CHAPTER V

DISCUSSION AND CONCLUSION

Vegetation of Doi Phu Kha National Park has been classified into six types, four evergreen categories and two deciduous categories:

Evergreen Forest
1. Dry Evergreen Forest
2. Pine Forest
3. Lower Montane Forest
4. Lower Montane Scrub

Deciduous Forest
5. Deciduous Dipterocarp Forest
6. Tropical Mixed Deciduous Forest

Secondary forest due to effect from human activities is found especially in dry evergreen and lower montane forest. Various stages of succession are presented. Reforestation by using native tree species should be continuously done.

The number of vascular plants of Doi Phu Kha recorded for this study is 1,088 species. Thirty species are unidentified due to insufficient materials and lacking references. Summary of number of vascular plants is as in Table 13.

Tabel 13. Summary of number of vascular plants in this study.

Division	Subdivision	Class	Families	Genera	Species
Pteridophyta			17	33	53
Spermatophyta	Gymnospermae		3	3	3
	Angiospermae	Dicotyledonae	118	432	801
		Monocotyledonae	27	108	201
Total			165	576	1,058

There are 22 families, which have the number of species collected more than ten. Top ten most collected families are shown in Table 14. Forty-eight families are collected only one species.

There are 6 endemic species to Doi Phu Kha including one newly described species (Table 15). Thirty-three species are likely to be endemic to Thailand and also found at Doi Phu Kha (Table 16). Seventeen species are newly recorded for Thailand (Table 17). Fifteen species are probably new to science or at least new recorded for Thailand (Table 18). Sixty species are classified as rare (Table 19). Additional distribution records of many species are found.

Table 14. Top Ten Families, which are richest in number of collected species.

Families	No. Genera	No. Species
Rubiaceae	36	80
Orchidaceae	31	51
Asteraceae	21	44
Fabaceae	19	43
Lamiaceae	23	37
Zingiberaceae	8	35
Acanthaceae	13	33
Poaceae	21	30
Euphorbiaceae	21	28
Gesneriaceae	10	22

Table 15. Endemic species to Doi Phu Kha.

Scientific names	Families
Aristolochia langeracemosa B. Hansen & L. Phuph.	Aristolochiaceae
Capparis trisonthiae Srisanga & Chayamarit	Capparaceae
Caryota gigas Hahn ex Hodel	Arecaceae
Fosbergia thailandica Tirveng. & Sastre	Rubiaceae
Jasminum persissanthum P.S. Green	Oleaceae
Thunbergia colpifera B. Hansen	Acanthaceae

Table 16. Endemic species to Thailand and also found at Doi Phu Kha.

Scientific names	Families
Anoectochilus siamensis Schltr.	Orchidaceae
Ardisia corymbifera Mez var. *euryoides* K. Larsen & C.M. Hu	Myrsinaceae
Argostemma ebracteolatum Geddes	Rubiaceae
Argostemma laxum Geddes	Rubiaceae
Argostemma lobulatum Craib var. *variabile* Sridith	Rubiaceae
Aristolochia kerrii Craib	Aristolochiaceae
Begonia discreta Craib	Begoniaceae
Begonia puttii Craib	Begoniaceae
Capparis kerrii Craib	Capparaceae
Clematis eichleri (Tamura) Tamura	Ranunculaceae
Cyrtosia nana (Rolfe ex Downie) Garay	Orchidaceae
Drypetes dasycarpa (Airya Shaw) L. Phuph. & Chayamarit	Euphorbiaceae
Exacum sutaepense Hosseus ex Craib	Gentianaceae
Eurya nitida Korth. var. *siamensis* (Craib) H. Keng	Theaceae
Hedychium biflorum Sirirugsa & Larsen	Zingiberaceae
Hoya thailandica Thaithong	Asclepiadaceae
Impatiens longiloba Craib	Balsaminaceae
Kalanchoe dixoniana Hamet	Crassulaceae
Lonicera siamensis Gamble	Caprifoliaceae
Lysimachia garrettii Fletcher	Primulaceae
Lysimachia pilosa Fletcher	Primulaceae
Maesa glomerata K. Larsen & C.M. Hu	Myrsinaceae
Ophiopogon siamensis M.N. Tamura	Convallariaceae
Palaquium garrettii Fletcher	Sapotaceae
Peucedanum siamicum Craib	Apiaceae
Pterospermum littorale Craib	Sterculiaceae
Selaginella lindhardii Hieron.	Selaginellaceae
Torenia siamensis Yamazaki	Scrophulariaceae
Trachycarpus oreophilus Gibbons & Spanner	Arecaceae
Tupistra albiflora K. Larsen	Convallariaceae
Vanilla siamensis Rolfe ex Downie	Orchidaceae
Zingiber larsenii I. Theilade	Zingiberaceae
Zingiber smilesianum Craib	Zingiberaceae

Table 17. New recorded for Thailand.

Scientific names	Families
Allium mairei H. Lév.	Alliaceae
Allium wallichii Kunth	Alliaceae
Archidendron alternifoliolatum (T.L. Wu) I.C. Nielsen	Fabaceae
Aspidopterys glabriuscula (Wall.) Juss.	Malphigiaceae
Campanula cana Wall.	Campanulaceae
Capparis sikkimensis Kurz subsp. *yunnanensis* (Craib & W.W. Sm.) Jacobs	Capparaceae
Cotylanthera paucisquama C.B. Clarke	Gentianaceae
Entada rheedei Spreng. subsp. *sinohimalensis* (Grierson & Long) Panigrahi	Fabaceae
Helicia pyrrhobotrya Kurz	Proteaceae
Jasminum rufohirtum Gagnep.	Oleaceae
Mappianthus iodoides Hand.-Mazz.	Icacinaceae
Mycetia hirta Hutch.	Rubiaceae
Mycetia sinensis (Hemsl.) Craib	Rubiaceae
Radermachera eberhardtii Dop	Bignoniaceae
Sycopsis griffithiana Oliv.	Hamamelidaceae
Torenia asiatica L.	Scrophulariaceae
Tournefortia montana Lour.	Boraginaceae

Table 18. Probably new species or at least new recorded for Thailand.

Scientific names	Families
Abutilon sp.	Malvaceae
Elaeocarpus sp.	Elaeocarpaceae
Engelhardia sp.	Juglandaceae
Impatiens sp.1	Balsaminaceae
Impatiens sp.2	Balsaminaceae
Lindernia sp.1	Scrophulariaceae
Lindernia sp.2	Scrophulariaceae
Michelia sp. (To be described by Dr. P. Chalermklin)	Magnoliaceae
Ophiopogon sp.	Convallariaceae
Palaquium sp.	Sapotaceae
Pittosporum sp.	Pittosporaceae
Pseudodissochaeta sp.	Melastomataceae
Sonerila sp.	Melastomataceae
Torenia sp.	Scrophulariaceae
Viburnum sp.	Caprifoliaceae

Table 19. Rare species.

Scientific names	Families
Acer wilsonii Rehd.	Aceraceae
Aeschynanthus stenosiphonius W.T. Wang	Gesneriaceae
Aeschynanthus superbus C.B. Clarke	Gesneriaceae
Agapetes inopinnata Airy Shaw	Ericaceae
Agapetes lobbii C.B. Clarke	Ericaceae
Agapetes megacarpa W.W. Sm.	Ericaceae
Alphonsea tonkinensis A.DC.	Annonaceae
Bauhinia nervosa (Wall. ex Benth.) Bak.	Fabaceae
Bauhinia ornata Kurz var. *subumbellata* (Pierre ex Gagnep.) K. & S.S. Larsen	Fabaceae
Bauhinia wallichii J.F. Macbr.	Fabaceae
Bretschneidera sinensis Hemsl.	Bretschneideraceae
Bupleurum tenue Buch.-Ham. ex D. Don	Apiaceae
Camellia taliensis (W.W. Sm.) Melchior	Theaceae
Capparis kerrii Craib	Capparaceae
Capparis sikkimensis Kurz subsp. *yunnanensis* (Craib & W.W. Sm.) Jacobs	Capparaceae
Capparis trisonthiae Srisanga & Chayamarit	Capparaceae
Capparis viburnifolia Gagnep.	Capparaceae
Carlemannia tetragona Hook.f.	Caprifoliaceae
Cheirostylis griffithii Lindl.	Orchidaceae
Clematis eichleri (Tamura) Tamura	Ranunculaceae
Clematis fulvicoma Rehd. & Wils.	Ranunculaceae
Cotylanthera paucisquama C.B. Clarke	Gentianaceae
Cyrtandromoea grandiflora C.B. Clarke	Scrophulariaceae
Exacum sutaepense Hosseus ex Craib	Gentianaceae
Galium punduanum Wall. ex Craib	Rubiaceae
Goniothalamus cheliensis Hu	Annonaceae
Gordonia axillaris (Roxb. ex Ker.-Gawl.) Dietr.	Theaceae
Hedychium aureum C.B. Clarke & Mann ex Baker	Zingiberaceae
Hedychium biflorum Sirirugsa & Larsen	Zingiberaceae
Helwingia himalaica Hook.f. & Thoms. ex C.B. Clarke	Cornaceae
Impatiens claviger Hook.f.	Balsaminaceae
Impatiens jurpia Ham. ex Hook.f. & Thoms.	Balsaminaceae
Impatiens longiloba Craib	Balsaminaceae
Indigofera caudata Dunn	Fabaceae
Jasminum coarctatum Roxb. var. *vanprukii* (Craib) P.S. Green	Oleaceae
Jasminum decipiens P.S. Green	Oleaceae
Jasminum rufohirtum Gagnep.	Oleaceae

(continued)

Scientific names	Families
Kalanchoe dixoniana Hamet	Crassulaceae
Lilium primulinum Baker var. *burmanicum* (W.W. Sm.) Stearn	Liliaceae
Lindernia dictyophora Tsoong ex Tsoong & Ku	Scrophulariaceae
Lonicera siamensis Gamble	Caprifoliaceae
Lysimachia garrettii Fletcher	Primulaceae
Lysimachia pilosa Fletcher	Primulaceae
Mahonia siamensis Takeda ex Craib	Berberidaceae
Passiflora wilsonii Hemsl.	Passifloraceae
Pericampylus macrophyllus Forman	Menispermaceae
Pleione praecox (J.E. Sm.) D. Don	Orchidaceae
Peucedanum siamicum Craib	Apiaceae
Radermachera eberhardtii Dop	Bignoniaceae
Rhododendron aff. lyi Lév.	Ericaceae
Sapria himalayana Griff.	Rafflesiaceae
Sedum sarmentosum Bunge	Crassulaceae
Silene burmanica Coll. & Hemsl.	Caryophyllaceae
Silvianthus tonkinensis (Gagnep.) Ridsd.	Caprifoliaceae
Sycopsis griffithiana Oliv.	Hamamelidaceae
Symplocos megalocarpa Fletcher	Symplocaceae
Torenia siamensis Yamazaki	Scrophulariaceae
Trichodesma calycosum Coll. & Hemsl.	Boraginaceae
Veratrum mengtzeanum O. Loes.	Melanthiaceae
Zingiber larsenii I. Theilade	Zingiberaceae

The enumeration of vascular plants on Doi Phu Kha from this study is not absolutely complete. But this is the first attempt to document the number of species in the area. The information concerned species distribution and status can be used for conservation and management of plant resources. Botanical exploration at Doi Phu Kha should be continuously done and much new information concerned the number of species and their distribution can be expected.