

Rapport d'avancement botanique de l'expédition Opération Canopée (ex Radeau des Cimes) au Laos: Inventaire de la biodiversité des canopées forestières du Laos (IBCFL)

Partie 1: premières identifications

Juin 2018

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L'expédition d'exploration des canopées forestières a été menée dans la région karstique de la province de Khammouane, dans la réserve nationale de conservation de la biodiversité Phou Hin Poun (National Biodiversity Conservation Area NBCA PHP, 17.746° N, 104.8° E).

Les collectes botaniques ont été effectuées en 2012 au cours de deux missions de terrain de deux semaines chacune, en janvier pendant la saison sèche et en mai au début de la saison des pluies.

Au total 804 spécimens ont été récoltés au cours de ces deux périodes. Les collections de plantes (environ 2 500 échantillons, ayant trois duplicata pour la plupart d'entre eux) représentent environ 500 espèces. Le travail d'identification est toujours en cours.

À ce jour, 642 spécimens ont été identifiés au niveau du genre et 52% (334 spécimens) identifiés au niveau de l'espèce. Ils représentent 261 espèces et 185 genres, listés dans ce rapport. (Tableaux 1 et 2). 35 espèces sont des ajouts aux dernières checklists du pays (Prospero *et al.* 2018).

Botanical progress report of the Canopy Raft (ex Radeau des Cimes) expedition in Laos: Inventory of the biodiversity in forest canopies in Laos (IBFCL)

First contribution – June 2018

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The Canopy Raft expedition was conducted at the Phou Hin Poun National Biodiversity Conservation Area (PHP NBCA, 17.746° N, 104.8° E), also known as Khammouane Limestone of Laos.

Botanical collections were carried out in 2012 during two field trips of two weeks each, in January during the dry season, and in May at the onset of the rainy season.

A total of 804 specimens have been collected during these two periods. The plant collections (some 2,500 samples, having three duplicates of most numbers) represent about 500 species. The identification work is still in progress.

To date, 642 specimens have been identified at the genus level and 52% (334 specimens) identified at the species level. They represent 261 species and 185 genera, listed in this report. (Tables 1 and 2). 35 species are additions to the most recent country checklists (Prosperi *et al.* 2018).

Table 1. Plant diversity found at the Phou Hin Poun NBCA.

| | Number of families | Number of genera | Number of species |
|--------------|--------------------|------------------|-------------------|
| Ferns | 2 | 2 | 2 |
| Gymnosperms | 1 | 1 | 1 |
| Angiosperms | 69 | 182 | 258 |
| Total | 72 | 185 | 261 |



Forests on the karst cliffs at the Phou Hin Poun NBCA.



Students and botanist of Faculty of Sciences (National University of Laos) at the field work.



Canopy view from the “cinébulle”, crown in bloom.



Mallotus barbatus fruits.

Table 2. List of species collected in the Phou Hin Poun NBCA.

+ : Additions to the botanical checklists of Laos (Prosperi *et al.*, 2018). All herbarium numbers are labelled FH (Francis Hallé). Vouchers were deposited at the National Herbarium of Laos (HNL), the Faculty of Sciences of the National University of Laos (NUoL) in Vientiane and the Muséum National d'Histoire Naturelle of Paris (P).

| Taxa | Additions | Habit | Habitat | Voucher number(s) (FH) |
|--|-----------|---------|------------------|---------------------------|
| Ferns | | | | |
| Lycopodiaceae | | | | |
| <i>Lycopodium squarrosum</i> G.Forst. | | Herb | Karst | 4913 |
| Marattiaceae | | | | |
| <i>Angiopteris erecta</i> (G.Forst.) Hoffm. | | Herb | Forest | 4928 |
| Gymnosperms | | | | |
| Podocarpaceae | | | | |
| <i>Podocarpus nerifolius</i> D.Don | | Tree | Forest | 5316 |
| Angiosperms | | | | |
| Acanthaceae | | | | |
| <i>Asystasia gangetica</i> (L.) T. Anderson | | Herb | Forest | 4779 |
| <i>Lepidagathis formosensis</i> C.B. Clarke ex Hayata | | Herb | Secondary growth | 5021 |
| <i>Lepidagathis incurva</i> Buch.-Ham. ex D.Don | | Herb | Forest | 4882, 4946 |
| <i>Nelsonia canescens</i> Spreng. | | Herb | Secondary growth | 5020 |
| <i>Phlogacanthus turgidus</i> (Fua ex Hook. f.) Lindau | + | Shrub | Forest | 4763 |
| <i>Rungia pectinata</i> (L.) Nees | | Herb | Secondary growth | 4947 |
| <i>Sericocalyx chinensis</i> (Nees) Bremek. | | Herb | Secondary growth | 5019 |
| <i>Thunbergia coccinea</i> Wall. ex D.Don | | Climber | Forest | 4778 |
| <i>Thunbergia eberhardtii</i> Benoist | | Climber | Forest | 4898 |
| Achariaceae | | | | |
| <i>Hydnocarpus anthelminthicus</i> Pierre ex Laness. | | Tree | Karst | 5547 |
| Amaranthaceae | | | | |
| <i>Cyathula prostrata</i> (L.) Blume | | Herb | Secondary growth | 4894 |
| Anacardiaceae | | | | |
| <i>Mangifera macrocarpa</i> Blume | + | Tree | Forest | 4897 |
| <i>Semecarpus reticulatus</i> Lecomte | | Tree | Forest | 5523 |
| <i>Allospondias lakonensis</i> (Pierre) Stapf | | Tree | Forest | 5510 |
| Annonaceae | | | | |
| <i>Anomianthus dulcis</i> (Dunal) J.Sinclair | | Treelet | Forest | 5205 |
| <i>Cananga latifolia</i> Finet & Gagnep. | | Tree | Forest | 5210, 5226, 5494 |
| <i>Cyathostemma longipes</i> Craib | | Treelet | Karst | 5187 |
| <i>Desmos chinensis</i> Lour. | | Climber | Forest | 5525 |
| <i>Mitrephora cf calcarea</i> Diels | + | Treelet | Forest | 5243 |
| <i>Polyalthia suberosa</i> (Roxb.) Thwaites | | Treelet | Forest | 5482 |

Table 2. Continued

| Taxa | Additions | Habit | Habitat | Voucher number(s) (FH) |
|--|------------------|------------------|------------------|-----------------------------------|
| <i>Pseuduvaria rugosa</i> (Blume) Merr. | + | Tree | Forest | 5457 |
| <i>Uvaria cordata</i> (Dunal) Wall. ex Alston | | Tree | Forest | 5122 |
| <i>Uvaria rufa</i> Blume | | Shrub | Secondary growth | 5392 |
| Apocynaceae | | | | |
| <i>Alstonia cf curtisii</i> King & Gamble | + | Treelet or shrub | Karst | 5310 |
| <i>Dischidia nummularia</i> R.Br. | | Epiphyte | Karst | 4992 |
| <i>Hunteria zeylanica</i> (Retz) Gardner ex Thwaites | | Tree | Karst | 5294, 5305 |
| <i>Wrightia annamensis</i> Eberhardt & Dubard | | Treelet | Karst | 5175 |
| <i>Wrightia arborea</i> (Dennst.) Mabb. | | Tree | Karst | 5450 |
| <i>Wrightia laevis</i> Hook.f. | | Tree | Karst | 5242 |
| Aquifoliaceae | | | | |
| <i>Ilex umbellulata</i> (Wall.) Loes. | | Treelet | Karst | 5387 |
| Araceae | | | | |
| <i>Ariopsis peltata</i> Nimmo | | Herb | Karst, Forest | 5170, 5247, 5277, 5335 |
| <i>Cryptocoryne crispatula</i> Engl. | | Herb | Rheophyte | 4744 |
| <i>Lasia spinosa</i> (L.) Thwaites | | Herb | Forest | 4968 |
| <i>Pothos cylindricus</i> C.Presl | | Climber | Secondary growth | 5014 |
| <i>Pothos gigantipes</i> Buchet ex P.C.Boyce | + | Climber | Secondary growth | 5032 |
| <i>Pothos scandens</i> L. | | Climber | Forest | 4970, 4976 |
| <i>Remusatia cf. vivipara</i> (Roxb.) Schott | | Epiphyte | Forest | 5341 |
| <i>Scindapsus officinalis</i> (Roxb.) Schott | | Climber | Secondary growth | (no V) |
| Arecaceae | | | | |
| <i>Areca triandra</i> Roxb. ex Buch.-Ham. | | Treelet | Forest | 5245 |
| <i>Arenga caudata</i> (Lour.) H.E.Moore | | Shrub | Forest | 4785 |
| <i>Arenga westerhoutii</i> Griff. | | Shrub | Forest | 4783, 4784 |
| <i>Caryota mitis</i> Lour. | | Treelet | Forest | 5001 |
| <i>Rhapis cochinchinensis</i> (Lour.) Mart. | | Shrub | Forest | 4782 |
| Asparagaceae | | | | |
| <i>Dracaena cochinchinensis</i> (Lour.) S.C.Chen | | Tree | Forest | 4996 |
| <i>Dracaena elliptica</i> Thunb. | | Tree | Karst | 5188 |
| <i>Peliosanthes gracilipes</i> (Craib) N.Tanaka | | Herb | Riparian | 4756 |
| <i>Peliosanthes tetra</i> subsp. <i>humilis</i> (Andrews) Jessop | | Herb | Forest | 4864 |
| Asteraceae | | | | |
| <i>Centipeda minima</i> A.Braun & Asch. | | Herb | Secondary growth | 4948 |
| Bignoniaceae | | | | |
| <i>Fernandoa adenophylla</i> (G.Don) Steenis | | Tree | Forest | 4902 |

Table 2. Continued

| Taxa | Additions | Habit | Habitat | Voucher number(s) (FH) |
|--|------------------|--------------|------------------|-----------------------------------|
| <i>Oroxylum indicum</i> (L.) Kurz | | Tree | Forest | 5106 |
| Boraginaceae | | | | |
| <i>Rotula aquatica</i> Lour. | | Shrub | Rheophyte | 4800 |
| Cannabaceae | | | | |
| <i>Celtis philippensis</i> Blanco | + | Tree | Forest | 5519 |
| Capparaceae | | | | |
| <i>Capparis micracantha</i> DC. | | Treelet | Secondary growth | 5013, 5025 |
| <i>Crateva adansonii</i> subsp. <i>trifoliata</i> (Roxb.) M.Jacobs | | Treelet | Riparian | 5067 |
| Cardiopteridaceae | | | | |
| <i>Gonocaryum lobbianum</i> (Miers) Kurz | | Tree | Forest | 4957, 5099, 5216, 5367 |
| Celastraceae | | | | |
| <i>Euonymus indicus</i> B.Heyne ex Wall. | | Treelet | Forest | 5460 |
| <i>Microtropis discolor</i> Wall. | | Treelet | Forest | 5056 |
| <i>Salacia verrucosa</i> Wight | | Climber | Forest | 5218 |
| Clusiaceae | | | | |
| <i>Cratoxylum cochinchinense</i> Blume | | Tree | Forest | 5402 |
| <i>Garcinia cochinchinensis</i> (Lour.) Choisy | | Tree | Karst | 5447 |
| <i>Garcinia cowa</i> Roxb. | | Tree | Forest | 5540 |
| <i>Garcinia gracilis</i> Pierre | | Tree | Karst | 5412 |
| <i>Garcinia cf merguensis</i> Wight | | Tree | Forest | 5149 |
| <i>Garcinia oliveri</i> Pierre | | Tree | Forest | 5360 |
| <i>Garcinia cf speciosa</i> Wall. | | Tree | Forest | 4822 |
| Combretaceae | | | | |
| <i>Getonia floribunda</i> Roxb. | | Climber | Forest | 5008 |
| <i>Combretum latifolium</i> Blume | | Tree | Forest | 4910 |
| Commelinaceae | | | | |
| <i>Amischotolype mollissima</i> Hassk. | | Herb | Forest | 4926 |
| <i>Pollia condensata</i> C.B.Clarke | | Herb | Forest | 4912 |
| Convolvulaceae | | | | |
| <i>Argyreia capitiformis</i> (Poir.) Ooststr. | | Climber | Secondary growth | 4765 |
| <i>Merremia bambusetorum</i> Kerr | + | Climber | Forest | 4944 |
| <i>Merremia vitifolia</i> (Blume) Hallier f. | | Climber | Secondary growth | 4764 |
| Cornaceae | | | | |
| <i>Alangium kurzii</i> Craib | | Tree | Forest | 5250 |
| Daphniphyllaceae | | | | |
| <i>Daphniphyllum majus</i> var. <i>pierrei</i> (Hance) T.C.Huang | | Tree | Forest | 5375 |

Table 2. Continued

| Taxa | Additions | Habit | Habitat | Voucher number(s) (FH) |
|---|------------------|--------------|------------------|------------------------------------|
| Dichapetalaceae | | | | |
| <i>Dichapetalum gelonioides</i> (Roxb.) Engl. | + | Tree | Forest | 5517 |
| Dipterocarpaceae | | | | |
| <i>Anisoptera costata</i> Korth. | | Tree | Forest | 4923 |
| <i>Dipterocarpus costatus</i> C.F.Gaertn. | | Tree | Forest | 4922 |
| <i>Dipterocarpus retusus</i> Blume | | Tree | Forest | 5509 |
| <i>Dipterocarpus turbinatus</i> C.F.Gaertn. | | Tree | Forest | 5094 |
| <i>Hopea cf ferrea</i> Pierre | | Tree | Forest | 5327 |
| <i>Hopea cf odorata</i> Roxb. | | Tree | Forest | 5005, 5438, 5356, 5366 |
| <i>Shorea obtusa</i> Wall. ex Blume | | Tree | Forest | 5422 |
| Ebenaceae | | | | |
| <i>Diospyros apiculata</i> Hiern | | Tree | Secondary growth | 4749 |
| <i>Diospyros hasseltii</i> Zoll. | + | Tree | Forest | 5472 |
| <i>Diospyros malabarica</i> (Desr.) Kostel. | | Tree | Forest | 5452 |
| <i>Diospyros pilosiuscula</i> G.Don | + | Tree | Forest | 5418 |
| <i>Diospyros cf sumatrana</i> Miq. | + | Tree | Forest | 5433 |
| Elaeocarpaceae | | | | |
| <i>Elaeocarpus grandiflorus</i> Sm. | | Tree | Forest | 5239 |
| <i>Elaeocarpus hainanensis</i> Oliv. | | Tree | Forest | 5115 |
| <i>Elaeocarpus petiolatus</i> (Jack) Wall. | | Tree | Forest | 5351 |
| Euphorbiaceae | | | | |
| <i>Aporosa villosa</i> (Lindl.) Baill. | | Tree | Forest | 4883, 5405 |
| <i>Aporosa wallichii</i> Hook.f. | | Tree | Forest | 5146, 5229 |
| <i>Balakata baccata</i> (Roxb.) H.-J. Esser | | Tree | Forest | 5463 |
| <i>Claoxylon indicum</i> (Reinw. ex Blume) Hassk. | | Tree | Forest | 5481 |
| <i>Cleidion spiciflorum</i> (Burm.f.) Merr. | | Tree | Forest | 5471 |
| <i>Croton kongensis</i> Gagnep. | | Treelet | Forest | 5484 |
| <i>Endospermum chinense</i> Benth. | + | Tree | Forest | 5511, 5530, 5353, 5308 |
| <i>Excoecaria oppositifolia</i> Griff. | + | Tree | Forest | 5069, 5086, 5469 |
| <i>Homonoia riparia</i> Lour. | | Shrub | Rheophyte | 4745, 5036, 5037, 5493 |
| <i>Macaranga denticulata</i> (Blume) Müll.Arg. | | Tree | Forest | 5492 |
| <i>Mallotus barbatus</i> Müll.Arg. | | Tree | Forest | 4889, 5408, 5499, 5536, 5537 |
| <i>Mallotus peltatus</i> (Geiseler) Müll.Arg. | | Tree | Forest | 5502 |

Table 2. Continued

| Taxa | Additions | Habit | Habitat | Voucher number(s) (FH) |
|--|------------------|----------------------|------------------|-----------------------------------|
| <i>Sumbaviopsis albicans</i> (Blume) J.J.Sm. | + | Tree | Forest | 5079, 5117, 5413 |
| <i>Suregada multiflora</i> (A. Juss.) Baill. | | Tree | Forest | 5362 |
| <i>Trigonostemon flavidus</i> Gagnep. | | Treelet | Forest | 5437 |
| Fabaceae | | | | |
| <i>Adenanthera pavonina</i> var. <i>microsperma</i> (Teijsm. & Binn.) I.C.Nielsen | | Tree | Secondary growth | 4988 |
| <i>Afzelia xylocarpa</i> (Kurz) Craib | | Tree | Forest | 5110 |
| <i>Cassia timoriensis</i> DC. | | Treelet | Secondary growth | 4951, 5031 |
| <i>Cynometra dongnaiensis</i> Pierre | + | Treelet | Forest | 4993, 5236 |
| <i>Dalbergia cochinchinensis</i> Pierre | | Climber | Forest | 5017 |
| <i>Dalbergia tonkinensis</i> Prain | | Tree | Secondary growth | 4753 |
| <i>Ormosia laosensis</i> Niyomdham | | Tree | Forest | 5365 |
| <i>Phyllodium cf longipes</i> (Craib) Schindl. | | Shrub | Secondary growth | 4754 |
| <i>Phyllodium pulchellum</i> (L.) Desv. | | Shrub | Secondary growth | 4768 |
| <i>Pterocarpus macrocarpus</i> Kurz | | Tree | Forest | 5423 |
| <i>Sesbania grandiflora</i> (L.) Poir. | | Treelet | Secondary growth | 5024 |
| <i>Sindora laotica</i> Gagnep. | | Tree | Forest | 5513 |
| Fagaceae | | | | |
| <i>Quercus oxyodon</i> Miq. | + | Tree | Forest | 5420 |
| <i>Lithocarpus dealbatus</i> (Miq.) Rehder | | Tree | Karst | 5185, 5538 |
| <i>Lithocarpus elegans</i> (Blume) Hatus. ex Soepadmo | | Tree | Forest | 5539 |
| Gentianaceae | | | | |
| <i>Fagraea ceilanica</i> Thunb. | | Hemi- Epiphyte | Secondary growth | 4766 |
| Lamiaceae | | | | |
| <i>Callicarpa arborea</i> Roxb. | | Tree | Forest | 5207 |
| <i>Clerodendrum garrettianum</i> Craib | | Treelet | Secondary growth | 5053 |
| <i>Clerodendrum paniculatum</i> L. | | Shrub | Secondary growth | 4760, 5058 |
| <i>Gmelina racemosa</i> (Lour.) Merr. | | Tree | Forest | 5533 |
| <i>Premna coriacea</i> C.B.Clarke | + | Tree | Forest | 5475 |
| <i>Vitex peduncularis</i> Wall. ex Schauer | | Tree | Forest | 5283, 5441 |
| <i>Vitex quinata</i> (Lour.) F.N.Williams | | Tree | Forest | 5373 |
| <i>Vitex vestita</i> Wall. ex Schauer | | Tree | Forest | 5112 |
| Lauraceae | | | | |
| <i>Cassytha filiformis</i> L. | | Climber parasitic | Secondary growth | 4943 |
| <i>Litsea glutinosa</i> (Lour.) C.B.Rob. | | Tree | Forest | 5221 |

Table 2. Continued

| Taxa | Additions | Habit | Habitat | Voucher number(s) (FH) |
|---|------------------|--------------------|------------------|-----------------------------------|
| <i>Litsea pierrei</i> Lecomte | + | Tree | Forest | 5317 |
| Lecythidaceae | | | | |
| <i>Barringtonia longipes</i> Gagnep. | | Tree | Forest | 5142, 5189, 5473 |
| <i>Barringtonia racemosa</i> (L.) Spreng | + | Tree | Secondary growth | 5434 |
| Loganiaceae | | | | |
| <i>Strychnos nux-blanda</i> A.W.Hill | | Tree | Forest | 5400 |
| Loranthaceae | | | | |
| <i>Taxillus chinensis</i> (DC.) Danser | | Shrub parasitic | Secondary growth | 5044 |
| Lythraceae | | | | |
| <i>Duabanga grandiflora</i> (DC.) Walp. | | Tree | Forest | 5370 |
| <i>Lagerstroemia calyculata</i> Kurz | | Tree | Forest | 5157, 5217 |
| <i>Lagerstroemia speciosa</i> (L.) Pers. | | Tree | Forest | 5426 |
| <i>Lagerstroemia tomentosa</i> C.Presl | | Tree | Forest | 5358, 5512 |
| Malvaceae | | | | |
| <i>Bombax ceiba</i> L. | | Tree | Forest | 5010 |
| <i>Helicteres angustifolia</i> L. | | Shrub | Secondary growth | 4940 |
| <i>Helicteres lanceolata</i> A.DC. | | Shrub | Secondary growth | 4780 |
| <i>Microcos paniculata</i> L. | | Tree | Forest | 5479 |
| <i>Pterospermum cf cinnamomeum</i> Kurz | | Tree | Forest | 5011 |
| <i>Pterospermum lanceaefolium</i> Roxb. | | Tree | Forest | 5227 |
| <i>Pterospermum semisagittatum</i> Buch.-Ham. | | Tree | Forest | 5033, 5419 |
| <i>Sterculia balanghas</i> L. | | Tree | Forest | 5371 |
| <i>Sterculia lanceolata</i> Cav. | | Treelet | Forest | 4773, 5125 |
| Melastomataceae | | | | |
| <i>Melastoma malabathricum</i> L. | | Shrub | Secondary growth | 4876, 5313 |
| <i>Memecylon chevalieri</i> Guillaumin | + | Tree | Forest | 5459 |
| <i>Memecylon edule</i> Roxb. | | Treelet | Forest | 5424 |
| Meliaceae | | | | |
| <i>Aglaia spectabilis</i> (Miq.) S.S. Jain & Bennet | | Tree | Forest | 5518 |
| <i>Aglaia tomentosa</i> Teijsm. & Binn. | | Tree | Karst | 5416 |
| <i>Dysoxylum grande</i> Hiern | + | Tree | Forest | 5151 |
| <i>Sandoricum koetjape</i> (Burm.f.) Merr. | | Tree | Forest | 5004 |
| <i>Toona ciliata</i> M.Roem. | | Tree | Karst | 5192 |
| <i>Walsura robusta</i> Roxb. | | Tree | Forest | 5030 |
| Menispermaceae | | | | |
| <i>Cyclea tonkinensis</i> Gagnep. | | Climber | Secondary growth | 4860 |

Table 2. Continued

| Taxa | Additions | Habit | Habitat | Voucher number(s) (FH) |
|---|------------------|-------------------|------------------|-----------------------------------|
| Moraceae | | | | |
| <i>Artocarpus lacucha</i> Buch.-Ham. | | Tree | Forest | 5368 |
| <i>Broussonetia papyrifera</i> (L.) L'Hér. ex Vent. | | Tree | Forest | 5483 |
| <i>Ficus altissima</i> Blume | | Tree | Forest | 5120 |
| <i>Ficus callophylla</i> Blume | | Hemi- Epiphyte | Forest | 5023, 5156 |
| <i>Ficus callosa</i> Willd. | | Tree | Forest | 5436, 5462 |
| <i>Ficus heterophylla</i> L.f. | | Shrub | Forest | 4979 |
| <i>Ficus hirta</i> Vahl | | Tree | Forest | 5498 |
| <i>Ficus lamponga</i> Miq. | | Tree | Forest | 5514 |
| <i>Ficus nervosa</i> B.Heyne ex Roth | | Tree | Forest | 5432 |
| <i>Ficus sundaica</i> Blume | + | Tree | Karst | 5301, 5520 |
| <i>Streblus macrophyllus</i> Blume | + | Tree | Forest | 5435 |
| <i>Streblus taxoides</i> (Roth) Kurz | | Shrub | Forest | 5158 |
| Musaceae | | | | |
| <i>Musa itinerans</i> Cheesman | + | Herb | Karst | 4935 |
| Myristicaceae | | | | |
| <i>Knema erratica</i> (Hook.f. & Thomson) J.Sinclair | | Tree | Forest | 5224 |
| <i>Knema furfuracea</i> (Hook.f. & Thomson) Warb. | + | Tree | Forest | 5103, 5470 |
| <i>Knema globularia</i> (Lam.) Warb. | | Tree | Forest | 5527 |
| Myrtaceae | | | | |
| <i>Syzygium cf balsameum</i> (Wight) Wall. ex Walp. | + | Tree | Rheophyte | 4872 |
| <i>Syzygium cumini</i> (L.) Skeels | | Tree | Forest | 5399, 5427 |
| <i>Syzygium megacarpum</i> (Craib) Rathakr. & N.C.Nair | + | Tree | Forest | 5464 |
| <i>Syzygium cf oblatum</i> (Roxb.) Wall. ex Steudel | + | Tree | Forest | 5465 |
| Ochnaceae | | | | |
| <i>Gomphia serrata</i> (Gaertn.) Kanis.V | | Treelet | Forest | 5328, 5374 |
| Olacaceae | | | | |
| <i>Olax scandens</i> Roxb. - <i>Olax obtusa</i> Blume | | Climber | Forest | 5389 |
| Oleaceae | | | | |
| <i>Jasminum elongatum</i> (Bergius) Willd. | | Climber | Secondary growth | 4938 |
| <i>Jasminum scandens</i> Vahl | | Climber | Secondary growth | 4746 |
| <i>Jasminum vidalii</i> P.S.Green | + | Climber | Secondary growth | 5009 |
| Opiliaceae | | | | |
| <i>Melientha suavis</i> Pierre | | Treelet | Forest | 5215 |

Table 2. Continued

| Taxa | Additions | Habit | Habitat | Voucher number(s) (FH) |
|--|------------------|--------------|------------------|-----------------------------------|
| Pentaphylacaceae | | | | |
| <i>Anneslea fragans</i> Wall. | | Tree | Karst | 4936, 5504 |
| Phyllanthaceae | | | | |
| <i>Antidesma acidum</i> Retz | | Tree | Forest | 5364, 5401 |
| <i>Antidesma bunioides</i> (L.) Spreng. | | Tree | Forest | 5114 |
| <i>Antidesma velutinum</i> Tulasne | + | Tree | Forest | 5363 |
| <i>Phyllanthus emblica</i> L. | | Treelet | Forest | 5390 |
| <i>Phyllanthus cf harmandii</i> Beille | + | Treelet | Karst | 5476 |
| <i>Sauropus quadrangularis</i> Müll.Arg. | | Shrub | Secondary growth | 5034 |
| Piperaceae | | | | |
| <i>Piper laosanum</i> DC. | | Shrub | Karst | 4769 |
| Plantaginaceae | | | | |
| <i>Limnophila aromatica</i> (Lam.) Merr. | | Herb | Riparian | 4905 |
| Plumbaginaceae | | | | |
| <i>Plumbago indica</i> L. | | Herb | Secondary growth | 5035 |
| Poaceae | | | | |
| <i>Thysanolaena latifolia</i> (Hornem.) Honda. | | Herb | Forest | 4908 |
| Polygonaceae | | | | |
| <i>Polygonum posumbu</i> Buch.-Ham. ex D.Don | | Herb | Secondary growth | 5038 |
| Primulaceae | | | | |
| <i>Ardisia helferiana</i> Kurz | | Shrub | Forest | 4886 |
| <i>Maesa paniculata</i> A.DC. | | Shrub | Riparian | 5066 |
| <i>Maesa ramentacea</i> (Roxb.) A.DC. | | Treelet | Forest | 4877, 4971 |
| Putranjivaceae | | | | |
| <i>Drypetes harmandii</i> Pierre ex Gagnep. | | Tree | Forest | 5455, 5526 |
| Rhamnaceae | | | | |
| <i>Ziziphus cf angustifolia</i> (Miq.) Hatus. ex Steenis | + | Tree | Forest | 5458 |
| <i>Ziziphus oenoplia</i> (L.) Mill. | | Climber | Secondary growth | 4750 |
| <i>Ziziphus cf pubinervis</i> Rehder | + | Tree | Forest | 5123 |
| Rubiaceae | | | | |
| <i>Canthium coffeoides</i> Pierre ex Pit. | | Tree | Forest | 5516 |
| <i>Dioecrescis erythroclada</i> (Kurz) Tirveng. | | Tree | Forest | 5398 |
| <i>Duperrea pavettifolia</i> (Kurz) Pit. | | Shrub | Forest | 5075 |
| <i>Fagerlindia fasciculata</i> (Roxb.) Tirveng. | | Treelet | Forest | 5501 |
| <i>Gardenia sootepensis</i> Hutch. | | Tree | Forest | 5393 |
| <i>Hymenodictyon orixense</i> (Roxb.) Mabb. | | Tree | Karst | 5181, 5280, 5372, 5440 |
| <i>Ixora nigricans</i> R.Br. ex Wight & Arn. | | Treelet | Karst | 5260 |
| <i>Meyna spinosa</i> Roxb. ex Link | | Tree | Forest | 5394 |

Table 2. Continued

| Taxa | Additions | Habit | Habitat | Voucher number(s) (FH) |
|---|------------------|--------------|------------------|-----------------------------------|
| <i>Mitragyna diversifolia</i> (G.Don) Havil. | | Tree | Forest | 4958 |
| <i>Mitragyna rotundifolia</i> (Roxb.) Kuntze | | Tree | Forest | 5524 |
| <i>Mussaenda bonii</i> Pit. | | Shrub | Secondary growth | 4888 |
| <i>Neonauclea purpurea</i> (Roxb.) Merr. | | Tree | Forest | 5369 |
| <i>Paederia foetida</i> L. | | Climber | Forest | 4949 |
| <i>Psychotria adenophylla</i> Wall. | | Shrub | Karst | 5312 |
| <i>Psychotria asiatica</i> L. | | Shrub | Forest | 4954 |
| <i>Psychotria sarmentosa</i> Blume | | Climber | Forest | 5331 |
| <i>Rothmannia sootepensis</i> (Craib) Bremek. | + | Treelet | Forest | 4982, 5467 |
| <i>Rothmannia vietnamensis</i> Tirveng. | | Tree | Forest | 5505 |
| <i>Spermacoce latifolia</i> Aubl. | | Herb | Forest | 4866, 4900 |
| <i>Spermacoce roxburghii</i> Spreng. | | Climber | Secondary growth | 4875 |
| <i>Tarenna asiatica</i> (L.) Kuntze ex K.Schum. | | Treelet | Karst | 5380 |
| <i>Tarenna quocensis</i> Pit. | | Treelet | Forest | 5089, 5361, 5515 |
| <i>Uncaria laevigata</i> Wall. ex G.Don | | Climber | Secondary growth | 5027 |
| Rutaceae | | | | |
| <i>Clausena excavata</i> Burm.f. | | Tree | Forest | 5429 |
| <i>Harrisonia perforata</i> (Blanco) Merr. | | Shrub | Forest | 5487 |
| <i>Micromelum hirsutum</i> Oliv. | | Treelet | Karst | 5306 |
| <i>Micromelum integerrimum</i> (Buch.-Ham.) Roem. | | Treelet | Forest | 5144 |
| <i>Micromelum minutum</i> (J.Forst.) Wight & Arn. | | Treelet | Secondary growth | 4752, 5006, 5143, 5359 |
| Sapindaceae | | | | |
| <i>Arytera littoralis</i> Blume | | Tree | Forest | 5388, 5428 |
| <i>Lepisanthes rubiginosa</i> (Roxb.) Leenh. | | Treelet | Secondary growth | 4755 |
| <i>Pometia pinnata</i> J.R.Forst. & G.Forst. | | Tree | Forest | 5174, 5461 |
| <i>Schleichera oleosa</i> (Lour.) Oken. | | Tree | Forest | 5425 |
| <i>Xerospermum noronhianum</i> (Blume) Blume | | Tree | Karst | 5348, 5500, 5546 |
| Sapotaceae | | | | |
| <i>Palaquium annamense</i> Lecomte | | Tree | Forest | 5159 |
| Scrophulariaceae | | | | |
| <i>Buddleja asiatica</i> Lour. | | Shrub | Secondary growth | 4759 |
| Smilacaceae | | | | |
| <i>Smilax glabra</i> Wall. ex Roxb. | | Climber | Forest | 4909 |
| Staphyleaceae | | | | |
| <i>Turpinia pomifera</i> (Roxb.) DC. | | Tree | Forest | 5543 |

Table 2. Continued

| Taxa | Additions | Habit | Habitat | Voucher number(s) (FH) |
|----------------------|--|--------------|------------------|-----------------------------------|
| Urticaceae | | | | |
| | <i>Oreocnide integrifolia</i> (Gaudich.) Miq. | Tree | Karst | 5414 |
| Vitaceae | | | | |
| | <i>Cissus discolor</i> Blume | Climber | Karst | 5445 |
| | <i>Leea guineensis</i> G.Don | Shrub | Forest | 5495 |
| | <i>Tetrastigma erubescens</i> Planch. | Climber | Forest | 4929 |
| | <i>Tetrastigma harmandii</i> Planch. | Climber | Secondary growth | 4751, 4914, 5016, 5179 |
| Zingiberaceae | | | | |
| | <i>Amomum glabrifolium</i> Lamxay & M.F.Newman | Herb | Karst | 5211, 5490 |
| | <i>Amomum plicatum</i> Lamxay & M.F.Newman | Herb | Forest | 5088, 5321 |
| | <i>Amomum uliginosum</i> J.König | Herb | Forest | 5139 |
| | <i>Amomum villosum</i> Lour. | Herb | Forest | 5489 |