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Data

Plant species list from the Pananjung Pangandaran Nature Reserve, west Java, Indonesia, sampled in the *El Niño-Southern Oscillation* year of 1997

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Abstract

Plant species were sampled in the Pananjung Pangandaran Nature Reserve during the periods of January (20 days) and September/October/November (36 days) in the *El Niño-Southern Oscillation* year of 1997. Thirty four families, 85 species were identified.

Key words: Indonesia, southern coast of west Java, Pangandaran, the 1997 ENSO, coastal forest, small peninsula

Introduction

The central government of Indonesia settled to the Pananjung Pangandaran Nature Reserve (the Pangandaran NR) in order to manage the forests and to protect a species of Rafflesiales (*Rafflesia patma* Blume) (Sumardja and Kartawinata, 1977).

Some authors, such as Kool (1989, 1993), Dirgayusa (1991), and Mitani and Watanabe (2009), examined the vegetation of the reserve in relation to the foraging ecology of the population of silvered leaf-monkeys inhabit. The vegetation has, however, been modified from original and suffered from alien invasive species. Furthermore, large-scale geological disturbance, such as earthquake and tsunami, occur frequently in the Malay Archipelago including the present site. The south-western region including the Pangandaran NR was, actually, attacked by a large earthquake and tsunami in 2006 (*e.g.*, Mori *et al.*, 2007; Mitani and Watanabe, 2009). We had a chance to investigate the vegetation and sampled in the reserve before the tsunami, we reported the list of plant species collected in 1997.

Materials and methods

The Pangandaran NR

The Pangandaran NR locates on 108°40' E and 7° 43' S in the southern coast of west Java, Indonesia. It occurs on a small peninsula of about 3 km long and 2 km wide with a public zone (Sumardja and Kartawinata, 1977). The elevation is about 2 m to up to 150 m, and an average at about 100 m a.s.l. (Blower *et al.*, 1977). The reserve is on the top

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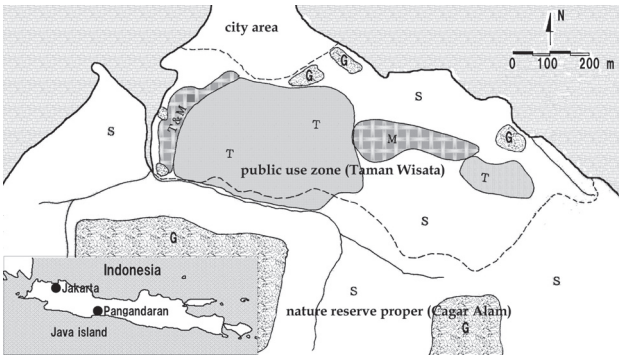

Figure 1. Map of the Java island showing the cities of Jakarta and Pangandaran, and the map of the Pananjung Pangandaran Nature Reserve enlarging on the public use zone adjoining the city area and the nature reserve proper. Initials indicate as: S = old secondary forest, T = secondary forest (abandoned plantation) of teak, and M = secondary forest (abandoned plantation) of mahogany. Mesh areas (G) surrounding secondary forests indicate the man-made grazing field of grasslands. Broken lines show the borders among the city area, he public use zone, and the nature reserve proper.

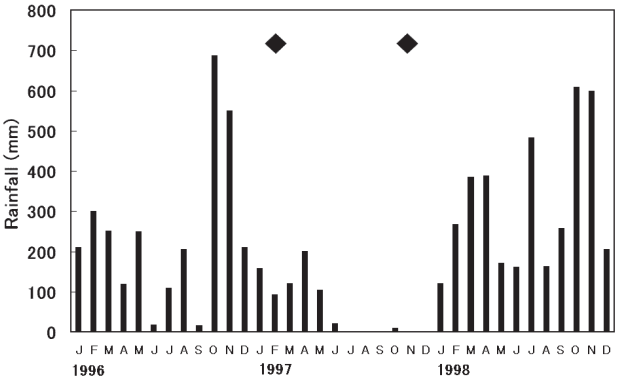

Figure 2. Rainfall in the period of 1996 to 1998 in the city of Pangandaran measured by the Ciamis Meteorological Station staffs. Two solid lozenges indicate the periods of visits for the sampling the present specimen. Annual rainfall is 2,930 mm in 1996, 711 mm in 1997 and 3,817 mm in 1998 respectively (Mitani and Watanabe, 2009).

of a peninsula and its border transects the isthmus approximately 200 m wide that connects with the mainland (Fig 1).

The reserve is divided into two sections: a public use zone called the *Taman Wisata* (TW) in Bahasa Indonesia of 38 ha area, and the nature reserve proper called the *Cagar Alam* (CA) in Bahasa Indonesia of a 370 ha area constituting the remainder the reserve.

The city of Pangandaran has high rainfall and lacks the distinct wet/dry seasons of many other tropical regions as usual years (Kool, 1993). The *El Niño-Southern Oscillation* (ENSO) year, however, bring about severe dry seasons. It lasts for about 6 months, *e.g.*, in the 1997/98 ENSO years (McPhaden, 1999). Figure 2 indicates the rainfall in the period of 1996 to 1998 in the city of Pangandaran measured by the Ciamis Meteorological Station staffs (Mitani and Watanabe, 2009).

Soil developed from Miocene sedimentary rocks and limestone and volcanic rock (Sumardja and Kartawinata, 1977).

The vegetation of the reserve is consisting of coastal forest, old secondary forest and secondary forest originally from artificial plantations. An area of about 20 ha within the TW was planted with teak in 1932 and in 1936, and subsequently was cut. The Forestry Department of Indonesia planted the same area in 1957 with some exotic species of teak, mahogany, and *Acasia auriculiformis* (Kool, 1993). These plantations were well established at the present study periods. The CA and the TW remain contain old secondary forest (Kool, 1993) (Fig 1).

Animals found in the reserve are, two primate species of crab-eating macaque (*Macaca fascicularis*) and silvered leaf-monkey (*Trachypithecus auratus*), oriental tree squirrel (*Callosciurus nigrovitatus*), flying fox (*Pteropus vampirus*), Sund flying lemur (*Galeopterus variegates*), lesser mouse deer (*Tragulus javanicus*), palm civet (*Viverricula malaccensis*) and others (Sumardja and Kartawinata, 1977). A species of banteng buffalo (*Bos javanicus*) and rusa deer (*Cervus timorensis*) have been introduced artificially (Sumardja and Kartawinata, 1977).

Sampling and identification methods

We visited the reserve for the sampling of plant species in the periods of January (20 days) and September/October/November (36 days) in 1997. Staffs of the University Padjadjaran and of Bogor Agricultural University (*Institut Pertanian Bogor*) help us to identify specimens. We also referred to Prawira and Oetja (1976), Dirgayusa (1991), Giesen *et al*. (2007) and Kurniawan and Parikesit (2008) for idetification. The specimens were deposited in the herbarium of the Museum of Nature and Human Activities, Hyogo (HYO).

Results

List of the specimens

Specimens collected were listed in Table 1. Thirty four families, 85 species were identified and 173

specimen were collected from TW and CA areas in the reserve during the ENSO year of 1997.

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Table 1. Plant species identified in the Pangandaran Nature Reserve listing Family and Species names in alphabetical order.

FAMILY Species	Vernacular (Sundanese)	Collection No.	Sampling date*	TW or CA**
ANACARDIACEAE				
Buchanania arborescens Bl.	poh-poham	1	15 January 1997	TW
Dracontomelon sp.	dahu	2	30 January 1997	CA
Mangifera indica L.	mangga	3	27 January 1997	CA
M. sp.	pari	4	21 October 1997	TW
ANNONACEAE				
Polyalthia lateriflora King	sauheun	5	29 September 1997	CA
Stelechocarpus burahol Hook. f. et Thomson				
	burahol	6	20 January 1997	TW
Uvaria sp.	susu kebo	7	27 January 1997	CA
		8, 161	04 October 1997	CA
APOCYNACEAE				
Alstonia scholaris (L.) R.Br.	pule	9	01 October 1997	CA
		10	21 October 1997	TW
CLUSIACEAE				
Calophyllum inophyllum L.	nyamprung	11	21 October 1997	TW
Garcinia dioica Bl.	ceuri	12	30 September 1997	CA
G. dulcis (Roxb.) Kurz	jamura	13	24 January 1997	CA
		14, 15	30 September 1997	CA
COMBRETACEAE				
Terminalia catappa L.	katapang	18	22 October 1997	TW
		17	23 October 1997	TW
DILLENIACEAE				
Dillenia excelsa (Jack) Girg	ki segel	19	23 January 1997	TW
		20, 21	30 September 1997	CA
EBENACEAE				
Diospyros truncata Zoll. et Moritzi				
	balung injuk	23	29 September 1997	CA
EUPHORBIACEAE				
Antidesma bunius (L.) Spreng.				
	huni	24	21 October 1997	TW
A. sp.	ki seueur	25	21 October 1997	TW
Bridelia monoica Merr.	kanyere	26	17 January 1997	TW
		27	23 January 1997	TW
Croton argyratus Bl.	parengpeng	28	18 January 1997	TW
EUPHORBIACEAE sp.	parengpeng	162	30 September 1997	CA
		29	02 October 1997	CA
Glochidion philippicum (Cavan.) C. B. Rob.				

	dempol	30	20 October 1997	TW
Mallotus moluccanus Muell. Arg.	tutus kajang	31	20 January 1997	TW
M. oblongifolius (Miq.) Muell. Arg.	tapen	32	21 October 1997	TW
FABACEAE				
Abrus precatorius L.	saga	62	21 October 1997	TW
Albizia lebbeck (L.) Benth.	ki toke	34	21 October 1997	TW
		35	27 October 1997	TW
A. procera (Roxb.) Benth.	matahian	63	18 January 1997	TW
Bauhinia sp.	ki kukupu	64	28 January 1997	CA
Caesalpinia sappan L.	secang	36	27 October 1997	no record
Cassia javanica L.	tanggoli	65	06 October 1997	TW
C. siamea Lamk	johar	66	16 January 1997	TW
Cynometra ramiflora L.	kateng kateng	67	20 January 1997	TW
		68, 69, 70	29 September 1997	TW
Dalbergia latifolia Roxb.	Sono keling	71	20 January 1997	TW
		72, 73	20 October 1997	TW
Erythrina variegata L.	dadap	74	27 October 1997	TW
FLACOURTIACEAE				
Casearia sp.	ki minyak	37	15 January 1997	TW
Flacourtia rukam Zoll. et Moritzi	rukam	38	16 January 1997	TW
		45	19 January 1997	no record
		41, 43	30 September 1997	CA
		42	01 October 1997	CA
		44	02 October 1997	TW
		39, 40	20 November 1997	TW
GUTTIFERAE				
Calophyllum inophyllum L.	nyamplung	46	16 January 1997	TW
HERNANDIACEAE				
Hernandia peltata Meissn.	brogondolo	47	16 January 1997	TW
		48	18 January 1997	TW
HYPERICACEAE				
Cratoxylum formosum (Jack) Dyer	marong	49	23 January 1997	TW
LECYTHIDACEAE				
Planchonia valida (Bl.) Bl.	putat	50	29 September 1997	CA
Barringtonia gigantostachys K. et V.	putat	51, 52	03 October 1997	TW
		53	14 October 1997	TW
LEEACEAE				
Leea angulata Korth.	ki buaya	54, 163	17 January 1997	TW
		57, 58	06 October 1997	TW
		59	14 October 1997	TW
		55, 56	24 November 1997	TW
L. indica (Burm. f.) Merr.	sulangkar	60, 61	05 October 1997	TW

LYTHRACEAE				
Lagerstroemia ovaliforia Teissjm et Binnend				
	bungur	75	18 January 1997	TW
MELIACEAE				
Dysoxyllum caulestachyum Miquet	pisitan monyet	165	16 January 1997	TW
D. alliaceum Bl.	kadoya	77	02 October 1997	CA
Swietenia macrophylla King	mahoni	78	01 October 1997	TW
MORACEAE				
Artocarpus sp.	benda	82, 166, 167	21 January 1997	TW
		83	21 October 1997	TW
Ficus annulata Bl.	bunda areuy	84	29 January 1997	TW
F. hispida L.	bisoro	85	20 January 1997	TW
F. pubinervis Bl.	kopeng	86	19 January 1997	TW
		88, 89	18 October 1997	TW
		87	23 October 1997	TW
F. septica Burm.f.	ki ciat	90	17 January 1997	TW
		91, 92	10 October 1997	TW
F. sp.	ki ara kebo	94	04 October 1997	CA
		95	17 October 1997	no record
MYRISTICACEAE				
Knema intermedia (Bl.) Warb.	kalapa cung	96	21 October 1997	TW
MYRSINACEAE				
Ardisia humilis Vahl.	lampeni	97	24 January 1997	CA
		98	28 January 1997	CA
		99	09 October 1997	CA
Maesa sp.	ki piit	100	01 October 1997	CA
MYRTACEAE				
Decaspermum fruticosum J. R. et G. Foster				
	ipis kulit	101	30 September 1997	CA
Eugenia polyantha Wight.	salam	102	15 January 1997	TW
		103	29 January 1997	TW
		104, 105	30 September 1997	CA
		107	19 October 1997	TW
		106	27 October 1997	TW
Psidium guajaya L.	jambu batu	108	19 January 1997	TW
Syzygium aqueum Burm.f.	jambu air	109	18 January 1997	TW
S. sp.	ki pancar	110	15 January 1997	no record
		169	29 September 1997	CA
		170, 171, 172	31 October 1997	no record
		173	01 November 1997	no record
S. racemosum (Bl.) DC.	kopo	111	15 January 1997	TW
		174	06 October 1997	TW
NYCTAGINACEAE				
Pisonia umbellifera (Heimerl) Stenmerik				

	ki cau	112	20 October 1997	TW
PIPERACEAE				
Piper belta L.	seureuh	113	24 January 1997	CA
PITTOSPORACEAE				
Pittosporum furrungineum Aiton	ki honje	114	29 September 1997	CA
RUBIACEAE				
Ixora coccinea L.	soka putih	178	24 January 1997	CA
		116, 117	29 September 1997	CA
		115, 176	30 September 1997	CA
		177	13 October 1997	CA
I. sp.	soka merah	118	04 October 1997	CA
Nauclea exelsa Merr.	cangcaratan	119	29 January 1997	TW
		120	02 October 1997	CA
N. orientalis (L.) L.	kelepu	121	18 January 1997	TW
Plectronia didyma Kurt	kokopian	122	21 January 1997	TW
Psychotria viridiflora Reinw. ex Bl.	ki kores	123	15 January 1997	TW
		124, 127	02 October 1997	CA
		125, 126	20 November 1997	TW
RUBIACEAE sp.	ki hapit	128	16 January 1997	TW
		179	21 October 1997	TW
RUTACEAE				
Acronychia laurifolia Bl.	jejerukan	129	21 January 1997	TW
		130	31 January 1997	CA
Euodia latifolia DC.	ki sampang	132, 180	21 October 1997	TW
SAPINDACEAE				
Arytera littoralis Bl.	ki lalayu	133	30 September 1997	CA
		181	06 October 1997	TW
		182	20 November 1997	TW
SAPINDACEAE sp.	tutundunan	134, 135	21 October 1997	TW
Schleichera oleosa Merr.	kosambi	136	17 January 1997	TW
STERCULIACEAE				
Heritiera littoralis Aiton	dungun	137	20 January 1997	TW
		140	05 October 1997	CA
		139	09 October 1997	CA
		138	23 October 1997	CA
Kleinhovia hospita L.	tangkolo	141	20 January 1997	TW
Pterospermum diversifolium Willd.				
	cerlang	142	16 January 1997	TW
P. javanicum R. Br.	bayur	143	15 January 1997	TW
		144	18 January 1997	TW
		145, 146	30 September 1997	CA
Sterculia coccinea Jack.	hantap heulang	147	20 January 1997	TW
		150	03 October 1997	TW
		148, 149	25 November 1997	TW

THEACEAE				
Ternstroemia sp.	umpang	151	29 September 1997	TW
TILIACEAE				
Grewia acuminata Jussieu	darwak	152	29 September 1997	CA
ULMACEAE				
Celtis philippensis Blanco	no information	153	20 January 1997	TW
URTICACEAE				
Villebrunea rubescens Bl.	nangsi	154	20 January 1997	TW
		155, 156	03 October 1997	TW
VERBENACEAE				
Tectona grandis L. f.	jati	157, 183, 184	15 January 1997	TW
Vitex pubescens Vahl.	laban	158	19 January 1997	TW
VITACEAE				
Tetrastigma lanceolarium (Dennst.) Alston ex Mabb.				
	ki barera	160	30 January 1997	CA
		159	01 October 1997	CA

* Nineteen ninety-seven was the famous ENSO year (McPhaden, 1999). Unusually dry weather conditions had an effect on plant phenology.

** TW (*Taman Wisata*) indicates a public use zone in which tourists visit for recreational activities and CA (*Cagar Alam*) indicates the nature reserve proper in which the old secondary forests have covered almost all areas except for grassland (Fig. 1).

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