

## APPENDIX A

### Study species

Plant descriptions in this study follow Bunyavejchewin et al. (2016), FORRU (2006), FORRU's database (unpublished data); Gardner et al. (2000) and Waiboonya et al. (2014). Plant Thai names follow Pooma, R., and Suddee, S. (2014). Plant scientific names and family names follow The Plant List (2013).

*Acrocarpus fraxinifolius* Arn., Leguminosae

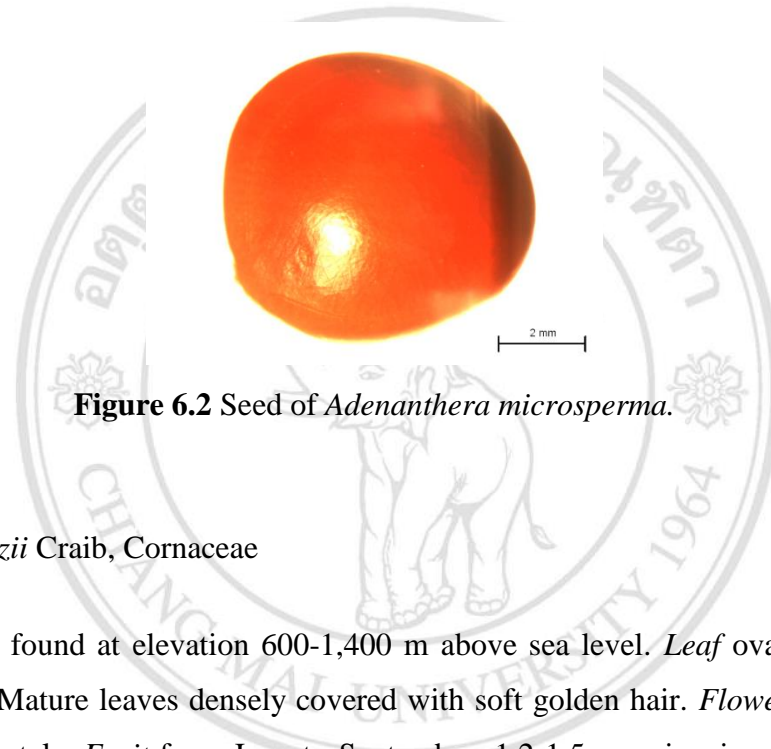
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Large tree up to 50 m, found at elevation 50-1,000 m above sea level, *Bark* pale grey with brown lenticels, inner bark pinkish. *Leaf* bipinnate with 4-9 pairs of leaflets. *Flower* from January to March, in dense spike-like clusters close to tip of leafless branches, 5 red petals with 5 bright green sepals. *Fruit* from April to June, pods black and shiny, flattened, dry splitting into 2 sections. 10-18 pale brown seed per pod, lens-shaped seeds (Figure 6.1), wind-dispersed.



**Figure 6.1** Seed of *Acrocarpus fraxinifolius*.

Deciduous tree to 20 m, found at elevation 200-1,100 m above sea level. *Bark* dark brown or greyish, inner bark pale cream. *Leaf* bipinnate, doubly compound, 3-6 pairs, oval or oblong leaf. *Flower* from March to July, creamy-yellow turning orange with age. *Fruit* September to January, dried pod twisted in a tight coil, spitting to two strips. Seeds 5-8 mm, bright red (Figure 6.2), wind-dispersed.



**Figure 6.2** Seed of *Adenanthera microsperma*.

Tree to 28 m found at elevation 600-1,400 m above sea level. *Leaf* ovate with heart-shaped base. Mature leaves densely covered with soft golden hair. *Flower* from March to May, 7-9 petals. *Fruit* from June to September, 1.2-1.5 cm, ripening dark purple to black, contains one black seed, oval with pointed ends (Figure 6.3).

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**Figure 6.3** Seed of *Alangium kurzii*.

Deciduous tree to 24 m, found at elevation 200-1,500 m above sea level. *Bark* red brown to dark brown. *Leaf* oval to broadly ovate and rounded or slightly heart-shaped base. *Flower* from February to April, unisexual, yellow to pale pink or orange. *Fruit* from March to June, pale yellow or orange, irregularly globose, with oblong seeds (Figure 6.4) animal-dispersed.



**Figure 6.4** Seed of *Artocarpus lacucha*.

*Bauhinia variegata* L., Leguminosae

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Small deciduous tree to 15 m, found at elevation 350-1,500 m above sea level. *Bark* tan-brown to blackish. *Leaf* 2 lobes with rounded tips, young leaves pale green and mature leaves dark green. *Flower* from January to March, white or purple. *Fruit* from March-May pod splitting into 2 ribbons, 1 pod contains 10-25 seeds, seed brownish and round (Figure 6.5).



**Figure 6.5** Pod and seed of *Bauhinia variegata*.

Evergreen tree to 33 m, found at 550-2,350 m above sea level. *Bark* tan-brown to dark grey-brown. *Leaf* narrowly ovate blunt or slightly pointed base. *Flower* from April to June, unisexual. *Fruit* from July to October, oval shape, nut cover with spiny cupules, nut smooth, subglobose or ovoid (Figure 6.6), animal-dispersed.



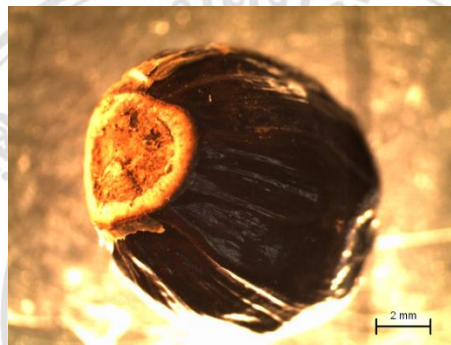
**Figure 6.6** Seed of *Castanopsis tribuloides*.

Deciduous tree to 30 m, found at elevation 460-1,600 m above sea level. *Bark* dark grey, vertically cracked, inner bark red. *Leaf* once pinnate, narrowly ovate or lanceolate, young leaves with scattered teeth and mature leaves often without teeth. *Flower* from February to May, unisexual, dark red, 5 petals. *Fruit* from May to August, green or yellow, single pyrene with 5 locules (Figure 6.7), animal-dispersed.



**Figure 6.7** Pyrenes of *Choerospondias axillaris*.

Evergreen tree to 30 m, found at Elevation 60-1,400 m above sea level. *Bark* grey to red-brown, smooth or slightly flaking, inner bark pinkish. *Leaf* once pinnate, dark green above, paler below, dark glands in vein axils. *Flower* from March to May, unisexual, white or cream, 5 petals. *Fruit* from June to September, brown or yellowish, globular, not splitting, single large glossy dark brown (Figure 6.8), seed with fleshy covering, animal-dispersed.



**Figure 6.8** Seed of *Dimocarpus longan*.

Partly deciduous tree to 15 m, found at Elevation 650-1,650 m above sea level. *Bark* grey to brown, inner bark yellow. *Leaf* narrowly elliptic-oblong. *Flower* from March to May, unisexual, 4(5) pink petals and 4(5) sepals. *Fruit* from May to October, yellow-orange, globose or oval, 3-7 dark brown seeds (Figure 6.9), animal-dispersed.



**Figure 6.9** Seed of *Diospyros glandulosa*.



Deciduous tree 20-30 m, found at elevation 200-1,475 m above sea level. *Bark* pale creamy-brown or greyish, smooth with pale corky lenticels. *Leaf* oval or broadly ovate flattened or slightly heart-shaped base. *Flower* from February to March, yellow-brown. *Fruit* from March to May, greenish-yellow, smooth and slightly glossy, globose or obovoid fleshy with a 1-2 seed(s) (Figure 6.10), animal-dispersed.



**Figure 6.10** Seed of *Gmelina arborea*.

*Horsfieldia glabra* (Reinw. ex Blume) Warb., Myristicaceae

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Evergreen small to medium tree to 10-25 m, found at elevation 200-650 m above sea level. *Bark* grey-brown, hard and brittle, inner bark yellow. *Leaf* smooth, dark green. *Flower* from September to October, unisexual, pale yellow. *Fruit* from January to May, yellow, smooth, oblong seed, covered with orange coating (Figure 6.11), animal-dispersed.



**Figure 6.11** Fruit and Seed of *Horsfieldia glabra*.

Deciduous tree to 20 m, found at 1,205-1300 m above sea level. *Bark* brown or black-purple. *Leaf* blade ovate, broadly oblong. *Flower* from May to July, yellow-green. *Fruit* from August to October, black nut contains 3 seeds, seeds dark brown, 5-5.5 mm in diameter (Figure 6.12).



**Figure 6.12** Nut and seed of *Hovenia dulcis*.

*Magnolia garrettii* (Craib) V.S.Kumar, Magnoliaceae

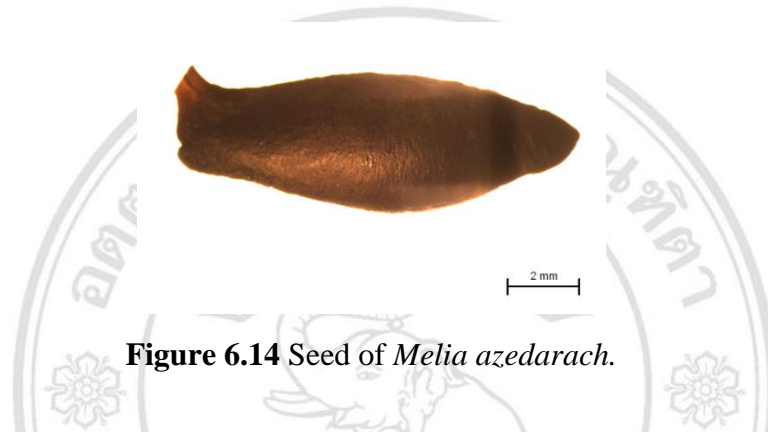
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Partly deciduous tree to 25 m, found at elevation 1,050-1,600 m above sea level. *Bark* greyish. *Leaf* dark green above, greyish-green below, smooth. *Flower* from March to April, dark pink-purple. *Fruit* from September to November ovoid, seed cover by thin red coating, ovate shape with pointed end (Figure 6.13).



**Figure 6.13** Seed of *Magnolia garrettii*.

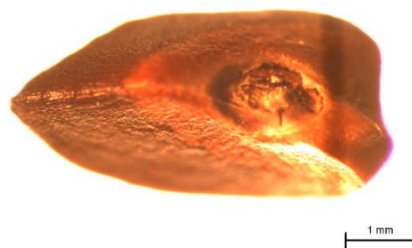
Deciduous tree to 25 m, found at elevation 500-1,450 m above sea level. *Bark* pale grey or brown, inner bark cream. *Leaf* bipinnate or tripinnate, mature leaflets smooth. *Flower* from January to March, white with violet centre, 5-6 small triangular sepals, 5-6 white petals. *Fruit* from August to March green, ripening yellowish, single stone contain six black shiny seeds (Figure 6.14).



**Figure 6.14** Seed of *Melia azedarach*.

Small to medium deciduous tree to 8-20 m, found at elevation 10-1,500 m above sea level. *Bark* grey-brown with creamy orange patches, smooth, inner bark pink. *Leaf*, oblong or linear with blunt tip, usually asymmetric. *Flower* from January to February, unisexual, pale green or creamy-yellow. *Fruit* from October to March, green, ripening yellowish, globose, with a hard stone contains section with 1-2 seeds, seeds dark brown (Figure 6.15), animal-dispersed.

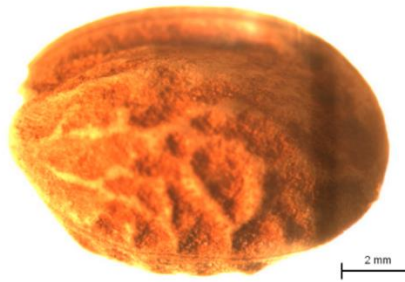
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**Figure 6.15** Seed of *Phyllanthus emblica*.



Small to medium deciduous tree, found at elevation 1,050-1,750 m above sea level. *Bark* red-brown with large lenticels. *Leaf* narrowly ovate, sharply toothed. *Flower* from December to February, bright pink or rarely white. *Fruit* from February to May, pink or bright red with single stone (pyrene, Figure 6.16), animal-dispersed.



**Figure 6.16** Pyrene of *Prunus cerasoides*.

*Spondias pinnata* (L. f.) Kurz, Anacardiaceae

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Deciduous tree to 20-30 m, found at elevation 50-900 m above sea level. *Bark* pale grey, smooth, inner bark pink. *Leaf* once pinnate, alternate, elliptic or oblong, often slightly asymmetric. *Flower* from January to March, white or creamy yellow, 5(4) petals. *Fruit* from September to March, green, ripening yellowish with scatter brown spots, a single large stone consisting up to 5 seeds (Figure 6.17), animal-dispersed.



**Figure 6.17** Fruits and seed of *Spondias pinnata*.

*Syzygium albiflorum* (Duthie ex Kurz) Bahadur & R.C.Gaur Myrtaceae

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Evergreen tree to 20 m. *Bark* red-brown or pale grey. *Leaf* narrowly ovate or lanceolate. *Flower* from February to April, white or cream. *Fruit* from June to August, pale green to dark purple-black, globose (Figure 6.18).



**Figure 6.18** Seeds of *Syzygium albiflorum*.

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Publications

Larpkern, **P.**; **Waiboonya**, P.; Moungrimuangdee, B.; and Yodsanga, P. (2013). *Forest and Community: Case Study of Ban Mae Keed Luang Community Forest, Mae Sod district, Tak province*. Bangkok: Bodhivijjala College, Srinakharinwirot University.

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