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Supplementary Material

Tab. S1 - Stand factors, Species richness and abundance in four successional stages.

Index	15 years	30 years	40 years	Old-growth forest
Mean height /m	4.1±0.2	5.1±0.6	4.3±0.9	5.6±0.5
Mean DBH /cm	4.0±0.3	5.7±0.7	4.8±0.7	6.6±0.6
Basal areas /$m^2 \cdot hm^{-2}$	23.8±2.3	33.3±0.9	29.9±0.6	40.5±3.6
Density /stem $\cdot hm^{-2}$	11437.0±490.3	8177.8±1231.4	9133.3±785.4	10714.8±2116.2
Family richness	37±2.1	25.3±0.9	31±1.3	45.3±1.9
Genera richness	52.7±3.7	35±2.1	50±2.3	77±1.5
Species richness	67.7±4.4	42.7±1.5	61.7±1.6	98±1.7
Trees richness	46.7±2.3	33±2.1	41.3±2.1	53.3±3.2
Shrubs richness	12.7±1.7	5.7±1.2	12.7±0.4	26.3±2.4
Lianas richness	8.3±0.7	4±0.6	7.7±0.5	17.3±0.9
Trees abundance	805.3±51.1	704±109.4	742.7±65.2	559±126.9
Shrubs abundance	119.3±52.3	14.3±2.9	38.7±6.5	232±46.8
Lianas abundance	104.7±13.9	17.7±6.4	40.8±4.2	164±22.5

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Tab. S2 - Species information in this study.

Successional stages	Species	Family	Growth form
15 years	*Diospyros kaki*	Ebenaceae	Tree
15 years	*Castanopsis calathiformis*	Fagaceae	Tree
15 years	*Castanopsis echinocarpa*	Fagaceae	Tree
15 years	*Castanopsis fleuryi*	Fagaceae	Tree
15 years	*Castanopsis indica*	Fagaceae	Tree
15 years	*Lithocarpus fenestratus*	Fagaceae	Tree
15 years	*Gnetum montanum*	Gnetaceae	Woody liana
15 years	*Lindera caudata*	Lauraceae	Tree
15 years	*Litsea cubeba*	Lauraceae	Tree
15 years	*Machilus robusta*	Lauraceae	Tree
15 years	*Mucuna macrocarpa*	Leguminosae	Woody liana
15 years	*Pithecellobium clypearia*	Leguminosae	Tree
15 years	*Myrica esculenta*	Myricaceae	Tree
15 years	*Decaspermum fruticosum*	Myrtaceae	Tree
15 years	*Helicia nilagirica*	Proteaceae	Tree
15 years	*Pyrus pashia*	Rosaceae	Tree
15 years	*Canthium horridum*	Rubiaceae	Shrub
15 years	*Wendlandia tinctoria*	Rubiaceae	Tree
15 years	*Eurya groffii*	Theaceae	Tree
15 years	*Schima wallichii*	Theaceae	Tree
30 years	*Toxicodendron succedaneum*	Anacardiaceae	Tree
30 years	*Celastrus monospermus*	Celastraceae	Woody liana
30 years	*Vaccinium exaristatum*	Ericaceae	Tree
30 years	*Aporusa villosa*	Euphorbiaceae	Tree
30 years	*Glochidion lanceolarium*	Euphorbiaceae	Tree
30 years	*Castanopsis calathiformis*	Fagaceae	Tree
30 years	*Castanopsis echinocarpa*	Fagaceae	Tree
30 years	*Castanopsis fleuryi*	Fagaceae	Tree
30 years	*Castanopsis hystrix*	Fagaceae	Tree
30 years	*Lithocarpus fenestratus*	Fagaceae	Tree
30 years	*Lithocarpus truncatus*	Fagaceae	Tree
30 years	*Litsea cubeba*	Lauraceae	Tree
30 years	*Machilus robusta*	Lauraceae	Tree
30 years	*Ficus hirta*	Moraceae	Shrub
30 years	*Rapanea neriifolia*	Myrsinaceae	Tree
30 years	*Olea rosea*	Oleaceae	Tree
30 years	*Wendlandia tinctoria*	Rubiaceae	Tree
30 years	*Anneslea fragrans*	Theaceae	Tree
30 years	*Eurya groffii*	Theaceae	Tree

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Successional stages	Species	Family	Growth form
30 years	*Schima wallichii*	Theaceae	Tree
40 years	*Toxicodendron succedaneum*	Anacardiaceae	Tree
40 years	*Lyonia ovalifolia*	Ericaceae	Tree
40 years	*Vaccinium exaristatum*	Ericaceae	Tree
40 years	*Aporusa villosa*	Euphorbiaceae	Tree
40 years	*Glochidion eriocarpum*	Euphorbiaceae	Shrub
40 years	*Glochidion lanceolarium*	Euphorbiaceae	Tree
40 years	*Castanopsis echinocarpa*	Fagaceae	Tree
40 years	*Castanopsis hystrix*	Fagaceae	Tree
40 years	*Lithocarpus fenestratus*	Fagaceae	Tree
40 years	*Lithocarpus truncatus*	Fagaceae	Tree
40 years	*Engelhardtia colebrookiana*	Juglandaceae	Tree
40 years	*Litsea cubeba*	Lauraceae	Tree
40 years	*Litsea umbellata*	Lauraceae	Tree
40 years	*Machilus robusta*	Lauraceae	Tree
40 years	*Rapanea neriifolia*	Myrsinaceae	Tree
40 years	*Syzygium yunnanense*	Myrtaceae	Tree
40 years	*Olea rosea*	Oleaceae	Tree
40 years	*Wendlandia tinctoria*	Rubiaceae	Tree
40 years	*Anneslea fragrans*	Theaceae	Tree
40 years	*Schima wallichii*	Theaceae	Tree
Old-growth forest	*Celastrus monospermus*	Celastraceae	Woody liana
Old-growth forest	*Elaeocarpus sylvestris*	Elaeocarpaceae	Tree
Old-growth forest	*Aporusa villosa*	Euphorbiaceae	Tree
Old-growth forest	*Castanopsis calathiformis*	Fagaceae	Tree
Old-growth forest	*Castanopsis echinocarpa*	Fagaceae	Tree
Old-growth forest	*Castanopsis hystrix*	Fagaceae	Tree
Old-growth forest	*Lithocarpus fenestratus*	Fagaceae	Tree
Old-growth forest	*Lithocarpus truncatus*	Fagaceae	Tree
Old-growth forest	*Litsea cubeba*	Lauraceae	Tree
Old-growth forest	*Litsea umbellata*	Lauraceae	Tree
Old-growth forest	*Machilus robusta*	Lauraceae	Tree
Old-growth forest	*Phoebe puwenensis*	Lauraceae	Tree
Old-growth forest	*Fordia microphylla*	Leguminosae	Shrub
Old-growth forest	*Ardisia maculosa*	Myrsinaceae	Shrub
Old-growth forest	*Rapanea neriifolia*	Myrsinaceae	Tree
Old-growth forest	*Lasianthus henryi*	Rubiaceae	Shrub
Old-growth forest	*Evodia lepta*	Rutaceae	Tree
Old-growth forest	*Turpinia montana*	Staphyleaceae	Tree
Old-growth forest	*Adinandra hirta*	Theaceae	Tree
Old-growth forest	*Anneslea fragrans*	Theaceae	Tree

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Tab. S3 - Relationships between leaf traits and successional stage.

y	x	Slope				Heterogeneity
		15year	30year	40year	Old-growth	of slope
log(SLA)	log(LA)	-0.4319	-0.4768	-0.3329	-0.3822	0.706
log(SLA)	log(N_{mass}: P_{mass})	-1.230	-1.889	-1.054	2.214	0.056
log(SLA)	log(N_{mass})	1.1495	1.8128	0.9695	1.1087	0. 075
log(SLA)	log(P_{mass})	0.9107	1.0684	0.8004	1.3468	0.122
log(SLA)	log(LCC)	-5.393a	-3.838ab	-2.149b	3.473ab	0.024
log(SLA)	log(N_{area})	-1.3863a	1.0371a	-0.8826ab	-0.6338b	0.028
log(SLA)	log(P_{area})	-1.2505	-0.8726	-0.9070	-0.6906	0.197
log(SLA)	log(A_{mass})	-10.060a	-7.025a	-6.222ab	-4.728b	0.05
log(SLA)	log(A_{area})	-0.4503ab	-0.3287a	-0.5989b	-0.3275a	0.04
log(LA)	log(N_{mass}: P_{mass})	-2.849	-3.962	3.165	-5.794	0.092
log(LA)	log(N_{mass})	-2.662	3.802	2.912	-2.901	0.714
log(LA)	log(P_{mass})	-2.109	2.241	2.404	-3.524	0.405
log(LA)	log(LCC)	12.488	-10.042	6.454	7.284	0.184
log(LA)	log(N_{area})	3.210	2.714	2.651	1.329	0.062
log(LA)	log(P_{area})	2.895	2.283	2.724	-1.449	0.180
log(LA)	log(A_{mass})	23.293	18.382	18.689	9.916	0.082
log(LA)	log(A_{area})	1.0426ab	-0.8603a	1.7989b	-0.6868a	0.038
log(N_{mass}: P_{mass})	log(N_{mass})	0.9344	-0.9597	0.9200	0.5007	0.095
log(N_{mass}: P_{mass})	log(P_{mass})	-0.7402	-0.5656	-0.7595	0.6082	0.509
log(N_{mass}: P_{mass})	log(LCC)	4.384a	1.635b	2.039b	-1.949b	0.011
log(N_{mass}: P_{mass})	log(N_{area})	1.1268a	-0.4419bc	0.8376ac	0.3556b	0.002
log(N_{mass}: P_{mass})	log(P_{area})	-1.0165a	-0.3718b	-0.8607a	0.3875b	0.001
log(N_{mass}: P_{mass})	log(A_{mass})	8.177a	-2.993b	5.904a	2.653b	0.002
log(N_{mass}: P_{mass})	log(A_{area})	0.3660a	-0.1401b	0.5683a	-0.1838b	0.003
log(N_{mass})	log(P_{mass})	0.7922a	0.5894a	0.8256a	1.2147b	0.002
log(N_{mass})	log(LCC)	-4.692a	-1.704b	2.216bc	-3.892ac	0.003
log(N_{mass})	log(N_{area})	1.2059a	0.4605b	0.9104a	0.7103ab	0.028
log(N_{mass})	log(P_{area})	1.0878a	0.3874b	0.9356a	0.7740a	0.014
log(N_{mass})	log(A_{mass})	8.751a	3.119b	6.418a	5.298ab	0.022
log(N_{mass})	log(A_{area})	-0.3917a	-0.1460b	0.6177a	0.3670a	0.001
log(LCC)	log(P_{mass})	-0.1689	-0.3459	-0.3725	-0.3121	0.067
log(LCC)	log(N_{area})	0.2570	0.2702	0.4108	-0.1825	0.069
log(LCC)	log(P_{area})	0.2319	-0.2274	0.4221	-0.1989	0.101
log(LCC)	log(A_{mass})	1.865	1.830	2.896	-1.361	0.084
log(LCC)	log(A_{area})	0.0835a	0.0857a	0.2787b	-0.0943a	0.001
log(P_{mass})	log(N_{area})	-1.5223a	0.7813bc	1.1028ab	0.5847c	0.016
log(P_{mass})	log(P_{area})	1.3732a	0.6573bc	1.1332ab	0.6372c	0.015
log(P_{mass})	log(A_{mass})	-11.047a	5.292b	7.774ab	4.362b	0.017

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y	x	Slope				Heterogeneity
		15year	30year	40year	Old-growth	of slope
log(P_{mass})	log(A_{area})	-0.4945ac	-0.2476b	-0.7482a	0.3021bc	0.019
log(N_{area})	log(P_{area})	0.9021	0.8413	1.0276	1.0897	0.190
log(N_{area})	log(A_{mass})	7.257a	6.773b	7.049c	7.459a	0.001
log(N_{area})	log(A_{area})	0.3248a	0.3170ac	0.6785b	0.5167bc	0.007
log(P_{area})	log(A_{mass})	8.045	8.051	6.860	6.845	0.532
log(P_{area})	log(A_{area})	0.3601	0.3768	0.6603	0.4741	0.161
log(A_{mass})	log(A_{area})	0.0448a	0.0468a	0.0963b	0.0693ab	0.005

Abbreviations: LA- leaf area (cm^2), SLA- specific leaf area ($m^2\ kg^{-1}$), N_{mass}- leaf nitrogen contents (mass basis, g kg^{-1}), P_{mass}- leaf phosphorus contents (mass basis, g kg^{-1}), N_{mass}: P_{mass}- the ratio of leaf nitrogen contents (mass basis) to leaf phosphorus contents (mass basis), LCC- leaf carbon contents (g kg^{-1}), N_{area}- leaf nitrogen contents (area basis, g m^{-2}), P_{area}- leaf phosphorus contents (area basis, g m^{-2}), A_{mass}- maximum photosynthesis (mass basis, nmol $g^{-1}\ s^{-1}$), A_{area}- maximum photosynthesis (area basis, μmol $g^{-1}\ s^{-1}$). Significant differences are given by different letters in the same row.