

# The processes that threaten Indonesian plants

SUGENG BUDIHARTA, DIDIK WIDYATMOKO, IRAWATI, HARRY WIRIADINATA,  
RUGAYAH, TUKIRIN PARTOMIHARDJO, ISMAIL, TAHAN UJI, ARY PRIHARDHYANTO  
KEIM and KERRIE A. WILSON

**Appendix 1** The 240 plant species evaluated (from Moge et al., 2001), by major group and family.

## Orchids (Orchidaceae)

*Ascocentrum miniatum* (Lindl.) Schltr.  
*Cymbidium hartinahianum* Comber & Nasution  
*Dendrobium capra* J.J. Sm.  
*Dendrobium phalaenopsis* Fitzg.  
*Kingidium deliciosum* (Rchb.f.) Sweet  
*Paphiopedilum barbatum* (Lindl.) Pfitz.  
*Paphiopedilum bullenianum* (Rchb.f.) Pfitz.  
*Paphiopedilum bullenianum* var. *celebense* (Fowlie & Birk) P.J. Cribb  
*Paphiopedilum gigantifolium* Braem & C. Backer  
*Paphiopedilum glanduliferum* (Blume) Stein  
*Paphiopedilum glaucophyllum* J.J.Sm.  
*Paphiopedilum glaucophyllum* var. *moquetteanum* J.J.Sm.  
*Paphiopedilum hookerae* (Rchb.f.) Stein  
*Paphiopedilum javanicum* (Reinw. ex. Lindl.) Pfitz.  
*Paphiopedilum kolopakingii* Fowlie  
*Paphiopedilum liemianum* (Fowlie) Karas. & Saito  
*Paphiopedilum lowii* (Lindl.) Stein.  
*Paphiopedilum lowii* var. *richardianum* (Ascher & Beaman) Gruss  
*Paphiopedilum mastersianum* (Rchb.f.) Stein  
*Paphiopedilum mastersianum* var. *mohrianum* (Braem) Koop  
*Paphiopedilum papuanum* (Ridl.) Ridl.  
*Paphiopedilum primulinum* Wood & Taylor var. *purpurascens* (M. Wood) Cribb  
*Paphiopedilum sangii* Braem  
*Paphiopedilum schoseri* Braem & H. Mohr  
*Paphiopedilum supardii* G. Braem & Loeb  
*Paphiopedilum superbiens* (Rchb.f.) Stein  
*Paphiopedilum superbiens* var. *curtisii* (Rchb.f.) G.J. Braem  
*Paphiopedilum tonsum* (Rchb.f.) Stein  
*Paphiopedilum tonsum* var. *braemii* (Mohr) Gruss  
*Paphiopedilum victoria-mariae* (Sander ex. Masters) Rolfe  
*Paphiopedilum victoria-regina* (Sander) M.W. Wood  
*Paphiopedilum violacens* Schltr.  
*Paphiopedilum wilhelminae* L.O. Williams  
*Paraphalaenopsis denevei* (J.J.Sm) A.D. Hawkes  
*Paraphalaenopsis laycockii* (M.R. Henderson) A.D. Hawkes  
*Paraphalaenopsis serpentilingua* (J.J. Sm.) A.D. Hawkes  
*Pecteilis susannae* L. Rafin  
*Phalaenopsis amabilis* (L.) Blume  
*Phalaenopsis amboinensis* J.J. Sm.

*Phalaenopsis celebensis* Sweet  
*Phalaenopsis cornu-cervi* (Breda) Bl. & Rchb.f.  
*Phalaenopsis fimbriata* J.J. Smith  
*Phalaenopsis fuscata* Rchb.f.  
*Phalaenopsis gigantea* J.J. Sm.  
*Phalaenopsis javanica* J.J. Sm.  
*Phalaenopsis maculata* Rchb.f.  
*Phalaenopsis mariae* Burbidge ex. Warner & Williams  
*Phalaenopsis modesta* J.J. Smith  
*Phalaenopsis pantherina* Rchb.f.  
*Phalaenopsis sumatrana* Korth. & Rchb.f.  
*Phalaenopsis violacea* Witte  
*Phalaenopsis viridis* J.J. Smith

## Palms (Arecaceae)

*Areca glandiformis* Lam.  
*Areca tunku* Dransf. & Lim Chong-Keat  
*Arenga distincta* Moge  
*Arenga hastata* (Becc.) Whitmore  
*Arenga longipes* Moge  
*Arenga talamauensis* Moge  
*Borassodendron borneensis* Dransfield  
*Calamus ciliaris* Bl. ex. Roemer & Schultes  
*Calamus hispidulus* Becc.  
*Calamus impar* Becc.  
*Calamus karuensis* Ridl.  
*Calamus kjellbergii* Furt.  
*Calamus manan* Miq.  
*Calamus melanoloma* Mart.  
*Calamus minahassae* Becc.  
*Calamus pandanosmus* Furt.  
*Calamus pygmaeus* Becc.  
*Calamus robinsonianus* Becc.  
*Calamus spectabilis* Bl.  
*Caryota maxima* Bl.  
*Caryota no* Becc.  
*Ceratolobus glaucescens* Blume  
*Ceratolobus pseudoconcolor* Dransf.  
*Cyrtostachys renda* Blume  
*Daemonorops acamptostachys* Becc.  
*Daemonorops monticola* (Griff.) Mart.  
*Drymophloeus oliviformis* (Gisseke) Miq.  
*Eugeissona ambigua* Becc.  
*Iguanura leucocarpa* Bl.  
*Johannesteijsmannia altifrons* (Reichenb. f. & Zoll.) H.E. Moore  
*Korthalsia junghuhnii* Miq.

*Licuala elegans* Bl.  
*Licuala gracilis* Bl.  
*Licuala kingiana* Becc.  
*Licuala pumila* Bl.  
*Nenga gajah* Dransfield  
*Phoenix paludosa* Roxb.  
*Pinanga albescens* Becc. ex. H. Winkler  
*Pinanga borneensis* Scheff.  
*Pinanga celebica* Scheff.  
*Pinanga javana* Bl.  
*Pinanga keahii* Furt.  
*Pinanga kjellbergii* Burr.  
*Pinanga patula* var. *borneensis* Becc.  
*Pinanga pulchella* Burr.  
*Pinanga punicea* (Bl.) Merr. var. *punicea*  
*Plectocomia billitonensis* Becc.  
*Plectocomia longistigma* Madulid  
*Plectocomia lorzingii* Madulid  
*Plectocomia pygmaea* Madulid  
*Plectocomiopsis borneensis* Becc.  
*Salacca acehensis* Moge  
*Salacca dransfieldiana* Moge  
*Salacca magnifica* Moge  
*Salacca palembanica* Moge  
*Siphokentia beguinii* Burr.  
*Siphokentia pachypus* Burr.  
*Sommieria affinis* Becc.  
*Sommieria elegans* Becc.  
*Sommieria leucophylla* Becc.

## Trees

Anacardiaceae  
   *Mangifera casturi* Kosterm.  
   *Mangifera gedebe* Miquel  
 Annonaceae  
   *Stelechocarpus burahol* (Blume) Hook.f. & Thomson  
 Apocynaceae  
   *Alstonia scholaris* (L.) R.Br.  
   *Voacanga grandifolia* (Miq.) Rolfe  
 Bignoniaceae  
   *Oroxylum indicum* (L.) Kurz  
 Bombacaceae  
   *Durio dulcis* Becc.  
   *Durio grandiflorus* (Masters) Kosterm. & Soegeng  
   *Durio graveolens* Becc.  
   *Durio kutejensis* (Hassk.) Becc.  
   *Durio lowianus* Scort. ex King  
   *Durio oxleyanus* Griff.  
   *Durio testudinarium* Becc.  
 Dipterocarpaceae  
   *Shorea javanica* Koord. & Valet.  
   *Shorea palembanica* Miq.  
   *Shorea pinanga* Scheff.  
   *Upuna borneensis* Sym.

*Vatica bantamensis* (Hassk.) B. & H. ex. Miq.  
   *Vatica rassak* (Korth.) Blume  
 Ebenaceae  
   *Diospyros celebica* Bakh.  
   *Diospyros macrophylla* Blume  
 Euphorbiaceae  
   *Baccaurea angulata* Merr.  
   *Macaranga longistipulata* Muell. Arg.  
 Fabaceae  
   *Cynometra cauliflora* L.  
   *Cynometra ramiflora* L.  
   *Dalbergia latifolia* Roxb.  
   *Koompassia excelsa* Taub.  
   *Koompassia malaccensis* Maing.  
   *Parkia intermedia* Hassk.  
   *Parkia timoriana* (DC.) Merr.  
 Lauraceae  
   *Cinnamomum culitlawan* (L.) Kosterm.  
   *Cinnamomum sintoc* Blume  
   *Cryptocarya massoia* (Oken) Kosterm.  
   *Eusideroxylon zwageri* T. & B.  
 Melastomataceae  
   *Astronia papetaria* Blume  
 Moraceae  
   *Artocarpus fulvicortex* Jarret  
   *Artocarpus lanceifolius* Roxb. ssp. *clementis* (Merr.)  
   Jarrett  
   *Morus macroura* Miq.  
 Myristicaceae  
   *Myristica argentea* Warb.  
   *Myristica lancifolia* ssp. *lancifolia* Poir  
   *Myristica sphaerosperma* A.C. Smith  
 Olacaceae  
   *Scorodocarpus borneensis* Becc.  
 Proteaceae  
   *Macadamia hildebrandii* Steen.  
 Rubiaceae  
   *Timonius timon* (Spreng) Merr.  
 Sapotaceae  
   *Diploknema oligomera* H.J. Lam  
   *Ganua motleyana* Pierre  
 Styracaceae  
   *Styrax benzoin* Dryand  
 Symplocaceae  
   *Symplocos odoratissima* Choisy ex. Zoll  
 Thymelaceae  
   *Aetoxylon sympetalum* (Steen. & Domke) Airy Shaw  
   *Aquilaria beccariana* Van Tiegh  
   *Aquilaria filaria* (Oken) Merr.  
   *Aquilaria hirta* Ridley  
   *Aquilaria malaccensis* Lamk.  
   *Aquilaria microcarpa* Baill.  
   *Enkleia malaccensis* Griff.  
   *Gyrinops versteegii* Ding Hou

## Verbenaceae

*Toona sinensis* (A. Juss.) Roem.

**Shrubs**

## Annonaceae

*Anaxagorea javanica* Blume

## Apocynaceae

*Alyxia halmaheirae* Miq.

*Alyxia reinwardtii* Blume

*Parameria laevigata* (Juss.) Moldenke

*Rauvolfia serpentina* (L.) Bth.ex. Kurz.

## Convolvulaceae

*Merremia mammosa* (Lour.) Hallier f.

## Euphorbiaceae

*Glochidion beguinii* Airy Shaw

*Glochidion ternateum* Airy Shaw

*Macaranga involucrata* Baill.

## Fabaceae

*Caesalpinia bonduc* (L.) Roxb.

*Caesalpinia crista* L.

*Entada phaseoloides* (L.) Merr.

*Euchresta horsfieldii* (Lesch.) Benn.

*Mucuna acuminata* Grah. ex. Baker

*Mucuna albertisii* F.v. Muell.

*Mucuna bennettii* F.v. Muell.

*Mucuna bracteata* D.C. ex. Kurz

*Mucuna elegans* Merrill & L. M. Perry

*Mucuna elmeri* Merr.

*Mucuna hooglandii* Verd.

*Mucuna longipedunculata* Merr.

*Mucuna macrophylla* Miq.

*Mucuna miniata* Merr.

*Mucuna novoguineensis* Scheff.

*Mucuna reticulata* Burck

*Mucuna schlechteri* Harms

*Mucuna schmutzii* Wiriadinata

*Mucuna tomentosa* K. Schum.

*Mucuna toppingii* Merr.

## Loganiaceae

*Strychnos ignatii* Berg.

*Strychnos lucida* R.Br.

## Menispermaceae

*Arcangelisia flava* (L.) Merr.

*Fibraurea tinctoria* Loureiro

## Pandanaeae

*Pandanus brosimos* Merr. & Perry

*Pandanus conoideus* Lam.

*Pandanus julianettii* Mart.

## Rhizophoraceae

*Bruguiera exaristata* Ding Hou

*Kandelia candel* (L.) Druce

## Rutaceae

*Citrus celebica* Koord.

*Limnocitrus littoralis* (Miquel) Swing.

## Schisandraceae

*Kadsura scandens* (Bl.) Bl.

**Other species**

## Apiaceae

*Pimpinella pruatjan* Molkenb.

## Araceae

*Amorphophallus decus-silvae* Back.& v.A.v.R

*Amorphophallus titanum* (Becc.) Becc.

ex Arcangeli

## Balsaminaceae

*Impatiens arriensis* (Zoll.) T. Shimizu

## Cucurbitaceae

*Trichosanthes coriacea* Bl.

*Trichosanthes cucumerina* L. var. *cucumerina*

*Trichosanthes emarginata* Rugayah

*Trichosanthes florentis* Rugayah

## Dicksoniaceae

*Cibotium barometz* (L.) J.J.Sm.

## Lamiaceae

*Scutellaria javanica* Jungh.

## Musaceae

*Musa acuminata* Colla var. *alansensis*

Nasution

*Musa acuminata* Colla var. *nakaii* Nasution

*Musa acuminata* Colla var. *rutilifis* (Back.)

Nasution

## Poaceae

*Gigantochloa achmadii* Widjaja

*Gigantochloa kuring* Widjaja

*Gigantochloa manggong* Widjaja

*Gigantochloa pruriens* Widjaja

*Gigantochloa serik* Widjaja

*Neololeba inaurita* Widjaja

*Schizostachyum bamban* Widjaja

*Schizostachyum castaneum* Widjaja

*Schizostachyum mampouw* Widjaja

## Rafflesiaceae

*Rafflesia arnoldii* R. Brown

*Rafflesia hasseltii* Suringar

*Rafflesia patma* Blume

*Rafflesia rochussenii* Teijsm. & Binn.

*Rafflesia zollingeriana* Koorders

## Rutaceae

*Zanthoxylum rhetsa* (Roxb.) DC

## Zingiberaceae

*Curcuma petiolata* Roxb.

*Elettariopsis sumatrana* Val.

**Appendix 2** Additional sources of information used for the assessment of threats (see text for details).

- ASTUTI, I.P., SOEWILO, L.P., SAID, T.D. & KOSASIH, N.A. (2001) *An Alphabetical List of Plant Species Cultivated in the Bogor Botanical Garden*. Botanic Gardens of Indonesia, Bogor, Indonesia.
- BACKER, C.A. & BAKHUIZEN V. DEN BRINK JR, R.C. (1963) *Flora of Java, Vol. I*. Wolters, Noordhoff, Groningen, The Netherlands.
- BACKER, C.A. & BAKHUIZEN V. DEN BRINK JR, R.C. (1965) *Flora of Java, Vol. II*. Wolters, Noordhoff, Groningen, The Netherlands.
- BACKER, C.A. & BAKHUIZEN V. DEN BRINK JR, R.C. (1968) *Flora of Java, Vol. III*. Wolters, Noordhoff, Groningen, The Netherlands.
- BOGOR BOTANIC GARDEN (2009) *Specimen Collection Database*. Bogor Botanic Garden, Bogor, Indonesia.
- BURKILL, I.H. (1935) *A Dictionary of Economic Product of The Malay Peninsula, Vol. I*. Crown Agent for the Colonies, London, UK.
- CHAN, C.L., LAMB, A., SHIM, P.S. & WOOD, J.J. (1994) *Orchids of Borneo, Vol. I. Introduction and Selection of Species*. The Sabah Society Kota Kinabalu in association with The Royal Botanic Gardens, Kew, UK.
- CHAN, Y.M. (2009) The uses of *Johannesteijmannia* by indigenous communities and the current ornamental trade in the genus. *Palms*, 53, 147–152.
- COMBER, J.B. (1990) *Orchids of Java*. The Royal Botanic Gardens, Kew, UK.
- COMBER, J.B. (2001) *Orchids of Sumatra*. The Royal Botanic Gardens, Kew, UK.
- COMBER, J.B. & NASUTION, R.E. (1976) *Cymbidium hartinianum*. *Bulletin Kebun Raya*, 3, 1–3.
- CRIBB, P.J. (1987) *The Genus Paphiopedilum*. The Royal Botanic Gardens, Kew, UK.
- CRIBB, P.J. (1988) *The Genus Paphiopedilum*, 2nd edition. Natural History Publications (Borneo) and The Royal Botanic Gardens, Kew, UK.
- DING HOU (1980) *Thymelaceae. Flora Malesiana*. Flora Malesiana Foundation, Rijksherbarium, Leiden, The Netherlands.
- DRANSFIELD, J. (1972) The genus *Borassodendron* (Palmae) in Malesia. *Reinwardtia*, 8, 351–363.
- DRANSFIELD, J. (1972) The genus *Johannesteijmannia* H.E. Moore. *Garden Bulletin Singapore*, 26, 63–83.
- DRANSFIELD, J. (1974) Notes on the palm flora of Central Sumatra. *Reinwardtia*, 8, 519–531.
- DRANSFIELD, J. & LIM, C.K. (1992) A new species of *Areca* from Peninsular Malaysia and Sumatra. *Principes*, 36, 79–83.
- DRANSFIELD, J. & MANOKARAN, N. (1994) *PROSEA 6: Rattans*. Plant Resources of South-East Asia, PROSEA Network Office, Bogor, Indonesia.
- DRANSFIELD, S. & WIDJAJA, E.A. (1995) *PROSEA 7: Bamboos*. Plant Resources of South-East Asia, PROSEA Network Office, Bogor, Indonesia.
- DU PUY, D. & CRIBB, P.J. (1988) *The Genus Cymbidium*. Christopher Helm, London, UK.
- EISEI (1995) *Medicinal Herb Index in Indonesia*, 2nd edition. PT Eisei Indonesia, Jakarta, Indonesia.
- ERDELEN, W.R., ADIMIHARDJA, K., MOESDARSONO, H. & SIDIK (1999) Biodiversity, traditional medicine and the sustainable use of indigenous medicinal plants of Indonesia. *Indigenous Knowledge and Development Monitor*, 7, 3–6.
- FACHRUROZI, Z. (1980) Burahol (*Stelechocarpus burahol* (Bl.) Hk.f. & Th.)—antique deodorant and its conservation problem. *Bulletin Kebun Raya*, 4, 127–130.
- FADILAH, S.N. & SANTOSO, W. (2007) Habitat study and inventory of *Paphiopedilum glaucophyllum* J.J. Sm. in Pronojiwo Village-Lumajang District, Tirtomarto and Tamanasri Village of Malang District. In *Proceedings of the Seminar on Plant and Human Civilization* (eds Y.S. Rahayu & M. Affandi), pp. 64–69. Sepuluh November Institute of Technology, Surabaya, Indonesia.
- FLACH, M. & RUMAWAS, F. (1996) *PROSEA 9: Plants Yielding Non-seed Carbohydrates*. Plant Resources of South-East Asia, PROSEA Network Office, Bogor, Indonesia.
- GANDAWIJAYA, D., IDRIS, S. & NASUTION, R. (1983) *Amorphophallus titanum* Becc.: a historical review and some recent observations. *Annals of Botany*, 51, 269–278.
- GANDWIDJAJA, D., RUGAYAH, SULISTARINI, D., WINDADRI, F.I., SUNARTI, S., DJARWANINGSIH, T. et al. (1994) Survey on rare plants of Indonesia. In *Proceedings of the Seminar on Research and Development of Biological Resources* (eds S.E. Pratignjo, W.R. Farida & Sunaryo), pp. 61–70. Research Center for Biology–LIPI, Bogor, Indonesia.
- HERBARIUM BOGORIENSIS (2009) *Herbarium Collection Database*. Research Center for Biology, Bogor, Indonesia.
- HERIYANTO, N.M. (2005) Study of ecological aspects of kedawung tree (*Parkia roxburghii* G. Don.) at Meru Betiri National Park, East Java. *Journal of Forest Research and Nature Conservation*, 2, 157–166.
- HEYNE, K. (1950) *De Nuttige Planten van Indonesia*. N.V. Uitgeverij. W. Van Hoeves Gravenhage, Bandung, Indonesia.
- HIDAYAT, S. (2007) Study on endangered medicinal plants at Ujung Kulon National Park. *Bulletin Kebun Raya*, 10, 1–8.
- HIDAYAT, S. (2007) *Rare Medicinal Plants in Java: Population and Distribution*. Bogor Botanic Garden, Bogor, Indonesia.
- HIDAYATI, S.N., MEIJER, W., BASKIN, J.M. & WALCK, J.L. (2000) A contribution to the life history of the rare Indonesian holoparasite *Rafflesia patma* (Rafflesiaceae). *Biotropica*, 32, 408–414.
- HOESEN, D.S.H. (1993) In vitro propagation of four banana varieties of *Musa acuminata* Colla. In *Proceedings of the*

- Seminar on Research and Development of Biological Resources* (ed. R.E. Nasoetion), pp. 43–48. Research Center for Biology–LIPI, Bogor, Indonesia.
- IDRIS, S. (1974) *Amorphophallus titanium* Becc. *Bulletin Kebun Raya*, 1, 7–10.
- IRAWATI (1992) *Technical Report: Research and Development of Indonesian Threatened Plants*. Research Center for Biology–LIPI, Bogor, Indonesia.
- IRAWATI, GANDAWIDJAJA, D., HARTUTININGSIH, UTAMI, N.W., WIRIADINATA, H., DARNAEDI, D. et al. (1994) Evaluation of rarity status of rare plant species of Maluku and Sulawesi. In *Proceedings of the Seminar on Research and Development of Biological Resources* (eds S.E. Pratignjo, W.R. Farida & Sunaryo), pp. 39–60. Research Center for Biology–LIPI, Bogor, Indonesia.
- IUCN (2008) *IUCN Red List of Threatened Species*. IUCN, Gland, Switzerland, and Cambridge, UK. [Http://www.iucnredlist.org](http://www.iucnredlist.org) [accessed 15 September 2008].
- KWATRINA, R.T., SUGIARTI & SUKMANA, A. (2005) Study of natural distribution of *Pinus merkusii* Jungh. et de Vriese in Tapanuli, North Sumatra using cluster method and digital mapping. *Journal of Forest Research and Nature Conservation*, 2, 497–505.
- LEMMENS, R.H.M.J., SOERJANEGARA, I. & WONG, W.C. (1995) PROSEA 5(2): *Timber Trees: Minor Commercial Timbers*. Plant Resources of South-East Asia, PROSEA Network Office, Bogor, Indonesia.
- MADANG, K., PUSPITA, T., ZEN, D. & SUSANTI, R. (1997) Karas (*Aquilaria malaccensis* Lamk.) in Rambang watershed, Ogan Komering Ilir. In *Proceedings of the Seminar in Biology XIV* (eds W. Wardhana, S. Suryadi, E. Nurdin, E. Nurtiyani, S. Wargasasmita, F. Abdurrahman et al.), pp. 341–345. Indonesian Biological Society, Depok, Indonesia.
- MAHYAR, U.W. & SADILI, A. (2003) *Orchid Species in Mount Halimun National Park*. Research Center for Biology, Bogor, Indonesia.
- MEIJER, W. (1998) *Rafflesiaceae. Flora Malesiana* 13. Flora Malesiana Foundation, Rijksherbarium, Leiden, The Netherlands.
- MOGEA, J.P. (1980) The flabellate-leaved species of *Salacca* (Palmae). *Reinwardtia*, 9, 461–479.
- MOGEA, J.P. (1985) *Journey Report: Botanical Exploration to North Sumatra*. LBN–LIPI, Bogor, Indonesia.
- MOGEA, J.P. (2004a) Four new species of *Arenga* (Palmae) from Indonesia. *Reinwardtia*, 12, 181–189.
- MOGEA, J.P. (2004b) Palms in the Gunung Halimun National Park. *Berita Biologi*, 7, 95–105.
- MOGEA, J.P., GANDAWIJAYA, D., WIRIADINATA, H., NASUTION, R.E. & IRAWATI (2001) *Indonesian Rare Plants*. Research Center and Development for Biology, Indonesian Institute of Sciences, Bogor, Indonesia.
- NASUTION, R.E. (1991) A taxonomic study of the *Musa acuminata* Colla with its intraspecific taxa in Indonesia. *Memoirs of Tokyo University of Agriculture*, 32, 1–122.
- NURDJITO, M. & MARYANTO, I. (2001) *List of Protected Flora and Fauna in Indonesia*, 2nd edition. Research Centre and Development for Biology–LIPI, and The Nature Conservancy, Bogor, Indonesia.
- PAOLI, G.D., PEART, D.R., LEIGHTON, M. & SAMSOEDIN, I. (2001) An ecological and economic assessment of the non-timber forest product gaharu wood in Gunung Palung National Park, West Kalimantan. *Biological Conservation*, 15, 1721–1732.
- PARTOMIHARDJO, T. (1987) Be acquainted with the threatened Ulin. *Duta Rimba*, 13, 3–9.
- PROSEA (PLANT RESOURCES OF SOUTH-EAST ASIA) (2009) *E-Prosea: Databank on the Plant Resources of South-East Asia*. Prosea Foundation. [Http://www.proseanet.org/prosea/e-prosea.php](http://www.proseanet.org/prosea/e-prosea.php) [accessed 9 March 2009].
- PURWANTO, Y., WALUJO, E.B. & MUNAWAROH, E. (2005) The ethnobotany of benzoin (*Styrax* spp.). *Journal of Tropical Ethnobiology*, 2, 18–34.
- PURWANTORO, S., SURYANA, N. & SOEWILO, L.P. (2000) *An Alphabetical List of Plant Species Cultivated in The Cibodas Botanical Garden*. Botanic Gardens of Indonesia, Bogor, Indonesia.
- PURWODADI BOTANIC GARDEN (2009) *Specimen Collection Database*. Purwodadi Botanic Garden, Pasuruan, Indonesia.
- PUSPITANINGTYAS, D.M. (2003) *Orchid Species in Conservation Areas in Java*. Bogor Botanic Garden, Bogor, Indonesia.
- PUSPITANINGTYAS, D.M. & PURWANTORO, S. (2000) *An Alphabetical List of Orchid Species Cultivated in The Cibodas Botanic Garden*. Botanic Gardens of Indonesia, Bogor, Indonesia.
- PUSPITANINGTYAS, D.M., SUPRAPTO, A., YULIA, N.D. & MURSIDAWATI, S. (2001) *An Alphabetical List of Orchid Species Cultivated in Purwodadi Botanic Garden*. Botanic Gardens of Indonesia, Bogor, Indonesia.
- QOMAR, N., SETYAWATININGSIH, C. & HAMZAH, Z. (2006) Micro-habitat characteristics of salo (*Johannesteijsmannia altifrons*) in Bukit Tigapuluh National Park, The District of Indragiri Hulu, Riau Province. *Jurnal Natur Indonesia*, 8, 100–104.
- RAHAYU, M. & AMIR, M. (2002) *Technical Report: Diversity and Utilization of Plants by the Local Community in Lore Lindu National Park, Central Sulawesi*. Research Center for Biology–Indonesian Institute of Sciences, Bogor, Indonesia.
- RAHAYU, M. & SULISTIARINI, D. (2002) *Technical Report: Utilization of Medicinal Plants by the Local Community in Wawonii Island, South East Sulawesi*. Research Center for Biology–Indonesian Institute of Sciences, Bogor, Indonesia.

- RESEARCH CENTER FOR BIOLOGY (2008) *Indonesian Biodiversity Information System (IBIS)*. Research Center for Biology, Bogor, Indonesia. [Http://ibis.biologi.lipi.go.id/index.php?h=1](http://ibis.biologi.lipi.go.id/index.php?h=1). [accessed 10 November 2008].
- RIFAI, M.A., RUGAYAH & WIDJAJA, E.A. (1992) Thirty Indonesian threatened medicinal plants. *Floribunda*, 2, 1–28.
- SASTRAPRAJA, S., GANDAWIJAYA, D., IMELDA, M., NASUTION, R.E. & ROEDJITO, W. (1979) *Orchid Species of Indonesia*. Lembaga Biologi Nasional–LIPI, Bogor, Indonesia.
- SASTRAPRAJA, S., KARTAWINATA, K., ROEMANTYO, SOETISNA U., WIRIADINATA, H. & RISWAN, S. (1977) *Tree Species of Indonesia*. Lembaga Biologi Nasional–LIPI, Bogor, Indonesia.
- SETYOWATI, F.M. (2000) Utilization of plants by Melayu community in Alo watershed, Bukit Tigapuluh, National Park, Jambi. In *Proceedings of National Seminar in Ethnobotany III* (eds Y. Purwanto & E.B. Waluyo), pp. 232–240. Research Centre for Biology–LIPI, Udayana University & Mahasaraswati University, Denpasar, Indonesia.
- SETYOWATI-INDATO, N. & SUMIASRI, N. (2000) Ethnobotany of Macaranga: utilization in its area of distribution in Indonesia. In *Proceedings of National Seminar in Ethnobotany III* (eds Y. Purwanto & E.B. Waluyo), pp. 430–435. Research Centre for Biology–LIPI, Udayana University & Mahasaraswati University, Denpasar, Indonesia.
- SIAGIAN, M.H., RAHAYU, M. & HAPID, U. (2000) Study on the utilization of ‘forest onion’ (*Scorodocarpus borneensis*) in Kenohan, Kutai, Kalimantan Timur. In *Proceedings of National Seminar in Ethnobotany III* (eds Y. Purwanto & E.B. Waluyo), pp. 270–273. Research Centre for Biology–LIPI, Udayana University & Mahasaraswati University, Denpasar, Indonesia.
- SIDIYASA, K. (1995) Some aspects of the ecology of *Diospyros celebica* Bakh at Sausu and adjacent area, Central Sulawesi. *Buletin Penelitian Hutan*, 56, 15–26.
- SIEMONSMA, J.S. & PILUEK, K. (1994) *PROSEA 8: Vegetables*. Plant Resources of South-East Asia, PROSEA Network Office, Bogor, Indonesia.
- SIREGAR, M. (2002) Influences of micro-topography variation on peat forest vegetation in Bengkalis, Riau. *Berita Biologi*, 6, 441–455.
- SOERJANEGARA, I. & LEMMENS, R.H.M.J. (1994) *PROSEA 5(1): Timber Trees: Major Commercial Timbers*. Plant Resources of South-East Asia, PROSEA Network Office, Bogor, Indonesia.
- SUHARTONO, T. & NEWTON, A. (2000) Conservation and sustainable use of tropical trees in the genus *Aquilaria* I. Status and distribution in Indonesia. *Biological Conservation*, 96, 83–94.
- SUHARTONO, T. & NEWTON, A. (2001) Conservation and sustainable use of tropical trees in the genus *Aquilaria* II. The impact of gaharu harvesting in Indonesia. *Biological Conservation*, 97, 29–41.
- SULISTIARINI, D. & MAHYAR, U.W. (2003) *Orchid Species in Bogani Nani Wartabone National Park, North Sulawesi*. Research Center for Biology, Bogor, Indonesia.
- SUPARDI, D., SOEWILO, L.P., PUSPITANINGTYAS, D.W., MURSIDAWATI, S., KOSASIH, N.A. & PATIMAH, E. (1999) *An Alphabetical List of Indonesian Orchid Cultivated in Bogor Botanic Garden*. Botanic Gardens of Indonesia, Bogor, Indonesia.
- SUPRAPTO, A., NARKO, D. & KISWOJO (2007) *An Alphabetical List of Plant Species Cultivated in Purwodadi Botanical Garden*. Purwodadi Botanic Garden–LIPI, Pasuruan, Indonesia.
- UJI, T. (2005) *Journey Report: Preliminary Study on Biological Diversity, Germplasm, Ecology of Durians and Its Relatives in Intu Linggau, Kutai, Barat, East Kalimantan*. Research Center for Biology–Indonesian Institute of Sciences, Bogor, Indonesia.
- UMIYAH (2004) The existence of *Stelechocarpus burahol* (Bl.) Hook.f. & Th. in wilderness zone, Bande Alit Resort, Meru Betiri National Park. *Berkala Penelitian Hayati*, 10, 85–88.
- UNEP–WCMC (UNITED NATIONS ENVIRONMENT PROGRAMME–WORLD CONSERVATION MONITORING CENTRE) (2008) *UNEP–WCMC Species Database: CITES-Listed Species*. [Http://www.unep-wcmc.org/isdb/CITES/Taxonomy/country\\_list.cfm?displaylanguage=eng&Country=ID&submit=Go](http://www.unep-wcmc.org/isdb/CITES/Taxonomy/country_list.cfm?displaylanguage=eng&Country=ID&submit=Go). [accessed 22 October 2010]
- UTAMI, N. (2000) *Impatiens arriensis* (Zoll.) T. Shimizu (Balsaminaceae), an endemic species from Madura Island. *Berita Biologi*, 5, 165–167.
- UTAMI, N.W. & SIREGAR, H.M. (1994) Efforts to improve growth and quality of ebony seedling: improving growth and the quality of ebony seedlings (*Diospyros celebica* Bakh). In *Proceedings of the Seminar on Research and Development of Biological Resources* (eds S.E. Pratignjo, W.R. Farida & Sunaryo), pp. 71–75. Research Center for Biology–LIPI, Bogor, Indonesia.
- VERHEIJ, E.W.M. & CORONEL, R.E. (1992) *PROSEA 2: Edible Fruits and Nuts*. Plant Resources of South-East Asia, PROSEA Network Office, Bogor, Indonesia.
- VERMEULEN, J.J. (1991) *Orchid of Borneo, Vol. II*. Sabah Society in association with The Royal Botanic Gardens, Kew, UK.
- WARDAH (2000) The utilization of plant diversity by Naulu Tribe, South Seram, Central Moluccas. In *Proceedings of National Seminar in Ethnobotany III* (eds Y. Purwanto & E.B. Waluyo), pp. 253–260. Research Centre for Biology–LIPI, Udayana University & Mahasaraswati University, Denpasar, Indonesia.
- WARDAH (2003) Utilization of plant diversity by Inner Baduy community in southern Mount Kendeng, Lebak, Banten. *Berita Biologi*, 6, 755–767.

- WARDAH, DANIMIHARDJA, S. & SUHARDJONO (1995) Talikuning (*Arcangelisia flava*) and its use for villagers in North Sulawesi. In *Proceedings of National Seminar and Scientific Expose: the Role of Mathematics and Natural Science for Industry Development and Environmental Management* (ed P. Citreoreksoko), pp. 71–74. Pakuan University, Bogor, Indonesia.
- WARDAH, SUNARTI, S., SETYOWATI, F.M., SUJADI, A. & MUHIDIN, A. (2005) *Journey Report: The Prospect of Rattan and Biological Diversity in Gunung Halimun National Park*. Research Center for Biology–Indonesian Institute of Sciences, Bogor, Indonesia.
- WHITMORE, T.C. (1972) *Tree Flora of Malaya—A Manual for Foresters*, Vol. I. Longman, Kuala Lumpur, Malaysia.
- WIDYATMOKO, D. (2009) Seed germination, seedling establishment and vegetative development of the threatened palm *Cyrtostachys renda* Blume. *Jurnal Biologi Indonesia*, 5, 391–410.
- WIDYATMOKO, D., BURGMAN, M.A., GUHARDJA, E., MOGEA, J.P., WALUJO, E.B. & SETIADI, D. (2005) Population status, demography and habitat preferences of the threatened lipstick palm *Cyrtostachys renda* Blume in Kerumutan Reserve, Sumatra. *Acta Oecologia*, 28, 107–118.
- WIDYATMOKO, D. & ZICH, F. (1998) *The Flora of Bukit Tigapuluh National Park, Kerumutan Sanctuary and Mahato Protective Reserve, Riau, Indonesia*. Indonesian Botanical Gardens, Bogor, in collaboration with Chevron and Texaco Foundation, Indonesia.
- YUSUF, R. (1998) A study of utilization of forest plants by Dayak Punan Hovongan in Tanjung Lokang, West Kalimantan. In *Proceedings of National Seminar in Ethnobotany III* (eds Y. Purwanto & E.B. Waluyo), pp. 193–198. Research Centre for Biology–LIPI, Udayana University & Mahasaraswati University, Denpasar, Indonesia.
- YUZAMMI & HIDAYAT, S. (2002) *Flora of Sulawesi: The Unique, Endemic and Rare*. Center for Plant Conservation, Bogor Botanic Gardens, Institute of Indonesian Sciences, Bogor, in collaboration with Yayasan Sosial Chevron dan Texaco Indonesia.
- YUZAMMI & HIDAYAT, S. (2008) A study on population of *Amorphophallus titanium* (Becc.) Becc. in forest areas in Bengkulu. *Bulletin Kebun Raya*, 11, 9–15.
- ZUHUD, E.A.M, HIKMAT, A. & JAMIL, A. (1998) *Rafflesia*. In *Indonesia: Diversity, Ecology and Conservation*. Indonesian Nature and Wildlife Sanctuary Foundation and Plant Conservation Laboratory, Faculty of Forestry, Bogor Agricultural University, Bogor, Indonesia.