



APPENDICES

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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Appendix A

Remnant trees studied

No.	Remnant trees	Plot code	Elevation (m)	Diameter of plot (m)	GBH (cm)	Hight (m)	Radius of control plot	Habitat
1	<i>Albizia chinensis</i> (1)	12	1225	6	55	8	3	open, degraded, deforested area, in FORRU planting area, dominated by <i>Pteridium aquilinum</i> , not burned in recent years but weeds cut by FORRU
2	<i>Albizia chinensis</i> (2)	13	1225	10	95	12	5	open, degraded, deforested area, in FORRU planting area, dominated by <i>Pteridium aquilinum</i> , not burned in recent years but weeds cut by FORRU
3	<i>Albizia chinensis</i> (3)	17	1225	7	87	8	3.5	open, degraded, deforested area, in FORRU planting area, dominated by <i>Pteridium aquilinum</i> , not burned in recent years but weeds cut by FORRU
4	<i>Albizia chinensis</i> (4)	28	1325	11	137	12	5.5	open, degraded, deforested area, bordering RFD planting area, not burned in recent years, dominated by <i>Microstegium vagan</i>
5	<i>Albizia chinensis</i> (5)	46	1225	7	65	8	3.5	open, degraded, deforested area, in FORRU planting area, dominated by <i>Imperata cylindrica</i> , not burned in recent years but cut weeds cut by FORRU
6	<i>Albizia chinensis</i> (6)	47	1225	8.5	82	8	4.25	open, degraded, deforested area, bordering cabbage field, not burned in recent years, dominated by <i>Imperata cylindrica</i> and <i>Pteridium aquilinum</i>

Appendix A (continued)

No.	Remnant trees	Plot code	Elevation (m)	Diameter of plot (m)	GBH (cm)	Hight (m)	Radius of control plot	Habitat
7	<i>Callicarpa arborea</i> var. <i>arborea</i> (1)	8	1225	5	70	10	2.5	open, degraded, deforested area, bordering FORRU planting area, dominated by <i>Pteridium aquilinum</i> , not burned in recent years
8	<i>Callicarpa arborea</i> var. <i>arborea</i> (2)	9	1225	6	87	15	3	open, degraded, deforested area, in FORRU planting area, dominated by <i>Pteridium aquilinum</i> , not burned in recent years but weeds cut by FORRU
9	<i>Callicarpa arborea</i> var. <i>arborea</i> (3)	11	1225	6.5	65	10	3.25	open, degraded, deforested area, in FORRU planting area, dominated by <i>Pteridium aquilinum</i> , not burned in recent years but weeds cut by FORRU
10	<i>Callicarpa arborea</i> var. <i>arborea</i> (4)	14	1225	6.5	77	15	3.25	open, degraded, deforested area, in FORRU planting area, dominated by <i>Pteridium aquilinum</i> , not burned in recent years but weeds cut by FORRU
11	<i>Callicarpa arborea</i> var. <i>arborea</i> (5)	15	1225	7	60	10	3.5	open, degraded, deforested area, in FORRU planting area, dominated by <i>Pteridium aquilinum</i> , not burned in recent years but weeds cut by FORRU
12	<i>Callicarpa arborea</i> var. <i>arborea</i> (6)	40	1225	9	40	6	4.5	open, degraded, deforested area, in FORRU planting area, dominated by <i>Pteridium aquilinum</i> , not burned in recent years but weeds cut by FORRU
13	<i>Callicarpa arborea</i> var. <i>arborea</i> (7)	48	1225	10	160	12	5	open, degraded, deforested area, bordering cabbage field, not burned in recent years, dominated by <i>Imperata cylindrica</i>
14	<i>Castanopsis diversifolia</i> (1)	3	1275	9	280	15	4.5	open, degraded, deforested area, not burned in recent years, dominated by <i>Microstegium vagans</i>
15	<i>Castanopsis diversifolia</i> (2)	4	1275	13	246	15	6.5	open, degraded, deforested area, not burned in recent years, dominated by <i>Microstegium vagans</i>

Appendix A (continued)

No.	Remnant trees	Plot code	Elevation (m)	Diameter of plot (m)	GBH (cm)	Hight (m)	Radius of control plot	Habitat
16	<i>Castanopsis diversifolia</i> (3)	19	1275	11	270	18	5.5	open, degraded, deforested area, roadside, dominated by <i>Imperata cylindrica</i> , not burned in recent years
17	<i>Castanopsis diversifolia</i> (4)	20	1275	12	270	18	6	open, degraded, deforested area, roadside, dominated by <i>Imperata cylindrica</i> , not burned in recent years
18	<i>Castanopsis diversifolia</i> (5)	21	1275	10	150	12	5	open, degraded, deforested area, roadside, dominated by <i>Imperata cylindrica</i> , not burned in recent years
19	<i>Castanopsis diversifolia</i> (6)	22	1275	11	175	20	5.5	open, degraded, deforested area, roadside, dominated by <i>Imperata cylindrica</i> , not burned in recent years
20	<i>Castanopsis diversifolia</i> (7)	23	1275	8	265	20	4	open, degraded, deforested area, roadside, dominated by <i>Imperata cylindrica</i> , not burned in recent years
21	<i>Castanopsis diversifolia</i> (8)	32	1325	13	200	15	6.5	open, degraded, deforested area, ridge in secondary growth area, bordering RFD planting area, not burned in recent years, dominated by <i>Imperata cylindrica</i> and <i>Microstegium vagans</i>
22	<i>Erythrina stricta</i> (1)	25	1300	6	130	11	3	open, degraded, deforested area, not burned in recent years, in RFD planting area
23	<i>Erythrina stricta</i> (2)	26	1275	8	153	12	4	open, degraded, deforested area, not burned in recent years, dominated by <i>Microstegium vagans</i>
24	<i>Erythrina stricta</i> (3)	27	1275	6	96	12	3	open, degraded, deforested area, not burned in recent years, dominated by <i>Microstegium vagans</i>
25	<i>Erythrina stricta</i> (4)	52	1300	6	52	7	3	open, degraded, deforested area, not burned in recent years, in RFD planting area
26	<i>Erythrina stricta</i> (5)	53	1325	5	90	11	2.5	open, degraded, deforested area, not burned in recent years, dominated by <i>Microstegium vagans</i>

Appendix A (continued)

No.	Remnant trees	Plot code	Elevation (m)	Diameter of plot (m)	GBH (cm)	Hight (m)	Radius of control plot	Habitat
27	<i>Erythrina stricta</i> (6)	54	1250	7	111	12	3.5	open, degraded, deforested area, bordering FORRU planting area, not burned in recent years, dominated by <i>Eupatorium adenophorum</i>
28	<i>Eucalyptus camaldulensis</i> (1)	7	1300	6.5	95	12	3.25	open, degraded, deforested area, not burned in recent years, dominated by <i>Pteridium aquilinum</i> and <i>Eupatorium adenophorum</i>
29	<i>Eucalyptus camaldulensis</i> (2)	33	1300	6	98	10	3	open, degraded, deforested area, not burned in recent years, dominated by <i>Pteridium aquilinum</i> and <i>Eupatorium adenophorum</i>
30	<i>Eucalyptus camaldulensis</i> (3)	34	1300	6	90	10	3	open, degraded, deforested area, not burned in recent years, dominated by <i>Pteridium aquilinum</i> and <i>Eupatorium adenophorum</i>
31	<i>Eucalyptus camaldulensis</i> (4)	35	1300	8.5	110	12	4.25	open, degraded, deforested area, not burned in recent years, dominated by <i>Imperata cylindrica</i> and <i>Pteridium aquilinum</i>
32	<i>Eucalyptus camaldulensis</i> (5)	36	1300	7	100	10	3.5	open, degraded, deforested area, not burned in recent years, dominated by <i>Pteridium aquilinum</i> and <i>Eupatorium adenophorum</i>
33	<i>Eucalyptus camaldulensis</i> (6)	37	1300	7	118	11	3.5	open, degraded, deforested area, roadside, not burned in recent years, dominated by <i>Imperata cylindrica</i> and <i>Eupatorium adenophorum</i>
34	<i>Eucalyptus camaldulensis</i> (7)	38	1300	7	99	10	3.5	open, degraded, deforested area, roadside, not burned in recent years, dominated by <i>Pennisetum polystachyon</i>
35	<i>Eucalyptus camaldulensis</i> (8)	39	1300	10	115	12	5	open, degraded, deforested area, roadside, not burned in recent years, dominated by <i>Imperata cylindrica</i>

Appendix A (continued)

No.	Remnant trees	Plot code	Elevation (m)	Diameter of plot (m)	GBH (cm)	Hight (m)	Radius of control plot	Habitat
36	<i>Pinus kesiya</i> (1)	16	1225	7	115	10	3.5	open, degraded, deforested area, in FORRU planting area, dominated by <i>Pteridium aquilinum</i> , not burned in recent years but weeds cut by FORRU
37	<i>Pinus kesiya</i> (2)	42	1275	7	109	16	3.5	open, degraded, deforested area, roadside, dominated by <i>Imperata cylindrica</i> , not burned in recent years
38	<i>Pinus kesiya</i> (3)	43	1250	7	98	12	3.5	open, degraded, deforested area, roadside, dominated by <i>Imperata cylindrica</i> , burned in 1999
39	<i>Pinus kesiya</i> (4)	44	1250	9	113	12	4.5	open, degraded, deforested area, roadside, dominated by <i>Imperata cylindrica</i> , burned in 1999
40	<i>Pinus kesiya</i> (5)	45	1225	6	100	10	3	open, degraded, deforested area, in FORRU planting area, not burned in recent years, dominated by <i>Imperata cylindrica</i>
41	<i>Pinus kesiya</i> (6)	49	1225	7	83	11	3.5	open, degraded, deforested area, bordering cabbage field, not burned in recent years, dominated by <i>Imperata cylindrica</i>
42	<i>Pinus kesiya</i> (7)	50	1225	7	89	12	3.5	open, degraded, deforested area, bordering cabbage field, not burned in recent years, dominated by <i>Imperata cylindrica</i>
43	<i>Pinus kesiya</i> (8)	51	1225	6	85	12	3	open, degraded, deforested area, bordering cabbage field, not burned in recent years, dominated by <i>Imperata cylindrica</i>
44	<i>Schima wallichii</i> (1)	1	1325	9	205	18	4.5	open, degraded, deforested area, not burned in recent years, dominated by <i>Pteridium aquilinum</i> , <i>Imperata cylindrica</i> , <i>Eupatorium adenophorum</i>
45	<i>Schima wallichii</i> (2)	2	1250	6	188	12	3	open, degraded, deforested area, scattered trees nearby
46	<i>Schima wallichii</i> (3)	6	1275	10.5	350	35	5.25	open, degraded, deforested area, road side, dominated by <i>Pteridium aquilinum</i> , not burned in recent years

Appendix A (continued)

No.	Remnant trees	Plot code	Elevation (m)	Diameter of plot (m)	GBH (cm)	Hight (m)	Radius of control plot	Habitat
47	<i>Schima wallichii</i> (4)	10	1225	7	125	14	3.5	open, degraded, deforested area, bordering FORRU planting area, dominated by <i>Pteridium aquilinum</i> , not burned in recent years
48	<i>Schima wallichii</i> (5)	18	1225	15	335	30	7.5	open, degraded, deforested area, bordering FORRU planting area, dominated by <i>Imperata cylindrica</i> , burned in 2001
49	<i>Schima wallichii</i> (6)	29	1325	8	155	20	4	open, degraded, deforested area, not burned in recent years, dominated by <i>Microstegium vagans</i>
50	<i>Schima wallichii</i> (7)	30	1325	9	180	18	4.5	open, degraded, deforested area, not burned in recent years, dominated by <i>Dioscorea bulbifera</i>
51	<i>Schima wallichii</i> (8)	31	1325	6	135	20	3	open, degraded, deforested area, not burned in recent years, dominated by <i>Imperata cylindrica</i>

Appendix B

List of naturally established tree seedling species in the study plots

No.	Botanical name	Family name	Dispersal means
1	<i>Alangium kurzii</i> Craib	Alangiaceae	birds, small mammals
2	<i>Albizia chinensis</i> (Osbeck) Merr.	Leguminosae, Mimosoideae	wind
3	<i>Albizia odoratissima</i> (L. f.) Bth.	Leguminosae, Mimosoideae	wind
4	<i>Alseodaphne andersonii</i> (King ex Hk. f.) Kosterm.	Lauraceae	small mammals
5	<i>Anneslea fragrans</i> Wall.	Theaceae	birds
6	<i>Antidesma acidum</i> Retz.	Euphorbiaceae	birds
7	<i>Antidesma bunius</i> (L.) Spreng. var. <i>bunius</i>	Euphorbiaceae	birds
8	<i>Aporosa villosa</i> (Wall. ex Lindl.) Baill.	Euphorbiaceae	birds
9	<i>Archidendron clypearia</i> (Jack) Niels. ssp. <i>clypearia</i> var. <i>clypearia</i>	Leguminosae, Mimosoideae	wind
10	<i>Artocarpus lakoocha</i> Roxb.	Moraceae	birds, small mammals
11	<i>Artocarpus lanceolata</i> Trec.	Moraceae	birds, small mammals
12	<i>Baccaurea ramiflora</i> Lour.	Euphorbiaceae	small mammals
13	<i>Bauhinia variegata</i> L.	Leguminosae, Caesalpinioideae	wind
14	<i>Beilschmiedia</i> aff. <i>intermedia</i> Allen	Lauraceae	small mammals
15	<i>Callicarpa arborea</i> Roxb. var. <i>arborea</i>	Verbenaceae	birds
16	<i>Canarium subulatum</i> Guill.	Burseraceae	small mammals
17	<i>Canthium parvifolium</i> Roxb.	Rubiaceae	small mammals
18	<i>Castanopsis acuminatissima</i> (Bl.) A. DC.	Fagaceae	small mammals
19	<i>Castanopsis argyrophylla</i> King ex Hk. f.	Fagaceae	small mammals

Appendix B (continued)

No.	Botanical name	Family name	Dispersal means
20	<i>Castanopsis diversifolia</i> (Kurz) King ex Hk. f.	Fagaceae	small mammals
21	<i>Cinnamomum longipetiolatum</i> H.W. Li	Lauraceae	small mammals
22	<i>Cratoxylum cochinchinense</i> (Lour.) Bl.	Guttiferae, Hypericaceae	wind
23	<i>Dalbergia cultrata</i> Grah. ex Bth.	Leguminosae, Papilionoideae	wind
24	<i>Dalbergia ovata</i> Grah. ex Bth.	Leguminosae, Papilionoideae	wind
25	<i>Dillenia parviflora</i> Griff. var. <i>kerrii</i> (Craib) Hoogl.	Dilleniaceae	wind
26	<i>Dimocarpus longan</i> Lour. ssp. <i>longan</i> var. <i>longan</i>	Sapindaceae	birds, small mammals
27	<i>Diospyros glandulosa</i> Lace	Ebenaceae	small mammals
28	<i>Elaeocarpus lanceifolius</i> Roxb.	Elaeocarpaceae	small mammals
29	<i>Engelhardia spicata</i> Lechen. ex Bl. var. <i>spicata</i>	Juglandaceae	small mammals
30	<i>Erythrina stricta</i> Roxb.	Leguminosae, Papilionoideae	wind
31	<i>Eugenia claviflora</i> Roxb.	Myrtaceae	wind
32	<i>Eugenia fruticosa</i> (DC.) Roxb.	Myrtaceae	birds, small mammals
33	<i>Eurya acuminata</i> DC. var. <i>wallichiana</i> Dyer	Theaceae	birds, small mammals
34	<i>Ficus fistulosa</i> Reinw. ex Bl. var. <i>fistulosa</i>	Moraceae	birds, small mammals
35	<i>Ficus hispida</i> L. f. var. <i>hispida</i>	Moraceae	birds, small mammals
36	<i>Ficus semicordata</i> B.-H. ex J.E. Sm. var. <i>semicordata</i>	Moraceae	birds, small mammals
37	<i>Ficus subulata</i> Bl. var. <i>subulata</i>	Moraceae	birds, small mammals
38	<i>Firmiana colorata</i> (Roxb.) R. Br.	Sterculiaceae	birds, small mammals
39	<i>Fluggea virosa</i> (Roxb. ex Willd.) Voigt	Euphorbiaceae	wind
40	<i>Garuga pinnata</i> Roxb.	Burseraceae	birds, small mammals
41	<i>Glochidion acuminatum</i> M.-A. var. <i>siamense</i> A.S.	Euphorbiaceae	small mammals
42	<i>Glochidion kerrii</i> Craib	Euphorbiaceae	birds, wind
43	<i>Glochidion sphaerogynum</i> (M.-A.) Kurz	Euphorbiaceae	birds, wind
44	<i>Gluta obovata</i> Craib	Anacardiaceae	birds, wind small mammals

Appendix B (continued)

No.	Botanical name	Family name	Dispersal means
45	<i>Gmelina arborea</i> Roxb.	Verbenaceae	small mammals
46	<i>Grewia eriocarpa</i> Juss.	Tiliaceae	birds, small mammals
47	<i>Helicia nilagirica</i> Bedd.	Proteaceae	small mammals
48	<i>Horsfieldia thorelii</i> Lec.	Myristicaceae	small mammals
49	<i>Ilex umbellulata</i> (Wall.) Loesn.	Aquifoliaceae	wind
50	<i>Kydia calycina</i> Roxb.	Malvaceae	wind
51	<i>Lithocarpus fenestratus</i> (Roxb.) Rehd.	Fagaceae	small mammals
52	<i>Litsea cubeba</i> (Lour.) Pers. var. <i>cubeba</i>	Lauraceae	birds, small mammals
53	<i>Litsea glutinosa</i> (Lour.) C.B. Rob. var. <i>glutinosa</i>	Lauraceae	birds, small mammals
54	<i>Litsea monopetala</i> (Roxb.) Pers.	Lauraceae	birds, small mammals
55	<i>Litsea salicifolia</i> Nees ex Roxb.	Lauraceae	birds, small mammals
56	<i>Machilus bombycina</i> King ex Hk. f.	Lauraceae	birds, small mammals
57	<i>Maesa ramentacea</i> (Roxb.) A. DC.	Myrsinaceae	birds, small mammals
58	<i>Mallotus philippensis</i> (Lmk.) M.-A.	Euphorbiaceae	wind
59	<i>Markhania stipulata</i> (Wall.) Seem. ex K. Sch. var. <i>kerrii</i> Sprague	Bignoniaceae	wind
60	<i>Melochia umbellata</i> (Houtt.) Stapf	Sterculiaceae	wind
61	<i>Michelia baillonii</i> Pierre	Magnoliaceae	birds, small mammals
62	<i>Oroxylum indicum</i> (L.) Kurz	Bignoniaceae	wind
63	<i>Phoebe lanceolata</i> (Wall. ex Nees) Nees	Lauraceae	birds, small mammals
64	<i>Phyllanthus emblica</i> L.	Euphorbiaceae	birds, small mammals
65	<i>Planchonella punctata</i> Flet.	Sapotaceae	small mammals
66	<i>Protium serratum</i> (Wall. ex Colebr.) Engl.	Burseraceae	small mammals
67	<i>Rhus chinensis</i> Mill.	Anacardiaceae	birds, small mammals
68	<i>Sapindus rarak</i> DC.	Sapindaceae	small mammals
69	<i>Saurauia roxburghii</i> Wall.	Saurauiaceae	birds, small mammals

Appendix B (continued)

No.	Botanical name	Family name	Dispersal means
70	<i>Schima wallichii</i> (DC.) Korth.	Theaceae	wind
71	<i>Sterculia villosa</i> Roxb.	Sterculiaceae	small mammals
72	<i>Stereospermum colais</i> (B.-H. ex Dillw.) Mabb.	Bignoniaceae	wind
73	<i>Syrax benzoides</i> Craib	Syracaceae	birds, small mammals
74	<i>Toona ciliata</i> M. Roem.	Meliaceae	wind
75	<i>Trema orientalis</i> (L.) Bl.	Ulmaceae	birds
76	<i>Turpinia pomifera</i> (Roxb.) Wall. ex DC.	Staphyleaceae	small mammals
77	<i>Vernonia volkameriifolia</i> DC. var. <i>volkameriifolia</i>	Compositae	wind
78	<i>Wendlandia tinctoria</i> (Roxb.) DC. ssp. <i>floribunda</i> (Craib) Cowan	Rubiaceae	wind

Appendix D

R squares of linear regressions between three parameters of remnant tree size and the density of natural seedlings, established beneath their crowns

Species	Dispersal type	Individual			Specie richness		
		Height	GBH	Canopy width	Height	GBH	Canopy width
<i>Albizia chinensis</i>	w	0.0326 (-)	0.0056	0.0107 (-)	0.0621 (-)	0.0127 (-)	0.0182 (-)
	a	0.6392	0.6077	0.7290 *	0.5757	0.2359	0.5227
	w+a	0.2034	0.4921	0.3301	0.1209	0.0717	0.1857
<i>Callicarpa arborea</i> var. <i>arborea</i>	w	0.0478	0.1647	0.0839 (-)	0.0954	0.0461	0.4297 (-)
	a	0.0232	0.0379 (-)	0.3889 (-)	0.1642	0.0054 (-)	0.3790 (-)
	w+a	0.0456	0.0015 (-)	0.3922 (-)	0.1954	0.0014	0.4707 (-)
<i>Castanopsis diversifolia</i>	w	0.0688	0.2829	0.4403 (-)	0.2359	0.1712	0.6590 (-) *
	a	0.1889	0.1718	0.7989 (-) *	0.1924	0.1696	0.7628 (-) *
	w+a	0.1812	0.2228	0.7421 (-) *	0.2087	0.1804	0.7245 (-) *
<i>Erythrina stricta</i>	w	0.1812	0.1401	0.0078	0.2671	0.2395	0.0059
	a	0.2380 (-)	0.0304	0.2148	0.4287 (-)	8.9E-05 (-)	0.0555
	w+a	0.0001 (-)	0.2215	0.2067	0.0639 (-)	0.0848	0.0751

Appendix D (continued)

Species	Dispersal type	Individual			Specie richness		
		Height	GBH	Canopy width	Height	GBH	Canopy width
<i>Eucalyptus camaldulensis</i>	w	0.0248	0.0017	0.1590	0.4748	0.0001	0.1884
	a	0.1580 (-)	0.4277 (-)	0.2767 (-)	5.9E-05 (-)	0.0656 (-)	0.0204
	w+a	0.1296 (-)	0.5368 (-) *	0.1238 (-)	0.0995	0.0392 (-)	0.0518
<i>Pinus kesiya</i>	w	0.0895	0.1885 (-)	0.3693 (-)	0.0895	0.1885 (-)	0.3693 (-)
	a	0.3980	0.1311	0.0378 (-)	0.3497	0.1074	0.1038 (-)
	w+a	0.4279	0.0744	0.0990 (-)	0.3587	0.0287	0.2492 (-)
<i>Schima wallichii</i>	w	0.0162 (-)	0.0031 (-)	0.0008 (-)	0.0506	0.0204	0.0371 (-)
	a	0.0253 (-)	0.1519 (-)	0.0452 (-)	0.3424 (-)	0.7884 (-) *	0.5961 (-) *
	w+a	0.0359 (-)	0.0452 (-)	0.0119 (-)	0.2161 (-)	0.5645 (-) *	0.5833 (-) *
Total	w	0.0096	0.0160	0.0084 (-)	0.0009	0.0003	0.0723 (-)
	a	0.0511	0.0282	0.0352 (-)	0.0176	0.0012	0.0984 (-) *
	w+a	0.0427	0.0310	0.0388 (-)	0.0093	0.0001	0.1291 (-) *

Remark

w wind

a animal

w+a both wind and animal

(-) negative relation

* significant difference (P<0.05)

Appendix E (continued)

No.	Botanical Name	Family	Albizia chinensis - plots		CalliCARPA arborea -plots		Castanopsis diversifolia - plots		Erythrina stricta -plots		Eucalyptus camaldulensis -plots		Pinus kesyta - plots		Schima wallichii - plots		Total		Total
			Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control	
20	<i>Dalbergia ovata</i> Grah. ex Bth.	Leguminosae, Papilionoideae	68.07				37.12				45.44	17.33			56.56	67.55	57.20	58.11	57.46
21	<i>Dillenia parviflora</i> Griff. var. <i>territi</i> (Craib) Hoogl.	Dilleniaceae	11.43													11.43			11.43
22	<i>Dimocarpus longan</i> Lour. ssp. <i>longan</i> var. <i>longan</i>	Sapindaceae											24.00			24.00			24.00
23	<i>Diospyros glandulosa</i> Lace	Ebenaceae			87.32	31.89	40.63				6.17				45.52		44.91	31.89	42.31
24	<i>Elaeocarpus lanceifolius</i> Roxb.	Elaeocarpaceae					32.55				150.30					91.42			91.42
25	<i>Eugenia claviflora</i> Roxb.	Myrtaceae													43.84	50.45	43.84	50.45	46.05
26	<i>Eugenia fruticosa</i> (DC.) Roxb.	Myrtaceae			28.79							46.50	82.03	58.02	61.12	61.73	57.31	57.33	57.33
27	<i>Eurya acuminata</i> DC. var. <i>wallichiana</i> Dyer	Theaceae	11.43			119.50									54.69	55.02	33.06	87.26	60.16
28	<i>Ficus fistulosa</i> Reinw. ex Bl. var. <i>fistulosa</i>	Moraceae				5.23												5.23	5.23
29	<i>Ficus hispida</i> L. f. var. <i>hispida</i>	Moraceae														19.08		19.08	19.08
30	<i>Ficus semicordata</i> B.-H. ex J.E. Sm. var. <i>semicordata</i>	Moraceae									67.81						67.81		67.81
31	<i>Ficus subulata</i> Bl. var. <i>subulata</i>	Moraceae													54.69		54.69		54.69

Appendix E (continued)

No.	Botanical Name	Family	Albizia chinensis - plots		Callitricarpa arborea -plots		Castanopsis diversifolia - plots		Erythrina stricta -plots		Eucalyptus camaldulensis -plots		Pinus kesyta - plots		Schima walliichi - plots		Total		Total	
			Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control		
32	<i>Firmiana colorata</i> (Roxb.) R. Br. <i>Glochidion acuminatum</i> M.-A. var. <i>siamense</i> A.S. <i>Glochidion sphaerogynum</i> (M.-A.) Kurz	Sterculiaceae							28.10								28.10		28.10	
33	<i>Glochidion acuminatum</i> M.-A. var. <i>siamense</i> A.S. <i>Glochidion sphaerogynum</i> (M.-A.) Kurz	Euphorbiaceae			18.50												18.50		18.50	
34	<i>Glochidion sphaerogynum</i> (M.-A.) Kurz	Euphorbiaceae			43.32		34.57				45.58						39.51		39.51	
35	<i>Gluta obovata</i> Craib	Anacardiaceae													26.44	55.70	26.44	55.70	45.95	
36	<i>Gmelina arborea</i> Roxb. <i>Helicia nilagirica</i> Bedd.	Verbenaceae					26.25										26.25		26.25	
37	<i>Helicia nilagirica</i> Bedd.	Proteaceae					32.55								32.61		32.58		32.58	
38	<i>Ilex umbellulata</i> (Wall.) Loesn.	Aquifoliaceae																	45.96	45.96
39	<i>Litsea cubeba</i> (Lour.) Pers. var. <i>cubeba</i> <i>Litsea glutinosa</i> (Lour.) C.B. Rob. var. <i>glutinosa</i>	Lauraceae	85.28	43.80	62.50	153.05	36.73				39.78	69.99			50.30	21.05	51.03	61.36	54.13	
40	<i>Litsea glutinosa</i> (Lour.) C.B. Rob. var. <i>glutinosa</i>	Lauraceae								18.07									18.07	18.07
41	<i>Litsea monopetala</i> (Roxb.) Pers. <i>Machilus bombycina</i> King ex Hk. f. <i>Mallotus philippensis</i> (Lmk.) M.-A.	Lauraceae			99.03	123.33					39.58	65.89					50.75	87.98	56.95	
42	<i>Machilus bombycina</i> King ex Hk. f. <i>Mallotus philippensis</i> (Lmk.) M.-A.	Lauraceae					30.91				12.51				17.27	73.60	73.60	29.73	40.70	
43	<i>Mallotus philippensis</i> (Lmk.) M.-A.	Euphorbiaceae			39.36	15.54											39.36	26.64	28.76	

Appendix E (continued)

No.	Botanical Name	Family	Albizia chinensis - plots		Callitricarpa arborea - plots		Castanopsis diversifolia - plots		Erythrina stricta - plots		Eucalyptus camaldulensis - plots		Pinus kesya - plots		Schima wallichii - plots		Total		Total	
			Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control		
	<i>Markhamia stipulata</i> (Wall.) Seem. ex K.																			
44	Sch. var. <i>kerrii</i> Sprague	Bignoniaceae			17.07	38.87	13.89								51.96	6.17		25.00	22.52	24.17
45	<i>Phoebe lanceolata</i> (Wall. ex Nees) Ness	Lauraceae				49.59	90.38								47.06		47.06	69.98		62.34
46	<i>Phyllanthus emblica</i> L.	Euphorbiaceae					53.98		79.73						49.65	16.68	53.78	16.68		49.66
47	<i>Rhus chinensis</i> Mill.	Anacardiaceae			73.45	4.69	33.27								6.31		34.37	4.69		32.09
48	<i>Sapindus rarak</i> DC.	Sapindaceae	17.70														17.70			17.70
49	<i>Saurauia roxburghii</i> Wall.	Saurauiaceae	85.25		21.66												53.46			53.46
50	<i>Schima wallichii</i> (DC.) Korth.	Theaceae	78.67	80.95	19.00		68.11				61.83	31.96					60.81	66.31	65.07	
51	<i>Sterculia villosa</i> Roxb.	Sterculiaceae			12.96				36.70		25.95				17.55	33.03	23.15	27.56	25.36	
52	<i>Stereospermum colais</i> (B.-H. ex Dillw.) Mabb.	Bignoniaceae	96.98						38.44				125.83				89.56			89.56
53	<i>Styrax benzoides</i> Craib	Styracaceae	17.70		9.59		74.27								62.28	43.58	39.99	34.26	36.17	
54	<i>Toona ciliata</i> M. Roem.	Meliaceae	33.64	39.86													33.64	39.86	37.38	
55	<i>Trema orientalis</i> (L.) Bl.	Ulmaceae																	228.24	228.24
56	<i>Turpinia pomifera</i> (Roxb.) Wall. ex DC.	Staphyleaceae	21.05		31.04										69.22	73.58	45.14	52.31	48.72	
57	<i>Vernonia volkamerifolia</i> DC. var. <i>volkamerifolia</i>	Compositae	112.36								54.95						83.65			83.65

Appendix E (continued)

No.	Botanical Name	Family	Albizia chinensis - plots		Callicarpa arborea -plots		Castanopsis diversifolia - plots		Erythrina stricta -plots		Eucalyptus camaldulensis -plots		Pinus kesiya - plots		Schima wallichii - plots		Total				
			Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control	Under crown	Control	Total		
58	<i>Wendlandia tinctoria</i> (Roxb.) DC. ssp. <i>floribunda</i> (Craib) Cowan	Rubiaceae	60.22	72.48	56.17	34.54	37.00	36.37	34.04	47.32	38.39	19.20	45.25	39.08	70.85	70.53	50.12	69.64	38.50	61.48	56.89
	Total																		49.47	51.36	50.24

Appendix F

List of birds observed in this study

No.	Scientific Name	Common Name	Diet	Abundance Rating*	Seasonality*	Habitat Type*	Observed in remnant trees in deforested site	Observed in fruiting trees in intact forest
1	<i>Aegithina tiphia</i>	Common Iora	insectivore	U	N	D,S, plains to 750 m	y	y
2	<i>Aethopyga saturata</i>	Black-throated Sunbird	nectar/insectivore	C	N	E, 1000-1685 m		y
3	<i>Chloropsis aurifrons</i>	Golden-fronted Leafbird	omnivore	U	N	D, plains to 750 m		y
4	<i>Chloropsis hardwickii</i>	Orange-bellied Leafbird	omnivore	U	N	E, 900-1685 m		y
5	<i>Chrysococcyx maculatus</i>	Asian Emerald Cuckoo	insectivore	U	NM	E, 700-1685 m	y	
6	<i>Criniger pallidus</i>	Puff-throated Bulbul	omnivore	C	N	E, 700-1150 m		y
7	<i>Hypsipetes flavala</i>	Ashy Bulbul	omnivore	C	N	E, 800-1200 m		y
8	<i>Hypsipetes mcclllandii</i>	Mountain Bulbul	omnivore	C	N	E, 800-1685 m		y
9	<i>Lanius collurioides</i>	Burmese Shrike	carnivore	C	N	E, 800-1685 m	y	y
10	<i>Lanius schach</i>	Long-tailed Shrike	carnivore	U	N	S, plains to 1000 m	y	
11	<i>Megalaima astata</i>	Blue-throated Barbet	omnivore	C	N	E, 800-1400 m		y
12	<i>Myiophoneus caeruleus</i>	Blue Whistling Thrush	carnivore	λU	NM	D, E, plains to 1685 m		y
13	<i>Pericrocotus cinnamomeus</i>	Small Minivet	insectivore	U	N	D, plains to 850 m	y	
14	<i>Phaenicophaeus tristis</i>	Green-billed Malkoha	omnivore	C	N	D,E, plains to 1500 m	y	
15	<i>Phylloscopus inornatus</i>	Inornate Warbler	insectivore	C	M	D,E,S, plains to 1685 m	y	y

Appendix F (continued)

No.	Scientific Name	Common Name	Diet	Abundance*	Seasonality*	Habitat Type*	Observed in remnant trees in deforested site	Observed in fruiting trees in intact forest
16	<i>Pteruthius melanotis</i>	White-browed Shrike-Babbler	insectivore	C	N	E, 1000-1685 m	y	
17	<i>Pycnonotus atriceps</i>	Black-headed Bulbul	omnivore	C	N	D,E, 800-900 m	y	
18	<i>Pycnonotus aurigaster</i>	Sooty-headed Bulbul	omnivore	C	N	S, plains to 1685 m	y	y
19	<i>Pycnonotus flavescens</i>	Flavescent Bulbul	omnivore	C	N	S, plains to 1685 m	y	y
20	<i>Pycnonotus jocosus</i>	Red-whiskered Bulbul	omnivore	C	N	D,E, plains to 1685 m	y	y
21	<i>Pycnonotus melanicterus</i>	Black-crested Bulbul	omnivore	C	N	D,E, plains to 1685 m		y
22	<i>Sitta frontalis</i>	Velvet-fronted Nuthatch	insectivore	C	N	D,E, plains to 1685 m	y	
23	<i>Treron sphenura</i>	Wedge-tailed Pigeon	frugivore	U	N	E, 900-1500 m		y
24	<i>Zosterops palpebrosus</i>	Oriental White-eye	omnivore	C	N	E,S, plains to 1685 m		y

Remark:

* = reference source: Round, 1984

x = abundance estimated

C = common to abundant

U = uncommon to fairly common

N = non-migrant resident

M = migrant or winter visitor

D = deciduous forest

E = evergreen forest

S = secondary growth, scrub, or grassland

Abundance Rating

Seasonality

Habitat Type

CURRICULUM VITAE

Name: Mr. Puttipong Navakitbumrung

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Birth Place Chachoengsao, Thailand

Education Background:

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Work Experiences:

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