stellate-hairy beneath, sparsely yellow gland-dotted on both surfaces; nerves 10 – 12 pairs. Inflorescences panicle consisting of many cymes, in upper axillary, branching dichotomously; peduncles and pedicels short; bracts inconspicuous. Flowers bisexual, numerous, pale violet, small, 2.5 mm long. Calyx campanulate, minutely 4-toothed, 1.2 mm long, stellate-hairy. Corolla campanulate, 2 mm long, 4-lobed; lobes rounded, stellate-hairy outside. Stamens 4, 5–6 mm long, exserted. Ovary superior, glabrous, 2-loculed; ovules 2 in each locale; style slender, 6 mm long, violet at the tip; stigma broad, flattened. Fruit a drupe, globose, small, ripening white.

Locality Ban To Wo, Su-ngaikolok District, Narathiwat Province.

Distribution Java, Borneo, Sumatra to N.Australia.

Ecology In edges of forest, open places, roadsides; altitude near sea level. Flowering and fruiting throughout the year.

Uses The crushed leaves, mixed with lime juice, and then applied as a poultice to cure wounds, (B). The leaves are also used for the treatment of post partum and fever. The young leaves together with turmeric rhizome and rice grains are crushed, mixed with water. Then a squeezed juice is given to a mother to drink after giving birth 3 days in the morning. It is considered to accelerate uterine involution. For the treatment of fever, the leaves of this plant species together with those of Dendrophthoe incarnata (Jack) Miq. and Syzygium polyanthum (Wigh) Walp. are boiled with water, and then this water is used to bath patient with chronic fever once a day in the morning, for 3 days, (M). The roots are used as an ingredient in the formula F 24 to treat fever and nausea, (B).
Clerodendrum serratum (L.) Moon

Vernacular Mata kesing (มาตากีซิง)

Erect shrub; upper part herbaceous, pubescent; branches angled. **Stipules** absent. **Leaves** simple, whorled; petioles 3–4 cm long; blades rigidly herbaceous, obovate or oblanceolate, 10–20 by 5–8 cm, apex shortly acuminate, margins serrate, base narrowed, glabrous; nerves 8–9 pairs. **Inflorescences** a terminal panicle, erect, 15–28 cm long, densely pubescent; branches and flowers many; bracts foliaceous, ovate acuminate, densely pubescent. **Flowers** bisexual. **Calyx** campanulate, green, 4 mm long, minutely 5-toothed; teeth triangular. **Corolla** bilabiate, 2-lipped; upper lip creamy white, lower pale violet; corolla-tube cylindric 5 mm long, far exceeding the calyx, villous inside. **Stamens** 4, didynamous, curved, villous at base, exserted. **Ovary** superior, 4-loculed; ovule 1 per locule; style filiform; stigma short, bifid. **Fruit** a drupe, obovate, ripening black, 5 mm long.

**Localities** Ban To Wo, Su-ngaikolok District, Narathiwat Province.

**Distribution** India, Burma, Cambodia, Sumatra, Java, Celebes.

**Ecology** Wet and open places; altitude near sea level. Flowering and fruiting throughout the year.

**Uses** A juice of the crushed leaves is applied onto the affected areas to cure cracked and inflamed soles, (M).

**Material studied** UBON 188


Gmelina elliptica Sm.

Vernacular Ching jai (จิงจี้), Bu ngo kue ta (บูงอกือตา)

Spiny scrambling shrub, up to 8 m tall; spines sharp, 2–4 cm long. **Stipules** absent. **Leaves** simple, opposite, petioles 0.5–4 cm long; blades herbaceous, ovate-elliptic, 2–8 by 2–5 cm, apex acute, margins entire, base acute, sparsely hairy above, densely hairy beneath; nerves 5–8 pairs. **Inflorescences** panicled cymes, terminal, 15–20 cm long; bracts ovate lanceolate; pedicels 1.5 cm long. **Flowers** bisexual, bright yellow, 2–4 cm long. **Calyx** campanulate, coriaceous, 6 mm long, with few external glands, minutely 5-toothed. **Corolla** bilabiate, tube much-widened above, 2-lipped; upper lip entire; lower one larger, 3-lobed, hairy on the outside. **Stamens** 4, didynamous, included. **Ovary** superior, glabrous, 4-loculed; ovule 1 in each locale; style filiform, 2.5 cm long; stigma capitate. **Fruit** a drupe, subglobose, 2.5 cm diam., fleshy, glabrous, ripening yellow.

**Locality** Ban Hua Yang, Rattaphum District, Songkhla Province.
Distribution  Nicobars, Malaysia.

Ecology  In open places, hedges; altitude 70 m. Flowering and fruiting throughout the year.

Uses  The young leaves are eaten raw to treat leucorrhoea; eaten blanched as a vegetable to treat hemorrhoids, (M). The crushed fruits mixed with lime juice are applied on the children’s neck to relieve cough, (M). The fruits are also used to treat earache; the mature ones are slightly heated until they become soft, and then squeezed. A squeezed juice is dropped into the aching ears, (B).

Material studied  UBON 507, BKF 081657


Peronema canescens  Jack.

Vernacular  Suk a (ซูกา)

Tree, up to 20 m tall; branches densely pubescent, 4-angled. Stipules absent. Leaves imparipinnate, opposite; petioles 5–15 cm long; rachis 30 – 90 cm long, winged; leaflet 4 –10 pairs, subopposite or opposite, accrescent towards the apex of the leaves, subsessile, chartaceous, elliptic-lanceolate, 4.0 –20.0 by 1.5 –3.5 cm, apex acuminate, base narrowed and slightly unequal, margins entire, upper surface glabrous, pubescent beneath, the young ones purple; nerves 10 –13 pairs, closely spaced, distinctly raised below. Inflorescence a large corymbose panicle, terminal, 30 – 60 cm long, widely branched. Flowers bisexual, small, subsessile, greenish-white. Calyx 5-lobed almost halfway down; lobes triangular, acute, 2 – 3 mm long, densely pubescent outside. Corolla bilabiate, tube 1 –2 mm long, minutely 5-lobed; lobes 1.5 – 2.5 mm, appressed-pubescent outside. Stamens 2, inserted at the base of the widen part of the corolla-tube, filaments 5 mm, far exserted. Ovary superior, globose, densely hairy, 4-loculed; ovule 1 per locule. Fruit a small drupe, globose, 3 mm diam., pale brown, hairy. Seeds 4, small.

Locality  Ban To Wo, Su-ngaikolok District, Narathiwat Province.

Distribution  Malay Peninsula, Java, Sumatra, Borneo.

Ecology  In secondary forest, swampy river edges; altitude near sea level. Flowering and fruiting November – January.

Uses  The leaves are used for the treatment of symptoms, and to get rid of helminthes in children. They are dried and pounded. Then a powder obtained is made into infusion, and taken for the treatment of symptoms. For the getting rid of helminthes, the crushed leaves mixed with lime juice, and then applied over a child’s abdomen, (M). The wood is used for house building, making hedge, (B, M). Local people sometimes use the leaves
for special magic treatment to ward off bad spirit from their houses, (M).

Material studied          UBON 1186


Stachytarpheta jamaicensis (L.) Vahl

Vernacular Phan ngu khiao (พันงูเขียว)

Herb, 100 – 150 cm tall; stem 4-angled, sparsely pubescent, green. Stipules absent. Leaves simple, opposite; petioles 2 cm long; blades ovate-elliptic, herbaceous, dark green, bullate between the secondary lateral nerves, 7 – 10 by 4 – 5 cm, apex acute, base decurrent on petiole, margins serrate to base, shortly ciliate, short-hairy on the lower surface of the larger nerves; nerves 3 – 4 pairs, prominent beneath. Inflorescences terminal, slender spike, 20 – 22 cm long, glabrous. Bracts ovate acuminate, 6 mm long, ciliate. Flowers bisexual, arising from hollows of rachis. Calyx elongate cylindric, 4-toothed, pale green. Corolla dark violet, salver-shaped, tube cylindric 1 cm long; limb 5-lobed, 1.3 cm across. Stamens 2, enclosed. Ovary superior, 2-loculed, ovule 1 per locule; style long exserted; stigma capitate. Fruit not found.

Locality          Ban Ton Sai, Srinakharin Subdistrict, Phattalung Province.

Distribution          S.America.

Ecology In grass-field, young forest, roadsides, watersides; altitude 80 m. Flowering January – February.

Uses The leaves (6 – 7 leaves) are eaten raw to relieve stomach ache, (B).

Material studied          UBON 183, BKF 086855


Vitex negundo L.

Vernacular Khon thi (คนที), Ku ning (กูนิง)

Shrub, 1–2 m tall; branchlets 4-angled, pubescent. Stipules absent. Leaves 3- to 5-foliolate, opposite; petioles 5 – 8 cm long; petiolules 1.0 – 1.5 cm long. Blades chartaceous, lanceolate, unequal, the middle one largest, 6 – 12 by 2 – 4 cm, apex acute, base cuneate, margins entire, dark green and sparsely pubescent above, pale and more densely pubescent beneath; nerves 6 – 12 pairs. Inflorescence terminal panicle, 15 – 30 cm long, 10 – 20 cm wide, white-tomentose. Flowers numerous, bisexual, 6 mm long, 5.5 mm diam. Calyx campanulate, 2 – 3 mm long, shortly 5-toothed; teeth acute. Corolla bilabiata, tube 3 – 4 mm, tomentose inside, 2-
lipped, with 2 lobes on the upper lip and 3 lobes on the lower ones, pale violet. Stamens 4, didynamous, inserted on corolla-tube, exerted. Ovary superior, 2-loculed; ovules 2 per locule; style filiform, 4.5 mm long; stigma bifid. Fruit a drupe, globose to broadly ovoid, 5 mm diam., ripening purple or black, subtended by the enlarged calyx. Seeds 4.

Locality Ban Hua Yang, Rattaphum District, Songkhla Province.

Distribution E.Africa, Madagascar, Iran, Afganistan, Pakistan, India, Sri Lanka, Burma, Indo-China, China, Japan, Malesia.

Ecology In humid places, water sides, waste places; altitude 40 m. Flowering and fruiting throughout the year.

Uses A decoction of the whole plant is drunk daily as a substitute of drinking water to relieve bodily discomfort, (B). The leaves are soaked in water that used as holy water in religious ceremonies, (B).

Material studied UBON 848


*Vitex pinnata* L. Figure 78 C

Vernacular Non (นน), Lue bae (ลือแบ)

Tree up to 20 m tall; bark pale yellowish-grey, fissured and flaky in thin long pieces, young part pubescent. Stipules absent. Leaves 3-to 5-foliolate, opposite; petioles 3.5 – 10.5 cm long; petiolules 2 – 8 mm long; blades chartaceous, obovate or elliptic, leaflets unequal, the outer leaflets often small, middle one largest, 6–20 by 3–10 cm, apex acuminate, base cuneate, margins entire, nearly glabrous above, pubescent beneath; nerves 13–20 pairs. Inflorescences panicle, terminal and in the upper leaf-axils, 8–25 cm long, 15 cm wide, ovoid or pyramidal, dense; bracts greenish-brown, persistent. Flowers bisexual. Calyx campanulate, 5-toothed, 4 – 5 mm long, tomentose. Corolla bilabiate, tube 8 mm, 2-lipped with 2 lobes on the upper lip and 3 on the larger lower ones, violet. Stamens 4, didynamous, exerted. Ovary superior, glabrous, 2-loculed, ovules 2 per locule; style filiform; stigma bifid. Fruit a drupe, globose, 8 mm diam., ripening purple and finally black, subtended by the enlarged calyx. Seeds 4.

Locality Found in every study sites.

Distribution SE.Asia

Ecology Secondary forest, peat swamp forest; altitude from near sea level to 180 m. Flowering and fruiting January – May.
Uses
A decoction of the stem barks and leaves is used as an abistergent. The ripe fruits (2 – 3 fruits) are eaten raw for the prevention of abscesses, (M). The wood is used to make household items, agricultural equipments, etc, (B, M).

Material studied UBON 847


Violaceae

*Rinorea bengalensis* (Wall.) O.K.

**Vernacular** Phak wan chang khlong (ผักหวานช่องโขลง)

Shrub, 2 m tall, young parts with yellow-brown pubescent. **Stipules** triangular, 1.5 mm long, caducous. **Leaves** simple, alternate; petioles 1–2 cm long; blades thickly membranous, elliptic, 7–17 by 3–7 cm, apex acuminate, base cuneate, margins shallowly serrate, sparsely pubescent; nerves 7 – 8 pairs. **Inflorescence** axillary corymb, on the young twigs, 1 cm long; peduncles short. **Flowers** bisexual, small, pale green; pedicels 4 mm, articulate, jointed near the base of the peduncle. **Sepals** 5, ovate, fleshy, 2 by 1 mm. **Petals** 5, 3.0 by 1.5 mm, thin, margins hairy. **Stamens** 5, filaments connate into a tube, anthers longer than the filaments. **Ovary** superior, ovoid, hairy, 1-loculed, ovules 3; style thick, straight, with terminal subglobose stigma. **Fruit** subglobose capsule, 12 mm diam., subtended by the persistent sepals and petals, green when ripe, sparsely pubescent. Seeds 3, light brown.

**Locality** Ban Ton Sai, Srinakharin Subdistrict, Phattalung Province.

**Distribution** Sri Lanka, S. India, Burma, Malaysia.

**Ecology** In primary forest, forest edges; on various soils but often on steep limestone hills; altitude 80 m. Flowering and fruiting January – March.

References


Vitaceae

*Ampelocissus arachnoidea* (Hassk.) Planch.

**Vernacular** Som kung (สومกุ้ง)

Climbing herb, up to 10 m long, pubescent. Roots tuberous, large. **Stipules** broadly ovate, 2–3 mm long, red. **Leaves** simple, alternate; petioles slender, 6 – 15...
cm long, pubescent; blades thickly herbaceous, suborbicular, 10 – 20 by 9 – 18 cm, apex acute, margin coarsely dentate, base deeply cordate; upper surface shiny green, pubescent; lower surface paler, densely arachnoid. Inflorescence leaf-opposed panicle, 5–20 cm long, consisting of small racemes, cincinniferous. Flowers many, dense, bisexual, greenish-yellow; pedicels short. Calyx cupular, short, obscurely 5-lobed. Petals 5, free, oblong, glabrous, 2 mm long, apex acute, with minute red spots at the tip. Stamens 5, free; filaments white, slender, 2 mm long. Ovary superior, surrounded by the tubular disk, shallowly 10-grooved, 2-loculed; ovules 2 in each locale; style short, thick; stigma small.

Locality Ban Ta Se, Hat Samran Subdistrict, Trang Province.

Ecology In secondary forest, slightly shady places, rubber plantations; altitude 30 m. Flowering April – May.

Uses The sourish young leaves are cooked in various way as a vegetable, (B, M).

Material studied UBON 1210


*Cayratia japonica* (Thunb.) Gagnep.

Vernacular La kong (ลากง)

Climbing herbs; stem angled, sparsely pubescent; tendrils branched. Stipules triangular. Leaves 5-foliolate, spirally arranged, partly opposite; petioles 4 cm long; blades herbaceous, ovate, 3.5 – 4.0 by 2.0 – 3.5 cm, apex acute to acuminate, margins serrate, base cuneate, glabrous except on midrib; nerves 7–9 pairs. Inflorescences axillary, corymbose cyme, long-peduncled. Flowers small, bisexual, pale green. Calyx cup-shaped, truncate. Petals 4, free, sparsely pubescent on outer sides. Stamens 4, opposite to petals. Disk cupular, adnate to the base of ovary, thin-margined, yellow. Ovary superior, ovoid, 2-loculed; ovules 2 in each locale; style terete; stigma small. Fruit berry, globose.

Locality Ban To Wo, Su-ngaikolok District, Narathiwat Province.

Distribution Java, Australia, Japan, China.

Ecology Edges of peat swamp forest, moderately shaded localities; along roadsides; altitude near sea level. Flowering and fruiting throughout the year.

Uses The leaves together with turmeric rhizome are crushed, and then a mixture is used as a poultice applied externally to relieve swellings, (M).

Material studied UBON 224

**Cayratia trifolia** (L.) Domin

Vernacular  Thao khan (เถ้าคัน)

Climbing herb, glabrous, with tendrils. **Stipules** absent. **Leaves** trifoliolate, alternate; petioles 6 – 8 cm long; petiolules of the terminal leaflets 15 mm, and those of the lateral ones 7 mm; blades herbaceous, ovate, 5 – 8 by 4 – 5 cm, apex acuminate, margins entire, base rounded, often slightly oblique in lateral leaflets; glabrous on both surfaces; nerves 6 – 8 pairs. **Inflorescences** umbellate cyme, leaf-opposed; peduncles 8 – 10 cm long; pedicels 4 mm. **Flowers** bisexual, 2 mm across. **Calyx** cupular, very short, truncate, green. **Petals** 5, free, valvate, triangular, 2 by 2 mm, apex acute, green. **Stamens** 4, opposite the petals. Disk cupular, thick, fleshy, adnate to the base of ovary. **Ovary** superior, 2-loculed; ovules 2 in each locule; style terete; stigma minute. **Fruit** berry, depressed globose, 1.5 cm diam., shining black. **Seeds** 4, trigonous, black.

**Locality** Ban Hua Yang, Rattaphum District, Songkhla Province.

**Distribution** India, Java.

**Ecology** In waste places, roadsides in lowland; altitude 70 m. Flowering and fruiting throughout the year.

**Uses** The sourish young fruits are cooked in sour curry; they become inedible upon ripening, (B, M).

**Material studied** UBON 1219


**Cissus hastata** Miq.

Vernacular  Som khao (ส้มเข่า), Som podee (ส้มพอดี), La kong da ra (ลากงดาเร้า)

Climbing herb; stem 4-angled, narrowly winged, glaucous, with bifid tendrils. **Stipules** absent. **Leaves** simple, alternate; petioles 2.5–5.0 cm long; blades herbaceous, oblong-triangular, 5–11 by 3–5 cm, apex acute, margins obscurely dentate, base sagittate, glabrous on both surfaces. **Inflorescences** cyme, leaf-opposed; petioles 4 – 6 cm long. **Flowers** bisexual, 3 mm long; pedicels 2 mm long. **Calyx** cupular, its rim distinctly raised above the insertion of the petals, truncate. **Petals** 4, free, ovate-oblong with a cucullate, pale green with reddish-purple apex. Disk cupular, adnate to the base of ovary. **Ovary** superior, glabrous, 2-loculed; ovules 2 in each locule; style thin; stigma small, capitate. **Fruit** a berry, globose, 5 mm across, ripening black. **Seed** 1.

**Locality** Ban Ton Panun, Khuan Kalong District, Satun Province.

**Distribution** Borneo, Java.
Ecology

Found in lowland to montane forest, secondary forest, waterside; altitude 100 m.

Uses

The sourish young leaves are cooked in sour curry, or slightly roasted and then eaten as a side dish with rice, (B, M). The leaf shoots are cut into small pieces, and then put in palm wine for sour taste, (B).

Material studied

UBON 223, BKF 101441

Reference


Zingiberaceae

Alpinia conchigera Griff.

Vernacular

Kha ling (ข่าลิง), Ku wa kue ting (กูวากือติง)

Herbs, stem slender, growing close together, leafy shoots up to 100 cm tall. Leaves simple; petioles 3 – 5 mm long; ligules broadly ovate, 4 mm long, glabrescent. Blades coriaceous, glabrous except on midrib of under surface, oblong, 17 – 20 by 3 – 5 cm, apex acuminate, edges ciliate, base decurrent. Inflorescences panicle, from the end of leafy shoot, 10 – 20 cm long, rachis slender, short-hairy. Flowers arising in group of 2 or more from the axis of the inflorescence. Primary bracts 3 – 5 cm long, caducous, lanceolate. Secondary bracts at the base of each group of flowers, broadly funnel-shaped, 4 – 6 mm long, obliquely truncate with a hairy edge. Pedicels 5 mm long. Calyx cup-shaped, glabrous, 3 mm long and wide, 3-lobed, pale green. Corolla tube pale yellow, as long as calyx, sparsely pubescent outside, 3-lobed; dorsal lobe elliptic, concave, 7 by 4 mm; lateral ones broadly ovate, 6 by 5 mm. Labellum ovobovate, emarginate, 0.7 by 0.9 cm, cream or pinkish white with 4 – 5 red streaks on each side; and a raised, wrinkled band down the center. Stamen 1, filament slender, curved, yellowish, 5 mm long; anther 2 mm long. Stamens red, triangular, 2 by 1.5 mm. Ovary inferior, globose, glabrous, 2 – 3 mm diam., 3-loculed; ovules 2 in each locule; stigma cup-shaped. Fruit a capsule, globose, 7 mm diam., glabrous, bright red, with remains of flower at apex. Seeds 3 – 5, strongly aromatic, with white aril.

Locality

Ban Hua Yang, Rattaphum District, Songkhla Province.

Distribution

E.Bengal to Indo-China and south to Malaysia and Sumatra.

Ecology

In open places, especially in rather wet ground; altitude near sea level. Flowering and fruiting throughout the year.

Uses

The hearts of young shoots are eaten raw as a vegetable, and also used as a condiment in local dishes, (B, M).

Material studied

UBON 925, BKF 083982

Reference

**Alpinia javanica** Blume

**Vernacular** Put nu (ปุดหนู)

Herb, 2 –3 m tall; rhizome short, fleshy. **Leaves** simple, distichous; leaf sheath smooth, with finely nerves; ligules 1 – 3 cm long, bilobed apex, fimbriate; petioles 5 – 6 cm long, finely pubescent; blades coriaceous, oblong, 40 – 70 by 7 – 13 cm, apex cuspidate, base slightly unequal acute, finely pubescent. **Inflorescence** a pendulous panicle, born on leafy terminal shoot, 15 – 20 cm long; rachis red, pubescent, shortly branched; when young surrounded by large, lanceolate bracts, 8 – 10 by 3 cm; bracteoles cup-shaped, persistent, 1.5 – 2 by 2 – 3 cm, apex truncate, hairy base, thin, brittle when dry, enclosing 2 – 3 exserted flowers. Pedicels hairy, up to 5 mm long. **Flowers** bisexual. **Calyx** funnel-shaped, shallow cleft, pink, glabrous, 2 cm long. **Corolla** tube white, 1.3 – 1.5 cm long; lobes 3, unequal, white at margin, pink at middle; posterior lobe largest, up to 2.5 by 1.5 cm. Labellum broadly obovate, 4.7 by 4.5 cm, bright orange with a broad white margin, margin denticulate. **Stamen** with distinct filament, 1.5 cm long, pubescent; anther yellow, 1 cm long. **Staminodes** 2, red, 3 mm long. **Ovary** inferior, 3-loculed, ovules numerous; stigma infundibuliform, white. **Fruit** a globose capsule, tipped by persistent calyx, hairy, 2.5 cm diam. **Seeds** numerous.

**Locality** Ban La Lo, Su-ngaipadee District, Narathiwat Province.

**Distribution** Java, Sumatra.

**Ecology** In tropical rain forest, rubber plantations; altitude 90 m. Flowering and fruiting throughout the year.

**Uses** A juice of the crushed rhizome mixed with water which is used in rice cooking, and then this cooked rice is used as an ingredient in some local dishes. The flowers are eaten raw as a vegetable, (M).

**Material studied** UBON 258, BKF 126709


---

**Alpinia mutica** Roxb.

**Vernacular** Put (ปุด), Kae nae (แกแน)

Herbs; rhizome short, thick. Leafy shoots close together, up to 1.5 – 2 m tall. **Leaves** simple; petioles 1 – 2.5 cm long; ligules red, 0.8 – 1 cm long, obtuse, ciliate. Blades coriaceous, lanceolate, 35 – 50 by 6 – 8 cm, apex caudate, 2 cm long, base tapered, margins ciliate. **Inflorescences** arising from the end of the leafy shoot, panicle, 15 – 20 cm long. Peduncular bract boat-shaped, 8 – 10 long. Rachis thick, densely pubescent. Flowering branches about 4 cm long; bracts oblong, white, 2 by 1.5 cm. **Flowers** bisexual. **Calyx** white, tubular, dilate above, 2 –3 cm long, 3-
lobed, pubescent outside. **Corolla** white, tubular; tube 1.5–1.8 cm long, 3-lobed; lobes oblong, apex obtuse. Labellum 3.5 – 4 by 3.5 cm, concave, yellow with numerous red dots and veins, 2-lobed, with a dark red swelling at the base on each side. **Stamen** 1, fleshy, filament 1.3 cm long, anther 0.8 cm long. **Ovary** inferior, subglobose, pubescent, 5 – 6 mm diam., 3-loculed; ovules numerous. **Fruit** a capsule, globose, 2 – 2.5 cm diam., pubescent, orange-red. **Seeds** numerous, dark brown, with translucent white aril.

**Locality** Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

**Distribution** Malay Islands.

**Ecology** In open and wet places, in village; altitude 20 m. Flowering and fruiting throughout the year.

**Uses** The heart of young shoots and the young fruits are eaten raw as a vegetable, (B, M). A decoction of the mature rhizome is drunk daily for the treatment of urinary stones, (M).

**Material studied** UBON 257, BKF 084832


**Amomum testaceum** Ridl.

**Figure 24 A – C**

**Vernacular** Krawan (กระวาน)

Herbs, rhizome just below surface of the ground. Leafy shoots 2 – 3 m tall; petioles none; ligules 5 mm long, bilobed, ciliate. **Leaves** simple; blades lanceolate to oblong-linear, thinly coriaceous, 50 – 60 by 7 – 10 cm, apex acuminate acute, base tapered, glabrous on both surfaces except for hairs on edges towards apex. **Inflorescences** arising from the rhizome, spiciform, oblong in outline, 10 – 15 cm long, 3 – 4 cm wide; peduncles 5 – 15 cm long, 5 – 8 mm through; bracts papery, buff coloured, narrowly triangular, 3 – 3.5 by 1.5 cm, ciliate, persistent; bracteoles buff coloured, ovate, 1.5 by 0.8 cm, soft hairy, tubular at the base, 2-lobed, split to the base. **Flowers** bisexual. **Calyx** tubular, pubescent, 2 cm long, 3-lobed. **Corolla** tube a little longer than calyx, pubescent, 3-lobed; lobes white, oblong, 1.3 by 0.3 cm. Labellum, white, obovate, concave, 1.8 by 1.5 cm; apex broadly rounded, crinkled and shortly reflexed; purple lines at the median; hairy at the base. **Stamen** 1, filament white, glabrous, 1.2 cm long, 2 mm wide; anther 3 mm long; connective 2-lobed; lobes spreading. **Ovary** inferior, tomentose, 3 – 4 by 2.5 mm, 3-loculed; ovules many in each locule. Fruit a capsule, globose 1 cm diam., pale brown, thin-walled, slightly ribbed, slightly pubescent, covered with persistent bracts in a compact infructescence. Seeds many, brown, subtriangular, flattened, with thin translucent white aril.

**Locality** Ban Khao Phra, Rattaphum District, Songkhla Province.

**Distribution** Borneo.
Ecology

Occurs wild in shady places, thick woods, local but wide-scattered, chiefly near limestone rocks; altitude 350 m. Flowering and fruiting May – June.

Uses

The hearts of young shoots are cooked in curries. The aromatic seeds are commonly used as a condiment in various dishes, (B, M). The seeds are also used as an ingredient in various traditional remedies, such as a carminative, stomachic, etc, (B).

Material studied

UBON 1204

Reference


*Elettariopsis curtisii* Baker

Small herb up to 80 cm tall. Rhizomes slender, wide-creeping, bearing leaf-shoots at intervals of 10 – 25 cm. Leaf-shoots with 1 – 5 leaves; petioles 5 – 18 cm long. **Leaves** simple; blades herbaceous, lanceolate to elliptic, 25 – 40 by 4 – 10 cm, apex acuminate to slightly caudate, base decurrent, glabrous. **Inflorescences** arising from the base of leaf-shoot, horizontal, just below the ground surface, extending to about 10 cm long, with sterile sheath along non-floriferous portion. Floral bracts on distal part of the inflorescence, 1.5 cm long, ovate, glabrous, white, bearing in its axil a flower on a pedicel 0.5 – 1.5 cm long. Bracteoles 0.5 – 1.5 cm long, split to the base on one side, apex broadly rounded, white, glabrous. **Flowers** bisexual. **Calyx** 3 – 4 cm long, white, cleft a third of its length down one side, apex with 3 short blunt teeth. **Corolla** tube 4.5 cm long, slender, white, 3-lobed; lobes white, 1.5 cm long; upper lobe strongly concave at distal part, 5 – 6 mm wide, other ones narrower. Labellum white, 2.5 by 2 cm, base narrower and widening abruptly, apex reflexed and crinkled at edges; median band thickened and yellow, bordered by a lateral red stripe on either side towards the base. **Stamen** 1; filament 4 mm long and broad; anther 4 mm long. Staminodes small, 5 mm long. **Ovary** inferior, glabrous, 3-loculed; ovules many. Stigma with broad triangular mouth fringed with short hairs. **Fruit** unknown.

Locality

Ban Lu Bo Sa Ma, Su-ngaikolok District, Narathiwat Province.

Distribution

SE.Asia.

Ecology

In lowland forest, damp open places and edges of forest; altitude near sea level. Flowering March – May.

Uses

The young rhizomes and leaves are eaten raw as a vegetable with the side benefit of relieving flatulence, (M). A decoction of the whole plant is taken to relieve flatulence, stomach ache, (B, M).

Material studied

UBON 255 , BKF 082645

Reference

Etlingera elatior (Jack) R.M.Sm.  

Vernacular  
Kala (กาหลา), Dala (ดาหลา)

Large rhizomatous herb; rhizomes just below ground, stout, 3 – 4 cm diam. Leafy shoots up to 5 – 6 m tall. Petioles 2 – 3 cm long, surface longitudinally ribbed; ligules 2 cm long, apex slightly lobed, margin with short hairs. Leaves simple; blades coriaceous, oblong, 30 – 60 by 10 – 15 cm, apex acuminate, margins entire, base rounded, glabrous on both surfaces. Inflorescences arising from the base of the leafy shoot, raised well above the ground; peduncle 40 – 200 cm long. Receptacle of inflorescence elongating markedly during flowering, forming a cone-shaped flower-head, 10 – 12 cm long, bearing numerous flowers. Inflorescence bracts waxy, red, dark pink or light pink, rarely white; outer ones sterile, deflexed or spreading, oblong-elliptic, 5 –10 by 2 –3 cm; inner ones fertile, resembling the sterile ones but smaller, decreasing in size towards the center of the flower-head, rising in a cone, each one producing one flower. Bracteoles tubular, 2–2.5 cm long, 0.8 cm across, 2-lobed, deeply split down the opposite side, glabrous, translucent with a pink median band. Flowers bisexual. Calyx tubular, 2.5 cm long, 1 cm across, 3-lobed, each lobes with an apical tuft of hairs, deeply split down the opposite side, glabrous, white, deep pink at apex. Corolla tubular, tube 2 cm long, shortly 3-lobed, apex rounded, white with pink tips. Labellum oblongelliptate, 2 by 1 –1.5 cm, white with a yellow margin, apex rounded. Stamen 1; filament short, adaxially hairy. Anthers 8 – 9 mm long, dark red with white hair. Staminode absent. Ovary inferior, globose, 0.5 cm diam., 3-loculaed; ovules numerous. Style white, hairy. Stigma red. Fruit subglobose, 2.5 cm diam., densely covered with appressed short hairs; apex with remnant of calyx; ripening green. Seeds irregularly angular and truncate; surrounded by thin, whitish, and translucent pulp.

Locality Ban La Lo, Su-ngaiadee District, Narathiwat Province.

Distribution Malay Peninsula, Java, Sumatra.

Ecology Commonly cultivated as ornamental plants; in humid and slightly shady places; altitude 90 m. Flowering throughout the year.

Uses The young shoots and inflorescences are eaten raw as a vegetable with the side benefit of curing flatulence and stomach ache, (B, M). A decoction of the inflorescences is taken; it is said to decrease high blood pressure, (M). The whole plant is boiled with water. Then this water is used as a bath for children to get rid of helminthes, (M).

Material studied UBON 1182, BKF 118474

**Etlingera littoralis** (Koenig) Giseke

*Vernacular* Put khang khok (ปุดคางคก)

**Figure 45 F**

Herb, rhizome deeper in the ground. Leafy shoots up to 5 m tall; sheaths conspicuously ribbed longitudinally, white hairy; ligules triangular, acute, 1.3 by 1 mm, pubescent; petioles 2–3 cm long. **Leaves** simple; blades coriaceous, oblong-linear, 60–70 by 10–12 cm, apex caudate, base tapered, glabrous above, finely pubescent beneath. **Inflorescences** subterranean except for apices of sterile bracts and flowers, arising at base of leafy shoot, 10–15 cm long; peduncle very short, horizontal, then erect, entirely subterranean. Bracts of lower part of inflorescence sterile, fleshy, white with pink at margin, broadly ovate, 5 by 2–2.5 cm. Fertile bracts or floral bracts white, with red at tip, ovate-oblong, fleshy, 5–6 by 1–1.5 cm, pubescent outside. Bracteoles pale pink, tubular, 4.5 cm long, 2-lobed. **Flowers** bisexual. **Calyx** membranous, tubular, 3-lobed, 3–4 cm long, greenish-white with pink at tip, pubescent outside. **Corolla** tubular, tube white, 3 cm long, 3-lobed; lobes pink, linear, apex obtuse. Labellum held horizontal, 3-lobed; middle lobe elongate, 3–4 cm long; lateral lobes short, 0.5 cm long; each lobe reddish with yellow margin, apex rounded. **Stamen** 1; filament short, 0.5 by 0.4 cm; anther 1 by 0.3 cm, red. **Staminode** none. **Ovary** inferior, 0.4 cm long, pubescent, 3-loculed; ovules numerous; stigma subglobose, red. Fruit not found.

**Locality** Ban Khao Phra, Rattaphum District, Songkhla Province.

**Distribution** China, Malay Peninsula, Borneo, Java, Sumatra.

**Ecology** In evergreen forest, humid and shady places; altitude near sea level to 350 m. **Flowering** May – June.

**Uses** The tender central parts of the shoots and young rhizomes are eaten cooked, (B).

**Material studied** UBON 1351, BKF 118474


**Hedychium ellipticum** Hamm ex Smith

*Vernacular* Khing haeng (ขิงแห้ง)

**Figure 54 A – B**

Epiphytic; rhizome strongly aromatic, leafy stem 1.5–2 m tall. **Leaves** simple, distichous, subsessile; ligules membranous, narrowly triangular, acuminate, 2.5 cm long. Blades coriaceous, narrowly elliptic, 30–45 by 4–6 cm, apex acuminate, margins entire, base cuneate, glabrous on both surfaces except on the midrib of the lower surface covered with sparsely appressed hairs. **Inflorescences** spike, from the end of the leafy stem, rather dense, 20 cm long and 10 cm wide; peduncle 6–7 cm long, thick, curved, bringing the inflorescence upright; bracts triangular, obtuse, sparsely pubescent outside, 1.2 cm long, green; bracteoles ovate, obtuse, sparsely pubescent outside, 6 mm long. **Flowers** bisexual, one to each bract,
yellow, fragrant, 8 cm long. **Calyx** tubular, slender, 2.2 cm long, apex shallowly 3-lobed, greenish-yellow. **Corolla** tube slender, 3.3 cm long, greenish-yellow, pubescent inside, glabrous outside, 3-lobed; lobes linear-lanceolate, 4–5 cm long, 2 cm wide, white turning deep yellow, glabrous. Lateral staminodes petaloid, oblanceolate-linear, 3.5 cm long, 4–5 mm wide; labellum obovate, 2.8 by 1–3 cm, apex deeply divided, white turning yellow. **Stamen** 1; filament slender, 4 cm long, deep yellow; anther 1 cm long, red. **Ovary** inferior, globose, 3-loculed; ovules numerous, pale pink; style filiform, 8 cm long, pale yellow; stigma slightly enlarged, concave. **Fruit** capsule, subglobose, 3-lobed, 1.3 cm diam., sparsely pubescent, crowned by calyx remnants. **Seeds** numerous, oblong, 4 by 2 mm smooth, shining pink, with yellow lacerated aril.

**Locality** Ban Ton Sai, Srinakharin Subdistrict, Phattalung Province.

**Ecology** Cultivated for medicinal purposes. Flowering and fruiting August – September.

**Uses** The aromatic rhizomes are used as an ingredient in a stomachic and a remedy to relieve bodily discomfort, (B).

**Material studied** UBON 1246


**Scaphochlamys biloba** (Ridl.) Holtt.

**Vernacular** Sala thang (ส่าลาทัง)

Rhizome slender, 4 – 5 mm diam., greenish-white, creeping. Stem above the ground often bearing only 1 leaf; sheath 2, violet; petioles 3 – 7 cm long. **Leaves** simple; blades herbaceous, lanceolate, 10 – 13 cm by 3 – 5 cm, apex acute, margins entire, base rounded and slightly unequal, upper surface dark green with two white strips at both sides of mid vein, lower surface violet. **Inflorescence** a spike about 7 cm long; bracts and bracteoles violet, lanceolate. **Flowers** bisexual, spirally arranged on rachis. **Calyx** white, tubular, 1 cm long, shallowly 3-lobed; lobes unequal. **Corolla** white, tubular, 3 cm long, 3-lobed; lobes linear, 1.5 by 0.5 cm. Labellum obovate, 2.5 by 1.5 cm, 2-lobed; lobes rounded, white, base yellowish inside. **Stamen** 1; filament white, 4 mm long; anther yellow, 4 mm long, back pale pink. Staminodes oblong, white, 2.0 by 0.6 cm. **Ovary** inferior, 3-loculed, ovules numerous; style filiform; stigma globose. Fruit not found.

**Locality** Ban La Lo, Su-ngaipadee District, Narathiwat Province.

**Ecology** In humid, shady places; altitude 70 m. Flowering March – April.

**Uses** A decoction of the whole plant is taken as a contraceptive; it is taken one cupful once a day, daily, (M).

359

Zingiber montanum (Koenig) Theilade

Vernacular Phlai dam (ไพลดํา)

Herb, 1.5 m tall, rhizome yellowish-orange inside. Leaves simple, distichous; petioles short; leaf sheaths glabrous; ligules minute, 2-lobed, pubescent outside. Blades linear, 18 – 35 by 3.5 – 5.5 cm, apex acuminate, margins entire, base obtuse, glabrous on both surfaces or hairy on midrib beneath. Inflorescences arising from the rhizome, spiciform, narrowly ovoid or fusiform, 8 – 11 by 3 cm, apex acute; peduncle 15 – 20 cm. Bracts narrowly-obovate, brownish-green with papery edges, 4 by 2 cm, apex acute, flat, finely pubescent outside; bracteoles triangular acute, convolute, 2–3 cm long, light green, purple at apex, finely pubescent outside. Flowers bisexual. Calyx tubular, membranous, white, 1.5 cm long, split on one side, 3-dentate. Corolla pale yellow, narrowly funnel-shaped, tube 2.5 cm long, 3-lobed; lobes oblong, apex acute, 2.5 by 1 cm; the posterior lobe slightly larger than the anterior ones. Labellum light yellow, obovate, 2.5 by 2 cm, shallowly 2-incised at the apex, margins slightly undulate dentate. Stamen 1; anthers linear-oblong, 1 cm long; apical appendages of connectives 1 cm long. Staminodes pale yellow, ovate, entire, 1 by 0.5 cm. Ovary inferior, 3-loculed; ovules many.

Locality Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

Distribution India, SE.Asia.

Ecology Cultivated for medicinal purpose; altitude 100 m. Flowering October – November.

Uses The crushed rhizome mixed with local whisky, then it is squeezed. A juice obtained is applied over the affected areas to treat urticaria, (B).

Material studied UBON 1370, BKF 090744


Zingiber ottensii Val.

Vernacular Phlai dam (ไพลดํา)

Herb, 1.5 m tall; rhizome stout, pale greyish-purple inside. Leaves simple, distichous; leaf sheaths broad, slightly hairy near base and apex; petioles stout, 5 mm long, finely hairy; ligules membranous, apex obtuse, 1 cm long, sparsely pubescent outside. Blades elliptic, widest above the middle, 25 – 40 by 6 – 8 cm, apex acuminate, margins slightly undulate, base obtuse, glabrous above, white hairy beneath. Inflorescences arising from the rhizome, spiciform, ellipsoid to cylindrical with truncate apex, 10 – 16 by 5 cm; peduncles rather robust, 20 – 30 cm long. Bracts thinly fleshy, broadly obovate, apex involute, truncate, 3.5 by 3 cm, greenish-red when young, dark red when mature. Bracteoles membranous, finely pubescent outside, triangular, white, with apex and margin purplish, 3 cm long,
convolute. **Flowers** bisexual. **Calyx** tubular, membranous, white, 1.7 cm long, glabrous, split on one side, 2-dentate, **Corolla** pale yellow, narrowly funnel-shaped, 3-lobed; lobes subequal oblong, 2–2.5 by 1 cm. Labellum obovate, pale yellow with small faint purple blotches, 2.4 by 1.8 cm, apex rounded, shallowly 2-lobed. Stamen 1; anther linear-oblong, 1.2 cm long, apical appendage of connective 1 cm long. Staminodes with colour as in the labellum, 1 cm long. Ovary inferior, globose, sparsely hairy, 3-loculed; ovules many.

**Locality** Ban Bon Khuan, Rattaphum District, Songkhla Province.

**Distribution** Malaysia, Java, Sumatra.

**Ecology** Cultivated; altitude 120 m. Flowering October–November.

**Uses** The young inflorescences are eaten raw or steamed as a vegetable, (M). A decoction of the rhizomes is taken as a carminative and for the treatment of numbness; it is drunk daily as a substitute of drinking water, (B, M). Sometimes, a piece of the rhizome is steeped in water which is used as a bath for the dead, (B).

**Material studied** UBON 1373, BKF 090712


**Zingiber spectabile** Griff.  
**Vernacular** Dak ngo (ดากเงาะ)

Herb, 2–3 m tall; rhizome stout, pale yellow. **Leaves** simple, sessile, distichous; leaf sheaths sparsely pilose, margin scarious; ligules membranous, apex 2-lobed. Blades oblong or oblong-lanceolate, 20–40 by 5–9 cm, apex acuminate, margins entire, based rounded, glabrous above, sparsely hairy beneath. **Inflorescences** arising from the rhizome, spiciform, cylindric, 12–30 by 7–9 cm; peduncles 20–40 cm long, with green or reddish sheaths. Bracts obovate; apex blunt or rounded, involuted and pouched, 3–3.5 by 3.5–4 cm, at first yellow, often turning red or reddish-orange, fleshy, finely pubescent outside. Bracteoles membranous, triangular, convolute, apex acute, 2.5–3 by 1 cm. **Flowers** bisexual. **Calyx** creamy-white, tubular, membranous, 2–3 cm long, 2-lobed. **Corolla** white, narrowly funnel-shaped, tube 1.5 cm long, 3-lobed; lobes linear, slightly induplicate; the posterior lobe 2.5 by 1 cm, slightly larger than the others. Labellum obovate, dark purple with pale yellow spots, 1.7 by 1.2 cm, apex cleft. **Stamen** 1; anther yellow, linear oblong, 1 cm long; apical appendages of connectives purple, 1.5 cm long. Staminodes linear-elliptic, 1.5 by 0.5 cm, with same colour as the labellum. **Ovary** inferior, subglobose, sparsely hairy, 3-loculed; ovules many; style slender, 5.5 cm long; stigma ciliate. **Fruit** a capsule, ovoid, 2 by 1 cm. **Seeds** many, ovoid, dark brown, with white aril.

**Locality** Ban La Lo, Su-ngaipadee District, Narathiwat Province.
Distribution Malaysia, Sumatra.

Ecology In primary and secondary rain forest, edges of forest; altitude 40 – 100 m. Flowering July – September; fruiting November.

Uses The tender central parts of the young shoots are cooked in curries; the young inflorescences are blanched, and to be eaten as a side dish with rice, (B, M). Local people sometimes hang leaves and inflorescences of this plant species in their houses. They believe that it can ward off bad spirits, (M).

Material studied UBON 1376; BKF 46629


*Zingiber zerumbet* (L.) Sm.  

**Figure 79 F**

**Vernacular** Thue phrao (ทือพร๊าว)

Herb, up to 1.5 m tall; rhizome thick, yellow inside, aromatic. **Leaves** simple, distichous; leaf sheaths sparsely hairy; petioles 5 mm long, hairy; ligules membranous, broadly triangular, obtuse, pubescent outside, 1.3 cm long. Blades broadly lanceolate, 25 – 30 by 5 – 7 cm, apex acuminate, margins entire, base obtuse, glabrous above, white hairy beneath. **Inflorescences** arising from the rhizome, spiciform, ellipsoid or ovoid, 6 – 15 by 4 – 5 cm; peduncles 15 – 25 cm long. Bracts closely appressed, obvoid-rhomboid, apex obtuse, broadly rounded with a thin papery margin, green turning red, 3.5 by 3.7 cm, sparsely pubescent outside. Bracteoles membranous, white, narrowly triangular, 3 by 1.5 cm. **Flowers** bisexual. **Calyx** tubular white, membranous, 2 cm long, split on one side, 3-dentate. **Corolla** light yellow, narrowly funnel-shaped; tube 3 cm long, 3-lobed; the posterior one largest, 2.3 by 1 cm. Labellum light yellow, suborbicular, 2 cm wide, deep yellow at the median, shallowly 2-incised at apex. **Stamen** 1; anther elliptic-oblong, 1.2 cm long, connective prolonged into a narrow appendage, with its inflexed edges clasping the upper part of style, 8 mm long. Staminodes obovate, light yellow, 0.7 cm wide. **Ovary** inferior, 3-loculed; ovules numerous; style slender, 5 cm long; stigma ciliate.

Locality Ban Khao Khram, Srinakharin Subdistrict, Phattalung Province.

Distribution India, China, SE.Asia.

Ecology On margin of forest or waste ground near village; in rubber plantations, evergreen forest; altitude 80 m. Flowering June – September.

Uses The young rhizomes are usually cooked in curries, (B).

Material studied UBON 1379, BKF 132107

4.8 Study of the selected plants

4.8.1 Plant used for food

There are many kinds of local plants in the studied areas which are considered to be popular and capable of developing into economic plants. Some of the plants that yield favourite edible fruit were selected for analysis of nutritional composition. These are shown in Table 8. For the economic importance of the selected plants, the market values of the plants including sellers, consumers, products to sell. The status of the plants are observed. These are shown in Table 9.

Table 8 Nutritional composition of 6 selected plant species.

<table>
<thead>
<tr>
<th>Plant</th>
<th>Moisture (%)</th>
<th>Dietary fiber (%)</th>
<th>Ash (%)</th>
<th>Total Sugar (%)</th>
<th>Vitamin C mg/100g</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Aglaia korthalsii</em> Miq.</td>
<td>77.9</td>
<td>3.2</td>
<td>1.2</td>
<td>6.7</td>
<td>10</td>
</tr>
<tr>
<td><em>Baccaurea motleyana</em> (Mull.Arg.)Mull.Arg.</td>
<td>80.7</td>
<td>2.1</td>
<td>0.7</td>
<td>15.1</td>
<td>4</td>
</tr>
<tr>
<td><em>Cynometra cauliflora</em> L.</td>
<td>88.6</td>
<td>3.5</td>
<td>0.4</td>
<td>5.3</td>
<td>9</td>
</tr>
<tr>
<td><em>Eleiodoxa conferta</em> (Griff.)Burret</td>
<td>85.2</td>
<td>4.1</td>
<td>0.6</td>
<td>1.6</td>
<td>1</td>
</tr>
<tr>
<td><em>Garcinia prainiana</em> King</td>
<td>81.1</td>
<td>3.6</td>
<td>0.6</td>
<td>9.1</td>
<td>1</td>
</tr>
<tr>
<td><em>Lepisanthes alata</em> (Blume)Leenh.</td>
<td>77.7</td>
<td>9.5</td>
<td>0.8</td>
<td>9.8</td>
<td>16</td>
</tr>
</tbody>
</table>

Table 9 Market values and some concerning information of the selected plant species sold at local markets in Narathiwat Province (in 2003).

<table>
<thead>
<tr>
<th>Plant</th>
<th>Market value (in Thai Baht)</th>
<th>Seller</th>
<th>Consumer</th>
<th>Product to sell</th>
<th>Status of plant</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Aglaia korthalsii</em> Miq.</td>
<td>12 / kg</td>
<td>Farmers</td>
<td>Local people</td>
<td>Fresh</td>
<td>Wild, cultivated</td>
</tr>
<tr>
<td><em>Baccaurea motleyana</em> (Mull.Arg.)Mull.Arg.</td>
<td>15 / kg</td>
<td>Farmers, middlemen</td>
<td>Local people, visitors</td>
<td>Fresh</td>
<td>Wild, cultivated</td>
</tr>
<tr>
<td><em>Cynometra cauliflora</em> L.</td>
<td>15 / kg</td>
<td>Farmers</td>
<td>Local people</td>
<td>Fresh</td>
<td>Cultivated</td>
</tr>
<tr>
<td><em>Eleiodoxa conferta</em> (Griff.)Burret</td>
<td>25/kg (fresh)</td>
<td>30/kg (pickled)</td>
<td>Farmers, middlemen</td>
<td>Local people, visitor</td>
<td>Fresh, Cultivated</td>
</tr>
<tr>
<td><em>Garcinia prainiana</em> King</td>
<td>20 / kg</td>
<td>Farmers</td>
<td>Local people</td>
<td>Fresh</td>
<td>Wild</td>
</tr>
<tr>
<td><em>Lepisanthes alata</em> (Blume)Leenh.</td>
<td>10 / kg</td>
<td>Farmers</td>
<td>Local people</td>
<td>Fresh</td>
<td>Cultivated</td>
</tr>
</tbody>
</table>
4.8.2 Preliminary identification of chemical constituents of the plants used for medicinal purposes.

1) Chemical constituents of *Acacia merillii* Nielsen

$^1$H NMR spectra of thirteen fractions from the CH$_2$Cl$_2$ extract are shown in Figure 7.

Fractions 1 – 8: The $^1$H NMR spectra indicated that it might be a mixture of long chain hydrocarbon.

Fractions 9 – 11: The $^1$H NMR spectra showed signals of aromatic protons at $\delta$ H 7.3 – 7.6, suggesting that it might be a mixture of phenolic compounds such as flavonoid groups.

Fractions 12–13: The $^1$H NMR spectra showed signals of aliphatic protons at $\delta$ H 0.5 – 2.8 and anomeric protons at $\delta$ H 3.3 – 4.5 indicated that it might be a mixture of triterpenoid glycoside groups.

2) Chemical constituents of *Linostoma pauciflorum* Griff.

$^1$H NMR spectra of seven fractions from the CH$_2$Cl$_2$ extract are shown in Figure 8.

Fraction 1: The $^1$H NMR spectrum showed many high field signals at $\delta$ H 0.5 – 2.6, suggesting that it might be a mixture of triterpenoid compounds.

Fractions 2 – 5: The $^1$H NMR spectra showed signals of aromatic protons at $\delta$ H 7.3 – 7.8 and aliphatic protons at $\delta$ H 0.5 – 2.1, suggesting that it might be a mixture of phenolic and triterpenoid compounds.

Fractions 6 – 7: The $^1$H NMR spectra showed signals of aliphatic protons at $\delta$ H 0.5 – 2.3 and anomeric protons at $\delta$ H 3.2 – 4.8, suggesting that it might be a mixture of triterpenoid glycoside compounds.

3) Chemical constituents of *Lophatherum gracile* Brongn.

$^1$H NMR spectra of seven fractions from the CH$_2$Cl$_2$ extract are shown in Figure 9.

Fractions 1 – 3: The $^1$H NMR spectra indicated that it might be a mixture of a long chain fatty acids.

Fractions 4 – 6: The $^1$H NMR spectra showed many signals of aliphatic protons at $\delta$ H 0.7 – 2.8 and anomeric protons at $\delta$ H 3.4 – 4.5, suggesting that it might be a mixture of triterpenoid glycoside compounds.

Fraction 7: The $^1$H NMR spectrum showed signals of aromatic protons at $\delta$ H 6.8 – 7.6, suggesting that it might be a mixture of phenolic compounds.

4) Chemical constituents of *Tacca integrifolia* Ker Gawl.

$^1$H NMR spectra of seven fractions from the CH$_2$Cl$_2$ extract are shown in Figure 10.

Fractions 1 – 2: The $^1$H NMR spectra indicated that it might be a mixture of a long chain hydrocarbons.
Fraction 3: The $^1$H NMR spectrum showed many high field signals at $\delta_1$ 0.3 – 2.8, suggesting that it contained triterpenoid compounds. Furthermore, the presence of anomeric proton signals at $\delta_1$ 3.3 – 4.9 suggesting that it might be a triterpenoid glycoside compounds.

Fraction 4: The chromatogram on normal phase TLC showed one UV-active spot, suggesting that it was pure. According to the $^1$H NMR spectrum, its $^1$H NMR data was identified as stigmasterol which was known steroid by direct comparison of its $^1$H NMR spectrum with authentic sample that was obtained from the twigs of *Garcinia scortechinii* (Rukachaisirikul *et al.*, 2000).

Fraction 5: The $^1$H NMR spectra indicated that it might be a mixture of a long chain fatty acids.

Fractions 6 – 7: The $^1$H NMR spectra showed many signals at lower and higher field, suggesting that it might be a mixture of triterpenoids and phenolic compounds.
Figure 7. $^1$H NMR (300 MHz, CDCl$_3$) spectra of *Acacia merillii* Nielsen from CH$_2$Cl$_2$ extract.
Figure 8. $^1$H NMR (300 MHz, CDCl$_3$) spectra of *Linostoma pauciflorum* Griff. from CH$_2$Cl$_2$ extract
Figure 9. $^1$H NMR (300 MHz., CDCl$_3$) spectra of *Lophatherum gracile* Brongn. from CH$_2$Cl$_2$ extract
Figure 10. $^1$H NMR (300 MHz, CDCl$_3$) spectra of *Tacca integrifolia* Ker Gawl. from CH$_2$Cl$_2$ extra