

## Project Update: January 2010

We are pleased to inform the analysis of the floristic survey.

Value of richness and evenness in Nyungcung were 3.28 and 0.826 whilst in Ciampea were 3.29 and 0.823, respectively. In term of diversity, Nyungcung seems to be more diverse than Ciampea as indicated by the higher value of diversity index. Nyungcung has 3.225 of diversity index while Ciampea has 2.859. The floristic composition was mostly comprised by Moraceae, Rubiaceae, and Euphorbiaceae. However, the highest presence of species were *Antidesma montanum* (Euphorbiaceae) and *Chrysophyllum lanceolatum* (Sapotaceae), and *Pandanus* sp. (*Pandanaceae*) in Nyungcung, whereas in Ciampea, *Harpullia arborea* (Sapindaceae), *Ophiorrhiza canescens* (Rubiaceae), and *Allophyllus cobbe* (Sapindaceae). *Macaranga rhizinoides*, *O. canescens*, *A. montanum*, and *Turpinia montana* were respectively gained the highest importance values. List of flora and its importance values is described in Table 1, 2, and 3.

Table 1. Presence of flora identified within Ciampea and Nyungcung vegetation analysis plot

Species	Nyungcung	Ciampea	Species	Nyungcung	Ciampea
<i>Acronychia pedunculata</i>	3	0	<i>Glochidion rubrum</i>	1	0
<i>Allophyllus cobbe</i>	2	30	<i>Gluta renghas</i>	7	0
<i>Alstonia scholaris</i>	6	0	<i>Glycosmis pentaphylla</i>	0	1
<i>Antidesma montanum</i>	46	13	<i>Guioa diplopetala</i>	0	2
<i>Aporosia octandra</i>	3	0	<i>Harpullia arborea</i>	0	34
<i>Archidendron fagifolium</i>	1	0	<i>Homalanthus populneus</i>	0	7
<i>Arenga pinnata</i>	2	0	<i>Ixora javanica</i>	0	3
<i>Arthrophyllum diversifolium</i>	11	0	<i>Ixora</i> sp.	1	0
<i>Artocarpus heterophyllus</i>	1	0	<i>Jasminum</i> sp.	1	0
<i>Breynia racemosa</i>	0	1	<i>Kibara coriacea</i>	2	0
<i>Bridelia tomentosa</i>	0	3	<i>Kleinhovia hospita</i>	2	0
<i>Buchanania arborescens</i>	0	1	<i>Lasianthus inodorus</i>	4	0
<i>Calliandra callothyrsus</i>	0	14	<i>Lasianthus lucidus</i>	1	0
<i>Cassearia coriacea</i>	0	1	<i>Leea rubra</i>	0	6
<i>Cecropia palmata</i>	0	4	<i>Litsea glutinosa</i>	0	24

<i>Cecropia sundaica</i>	0	2	<i>Litsea umbellata</i>	0	1
<i>Chrysophyllum lanceolatum</i>	29	0	<i>Lucuma petaloides</i>	0	18
<i>Cinnamomum iners</i>	0	1	<i>Macaranga rhizinoides</i>	2	23
<i>Clerodendrum serratum</i>	0	4	<i>Melastoma malabathricum</i>	0	2
<i>Cratoxylum formosum</i>	1	0	<i>Microcos hirsuta</i>	6	1
<i>Croton tiglium</i>	0	2	<i>Mischocarpus fuscescens</i>	10	0
<i>Daemonorops sp.</i>	1	0	<i>Mischocarpus sundaicus</i>	8	0
<i>Dalbergia rostrata</i>	1	0	<i>Moraceae (sp)</i>	1	0
<i>Dendrocnide sinuata</i>	0	3	<i>Morinda citrifolia</i>	0	2
<i>Dillenia obovata</i>	1	0	<i>Ophiorrhiza canescens</i>	6	30
<i>Dioscorrea hispida</i>	3	0	<i>Orophea hexandra</i>	2	1
<i>Diospyros maritima</i>	0	1	<i>Pandanus sp.</i>	28	0
<i>Diplospora singularis</i>	0	1	<i>Peltophorum pterocarpum</i>	3	0
<i>Elaeocarpus floribundus</i>	2	0	<i>Phyllanthus reticulatus</i>	0	2
<i>Endiandra rubescens</i>	6	0	<i>Pleomele elliptica</i>	10	0
<i>Erythroxylum cuneatum</i>	2	0	<i>Poikilospermum sp.</i>	0	3
<i>Fagraea racemosa</i>	0	1	<i>Premna pubescens Bl.</i>	0	1
<i>Ficus annulata</i>	1	0	<i>Psychotria angulata</i>	0	1
<i>Ficus fistulosa</i>	0	2	<i>Pterospermum javanicum</i>	0	1
<i>Ficus grossularoides</i>	3	0	<i>Pycnarrhena cauliflora</i>	1	0
<i>Ficus hirta</i>	18	0	<i>Randia maculata</i>	0	6
<i>Ficus montana</i>	1	1	<i>Stephania japonica</i>	0	1
<i>Ficus pinnata</i>	0	1	<i>Sterculia coccinea</i>	1	0
<i>Ficus sagittata</i>	3	0	<i>Streblus asper var. asper</i>	0	1
<i>Ficus septica</i>	0	5	<i>Syzygium lineatum</i>	9	14
<i>Ficus sp. 1</i>	0	1	<i>Syzygium pycnathum</i>	2	0

<i>Ficus</i> sp. 2	0	7	<i>Syzygium racemosum</i>	22	7
<i>Ficus</i> sp. 3	0	8	<i>Tetracera akara</i>	1	0
<i>Ficus</i> sp. 4	0	27	<i>Tetracera scandens</i>	1	4
<i>Ficus</i> sp. 5	0	1	<i>Tristellatcia australaciae</i>	5	0
<i>Ficus</i> sp. 6	1	0	<i>Turpinia montana</i>	15	0
<i>Flacourtia rukam</i>	2	0	<i>Urena lobata</i>	0	2
<i>Flagellaria indica</i>	1	0	<i>Vitex pinnata</i>	4	1
<i>Garcinia dulcis</i>	2	0	<i>Vitex quinnata</i>	0	1
<i>Garcinia lateriflora</i>	2	0			
<i>Garcinia parvifolia</i>	5	0			
<i>Glochidion philippicum</i>	1	3			

Table 2. Families, Density, and the Basal Area of Flora Composing Limestone Hills in Nyungcung and Ciampea

Fam	Nyungcung				Ciampea			
	Nr of species	Density	% density	BA	Nr of species	Density	% density	BA
Anacardiaceae	1	8	2.90	33.70	1	1	0.27	0.52
Annonaceae	1	1	0.36	0.66	1	1	0.27	0.06
Apocynaceae	1	6	2.17	23.55	-	-	-	-
Araliaceae	1	11	3.99	148.15	-	-	-	-
Arecaceae	2	clump, non woody			-	-	-	-
Clusiaceae	3	9	3.26	27.28	-	-	-	-
Dilleniaceae	2	2	0.72	39.29	1	4	1.08	5.51
Dioscoreaceae	1	1	0.36	0.10				
Ebenaceae	-	-	-	-	1	1	0.27	3.36
Elaeocarpaceae	1	2	0.72	1.45	-	-	-	-
Erythroxylaceae	1	2	0.71	1.88	-	-	-	-
Euphorbiaceae	4	50	17.86	198.50	8	76	20.43	201.54
Fabaceae	3	5	1.79	16.12	1	14	3.76	35.65
Flacourtiaceae	1	2	0.71	8.78	1	1	0.27	7.36
Hypericaceae	1	1	0.36	1.29	-	-	-	-
Lauraceae	1	6	2.14	8.36	3	26	6.99	31.60
Leeaceae	-	-	-	-	1	6	1.61	5.91
Liliaceae	1	6	2.14	3.63	-	-	-	-
Loganiaceae					1	1	0.27	6.37
Malvaceae					1	2	0.54	0.21

Malpighiaceae	1	4	1.43	20.77				
Melastomataceae					1	2	0.54	0.81
Menispermaceae	1	1	0.36	0.53	1	1	0.27	0.01
Monimiaceae	1	2	0.71	25.39				
Moraceae	7	29	10.36	57.69	10	54	14.52	198.86
Myrtaceae	4	33	11.79	136.44	1	22	5.91	16.22
Pandanaceae	1	clump, non woody			-	-	-	-
Phyllanthaceae	1	3	1.07	2.29	-	-	-	-
Piperaceae	-	-	-	-	1	12	3.23	8.02
Rubiaceae	4	12	4.29	27.18	5	42	11.29	144.86
Rutaceae	1	3	1.07	5.21	1	1	0.27	0.05
Sapindaceae	3	20	7.14	25.64	3	66	17.74	23.12
Sapotaceae	1	29	10.36	72.58	1	18	4.84	19.15
Staphyllaceae	1	15	5.36	143.33	-	-	-	-
Sterculiaceae	2	3	1.07	7.27	1	1	0.27	5.38
Tilliaceae	2	6	2.14	26.44	1	1	0.27	0.11
Urticaceae	-	-	-	-	3	12	3.23	35.88
Verbenaceae	1	4	1.43	7.60	3	7	1.88	17.84

Table 3. Summary of Species found in Nyungung and Ciampea Hills with its respective Relative Density (RD) , Relative Frequency (RF), and Relative Dominance (RDm). Species shown were confined to those with Importance Values (Iv)  $\geq 3.69$

Species	Family	Nyungung			
		RD	RF	RDm	Iv
<i>Antidesma montanum</i>	Euph.	16.91	5.50	1.24	23.65
<i>Turpinia montana</i>	Stap.	2.21	3.67	15.68	21.55
<i>Arthrophyllum diversifolium</i>	Aral.	0.74	0.92	18.00	19.65
<i>Chrysophyllum lanceolatum</i>	Sapot.	10.66	2.75	0.00	13.41
<i>Syzygium racemosum</i>	Myrt.	6.62	5.50	0.00	12.12
<i>Syzygium sp.</i>	Myrt.	6.62	4.59	0.13	11.34
<i>Ficus hirta</i>	Morac.	5.51	4.59	0.00	10.10
<i>Gluta renghas</i>	Anac.	0.00	0.00	9.91	9.91
<i>Microcos hirsuta</i>	Til.	4.04	3.67	0.00	7.71
<i>Ophiorrhiza canescens</i>	Rub.	4.41	2.75	0.01	7.17
<i>Mischocarpus fuscescens</i>	Sapind.	0.00	0.00	7.05	7.05
<i>Vitex pinnata</i>	Verb.	1.47	3.67	1.46	6.60
<i>Mischocarpus sundaicus</i>	Sapind.	2.57	3.67	0.00	6.24
<i>Alstonia scholaris</i>	Apoc.	2.21	3.67	0.01	5.89
<i>Kibara coriacea</i>	Monim.	2.94	2.75	0.00	5.69
<i>Endiandra rubescens</i>	Laur,	0.00	0.00	5.61	5.61
<i>Dillenia obovata</i>	Dill.	3.68	1.83	0.00	5.51
<i>Garcinia parvifolia</i>	Clus.	0.00	0.00	5.16	5.16
<i>Peltophorum pterocarpum</i>	Fab.	0.00	0.00	4.66	4.66

<i>Ficus grossularoides</i>	Morac.	2.21	1.83	0.00	4.04
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Species	Family	Ciampea			
		RD	RF	RDm	Iv
<i>Macaranga rhizinoides</i>	Euph.	7.84	5.32	18.00	31.15
<i>Ophiorrhiza canescens</i>	Rub.	8.11	3.19	15.68	26.98
<i>Allophyllus cobbe</i>	Sapind.	8.11	5.32	1.38	14.81
<i>Alchornea rugosa</i>	Euph.	5.95	3.19	5.61	14.75
<i>Harpullia arborea</i>	Sapind.	9.19	3.19	1.63	14.02
<i>Lucuma petaloides</i>	Sapot.	4.86	6.38	2.50	13.75
<i>Ficus</i> sp.4	Morac.	7.30	1.06	5.16	13.52
<i>Ficus fistulosa</i>	Morac.	0.54	2.13	9.91	12.58
<i>Litsea glutinosa</i>	Laur.	6.49	2.13	3.55	12.17
<i>Syzygium picnanthum</i>	Myrt.	5.14	4.26	1.98	11.37
<i>Ficus</i> sp.2	Morac.	1.89	2.13	7.05	11.07
<i>Calliandra calothyrsus</i>	Fab.	3.78	2.13	4.66	10.57
<i>Piper aduncum</i>	Piper.	3.24	4.26	1.05	8.55
<i>Antidesma montanum</i>	Euph.	3.51	3.19	1.24	7.94
<i>Ficus</i> sp.3	Morac.	2.16	1.06	2.29	5.51
<i>Ficus septica</i>	Morac.	1.35	3.19	0.80	5.34
<i>Randia patula</i>	Rub.	1.62	2.13	0.85	4.60
<i>Ixora javanica</i>	Rub.	0.81	2.13	1.07	4.01
<i>Tetracera scandens</i>	Dill.	1.08	2.13	0.72	3.93
<i>Bridelia tomentosa</i>	Euph.	0.81	2.13	0.75	3.69

Besides species occurrence that was depicted in the plot, some species was also found in Nyungcung during the preliminary survey including: *Cratoxylum formosum* (Hypericaceae), *Dillenia ovata* (Dilleniaceae), *Spatholobus ferrugineus* (Fabaceae), *Uncaria cordata* (Rubiaceae), *Decaspermum parviflorum* (Myrtaceae), *Artocarpus glaucus* (Moraceae), *Ficus retusa* (Moraceae), *Alseodaphne umbelliflora* (Lauraceae), *Derris multiflora* (Fabaceae), *Dioscorea hispida* (Dioscoreaceae), *Syzygium cuminii* (Myrtaceae). In Ciampea, woody species found beyond the plot was *Alstonia villosa* (Apocynaceae), *Nauclea obtusa* (Rubiaceae), *Ficus callosa* (Moraceae), *Hoya* sp. (Asclepiadaceae), and *Ficus benjamina* (Moraceae).

The results of data analysis on species potential for restoration (competition experiment) are being developed further so as to be published in a scientific magazine.