THE VASCULAR PLANT FLORA OF UPPER THOMSON FOREST

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ABSTRACT. — A checklist of vascular plant species was compiled for Upper Thomson Forest, a patch of secondary regrowth forest bounded by Old Upper Thomson Road and Upper Thomson Road on Singapore Island. In 2012, we sampled five 20×20 m vegetation plots within the abandoned rubber plantation region of this forest. Within each plot, we recorded all vascular plant species and measured the diameter at breast height (DBH) of all woody stems with a DBH \geq 5 cm. We recorded 219 species from 80 families. 146 of the recorded species are native, 68 are exotic, and five are cryptogenic. Of the native species, 20 are nationally critically endangered (of which five are likely to have persisted from cultivated rather than native stock), 15 are nationally endangered, and 31 are nationally vulnerable. Among the measured woody stems, Pará rubber, *Hevea brasiliensis* was found to occur most frequently on average. This site has conservation value as a native species refuge and as a buffer to the Central Catchment Nature Reserve.

KEY WORDS. — checklist, conservation, flora, Old Upper Thomson Road, secondary forest

INTRODUCTION

Upper Thomson Forest (01°22′58″N, 103°49′19″E) is a secondary forest that has regenerated on land that was once used for cultivation. It is located in central Singapore, and is bound completely by Old Upper Thomson Road on two sides and Upper Thomson Road on its third side (Figs. 1, 2A, 2B). It lies just outside the boundary of the Central Catchment Nature Reserve as delineated in the Master Plan 2008 of the Urban Redevelopment Authority, Singapore (URA, 2008). Based on Google Earth® satellite images, this forest is estimated to be 56.4 ha in area. As of the Master Plan 2008, Upper Thomson Forest is a "reserve" site (i.e., land held in reserve for future planning and not to be confused with the nature reserves; URA, 2008).



Fig. 1. Upper Thomson Forest and nearby landmarks (Google, 2012). The red outline shows the extent of the forest as at 14 Jun.2012 (date that the satellite image was acquired). The locations of the surveyed vegetation plots are represented by yellow dots labelled UT1–UT5.



Fig. 2. A, Upper Thomson Forest on the right, as seen from the junction of Old Upper Thomson Road and Yio Chu Kang Road; B, Old Upper Thomson Road, with Upper Thomson Forest shown on the left. Signs that point to the land use history of the area can be found within the forest, such as: C, the remains of an old tar road; D, an abandoned building covered by plants and the roots of a large strangler fig (*Ficus* sp.). (Photographs by: Louise Neo).

Upper Thomson Forest was part of a rubber plantation from the 1920s to the 1940s (Surveyor-General, Federated Malay States and Straits Settlements, 1924; Survey Production Centre, South East Asia, 1945). We estimate that the rubber plantation was abandoned during World War II (1941–1945; Lew, 1965; Shepherd & Shepherd, 1968) and not re-established thereafter, and from the 1950s, the vegetation of the area was classified as being under sundry cultivation (Surveyor-General, Malaya, 1953; Chief Surveyor, Singapore, 1969; Ministry of Defence, Singapore, 1975; Singapore Mapping Unit, 1982, 1987, 1992, 2000, 2008). There were also settlements within this area, which belonged to the Hainan Village (The Grassroots Organisations of Nee Soon Constituency, 1987; Figs. 2C, 2D).

Secondary forests can be refuges and resource pools for local biodiversity, despite being disturbed and sometimes degraded (Turner & Corlett, 1996; McShea et al., 2009; Edwards et al., 2011). Forests that have regenerated on abandoned agricultural land may be dominated by exotic species, but they have been shown to support the recolonisation of native species (Lugo & Helmer, 2004). In urban Singapore, secondary forests have been found to support populations of birds, butterflies, and frogs (Koh & Sodhi, 2004; Castelletta et al., 2005; Bickford et al., 2010; K. Y. Chong, S. Teo, and H. T. W. Tan, unpublished data). This paper aims to provide an accessible working checklist of the vascular plant species of Upper Thomson Forest, which may be useful for assessing the conservation value of this patch of forest.

MATERIAL AND METHODS

In the year 2012, we surveyed five vegetation plots, of 20×20 m each, within the abandoned rubber plantation region of Upper Thomson Forest. The extent of the rubber plantation was determined by comparing old topographic maps of Singapore against the latest Google Earth satellite image of the forest (Google, 2012). The five plots were spaced at least 60 m apart from one another for greater independence, and located at least 40 m from the forest edge to minimise the edge effect. The location of each plot was randomly derived using the fTools v. 0.6.1 plugin for the Quantum GIS software v. 1.6.0 (Quantum GIS Development Team, 2010). Within each plot, all species of vascular plants were recorded. Where species could not be identified in the field, specimens were collected for their identities to be further determined in the laboratory or in the Singapore Botanic Gardens Herbarium (SING). To estimate species dominance, stem diameter at breast height (DBH; measured at 1.3 m above the ground) was recorded for all woody stems with DBH

 \geq 5 cm (including lianas). Palms (Arecaceae) were not measured owing to the difficulty in measuring the true stems for some species. To supplement the data from the vegetation plots, we conducted some additional opportunistic explorations of the forest in the year 2014.

A checklist of all the recorded vascular plant species was compiled, with nomenclature and national status categories following or updating those of Chong et al. (2009). We constructed a species accumulation curve from the five sampled plots to determine how the number of recorded vascular plant species increased with sampling effort, using the 'specaccum' function implemented in the vegan v. 2.0-2 package of the statistical software R v. 2.14.1 (R Development Core Team, 2011). The approximate total number of species in the species pool of this forest, i.e., including unseen or undetected species, was calculated using the 'specpool' function in the vegan v. 2.0-2 package (R Development Core Team, 2011).

RESULTS AND DISCUSSION

A total of 219 vascular plant species from 80 families was recorded. The species and their national conservation status categories are provided in Appendix 1. Based on the vascular flora checklist of Chong et al. (2009), 146 of the recorded species are native, 68 are exotic, and five are cryptogenic (equivalent to the "Weed of Uncertain Origin" category in Chong et al. [2009]). Of the native species, one is nationally extinct, 20 are nationally critically endangered, 15 are nationally endangered, and 31 are nationally vulnerable (Table 1). The nationally extinct species is *Syzygium myrtifolium*, and it is likely to be persisting from escaped individuals of cultivated provenance. Of the 20 critically endangered species, five have known food or ornamental value, and are probably likewise plants of non-Singapore stock persisting from cultivation: *Baccaurea motleyana* (rambai), *Epipremnum pinnatum* (dragon tail plant), *Gnetum gnemon* var. *gnemon* (belinjau), *Nephelium lappaceum* (rambutan), and *Peltophorum pterocarpum* (yellow flame tree).

We recorded six species which are not listed in the checklist of Chong et al. (2009), and which have not been assessed for their national conservation statuses. They are: *Blechum pyramidatum, Cryptocarya nitens, Eleutherococcus trifoliatus, Paraderris elliptica, Psydrax* sp. 10 of Wong (1989), and *Tectaria incisa*. Two of these are new records for Singapore: *Blechum pyramidatum* and *Eleutherococcus trifoliatus* (Figs. 3A, 3B). The former is native to South America (McMullen, 1999), while the native distribution of the latter extends from India to South China to the Philippines (Deng, 2008). The other four species are overlooked records. *Cryptocarya nitens* was only recently collected in Singapore from Mandai and Bukit Timah Nature Reserve, with three specimens deposited in SING. *Psydrax* sp. 10 has previously been recorded from the Bukit Timah Nature Reserve (Tan et al., 1995; Turner & Chua, 2011). Several collections of *Paraderris elliptica* from several localities in Singapore, including Changi, Choa Chu Kang, and Kranji, have previously been deposited into SING, and the species has also recently been found in Bukit Batok Nature Park (Neo et al., 2013a). The species is known to have been cultivated for use as an insecticide (Chen & Pedley, 2010). *Tectaria incisa* has been collected from the Singapore Botanic Gardens as an escapee of cultivation (two specimens deposited in SING) and has also recently been found in Bukit Batok Nature Park and Lentor Forest (Neo et al., 2013a; 2013b).

Nativeness	National Status Category	No. of Species	Percentage of All Species	Percentage of All Native Species
Exotic	Naturalised	22	10.05	
	Casual	24	10.96	_
	Cultivated only	19	8.68	_
	Not assessed	3	1.37	_
	Total	68	31.05	-
Cryptogenic	Cryptogenic	5	2.28	_
	Total	5	2.28	-
Native	Nationally extinct (persistence from cultivation)	1	0.46	0.68
	Critically endangered (persistence from cultivation)	5	2.28	3.42
	Critically endangered	15	6.85	10.27
	Endangered	15	6.85	10.27
	Vulnerable	31	14.16	21.23
	Common	76	34.70	52.05
	Not assessed	3	1.37	2.05
	Total	146	66.67	-

Table 1. Summary of the national status categories of the vascular plants of Upper Thomson Forest.

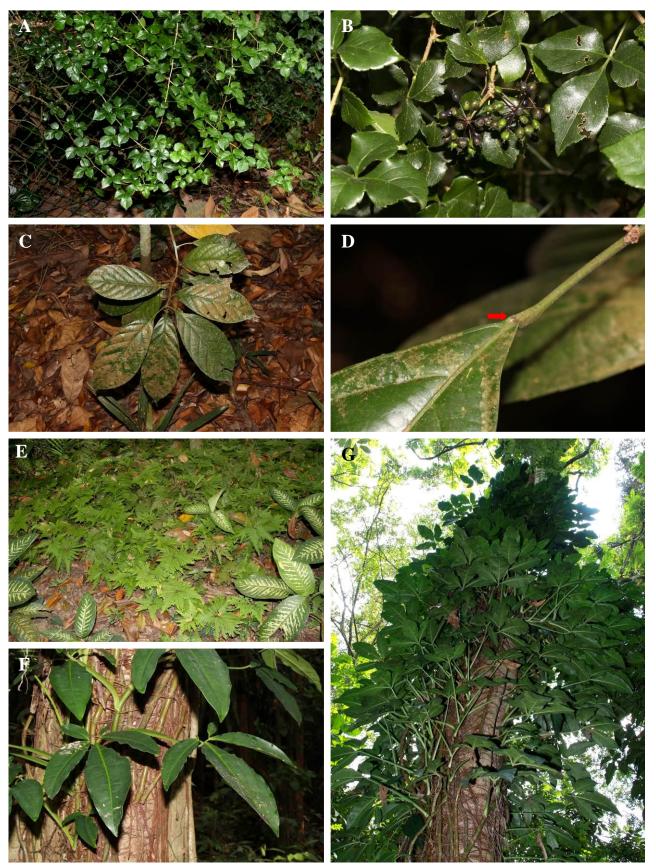


Fig. 3. A, *Eleutherococcus trifoliatus* (habit); B, *Eleutherococcus trifoliatus* (fruits); C, Sapling of *Neoscortechinia sumatrensis* of about 2 cm DBH; D, Leaf of *Neoscortechinia sumatrensis* with paired glands at the base of the leaf blade adjoining the petiole; E, *Selaginella argentea* covering the forest floor; F, G, Variant of *Syngonium podophyllum* var. *podophyllum*, slightly different from the more widespread form in Singapore. (Photographs by: Louise Neo).

We would like to highlight new locality records for two species: *Neoscortechinia sumatrensis* and *Selaginella argentea*. We came across a single sapling of *Neoscortechinia sumatrensis* in Upper Thomson Forest (Fig. 3C, D). To our knowledge, this is the first record of this nationally critically endangered species outside of the Central Catchment Nature Reserve, as it was previously only known from the Nee Soon Swamp Forest, Seletar Reservoir, and Bukit Kallang (Ang et al., 2010). *Selaginella argentea* is a nationally critically endangered spikemoss which has only one prior collection record from Singapore (specimen deposited in SING by N. Cantley in 1881). A large mat of this species was found growing in Upper Thomson Forest (Fig. 3E).

We also collected a *Syngonium* species (Fig. 3F, G) with darker green and waxier leaves than the usual form of *Syngonium podophyllum* that is widespread elsewhere in Singapore (Chong et al., 2010). The leaves of the adult climbing form is mostly trisect, with auricles on the lateral leaflets. In comparison, the more commonly-occurring form can have as many as 11, or even 13 leaflets. However, these variations, and other vegetative characteristics such as the length of the petiole, and the proportion of the petiole that is sheathed, are still consistent with *Syngonium podophyllum* var. *podophyllum* as described by Croat (1981). Fertile specimens will be required to draw a more conclusive confirmation about the identity of this population of *Syngonium* species.

When we plotted the number of species recorded only from the surveyed plots against sampling effort, we found that the species accumulation curve did not approach an asymptote, suggesting that more species are to be expected with greater survey effort (Fig. 4). Based on the most conservative estimate (Chao), the vegetation plots sampled 56% of the total number of species in the species pool of Upper Thomson Forest. The estimates of the total number of species range from 154–232 (Table 2). The species for which we measured basal area are presented in Appendix 2 and ordered by the mean number of stems measured per plot, except for species for which only a single individual was measured, which are ordered by basal area instead. The species found to occur most frequently was Pará rubber, *Hevea brasiliensis*, which averaged 9.6 stems per plot and made up 1.9% of the basal area measured in a plot on average. The most dominant species by basal area out of the five plots was found to be *Litsea elliptica*, which comprised 56.3% of the basal area of one plot, but only a single individual occurred in the plots that we sampled. Of the species we measured, one third are exotic species usually cultivated as food or ornamental plants, while the rest are native species typical of the early successional secondary forests in Singapore (Corlett 1991; Boo, 1996; Shono et al., 2006).

Table 2. Approximate true number of species calculated based on data from the five sampled plots, using f	our commonly used
species richness estimators.	

Estimator	Chao	Jackknife 1	Jackknife 2	Bootstrap
Predicted number of species	232.02	183.60	213.90	153.82
Proportion of the observed number of species out of the total predicted number of species	0.56	0.71	0.61	0.85

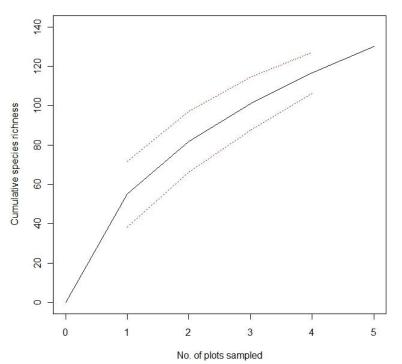


Fig. 4. Species accumulation curve showing the cumulative increase in the number of species recorded from the five sampled plots. The dotted lines represent 95% confidence intervals of the curve.

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CONCLUSIONS

The vascular plant species composition of Upper Thomson Forest is a product of the cultivation legacy of the area, and the recent establishment or persistence of native secondary forest species despite the drastic land use change. Of the woody stems measured, Pará rubber trees occurred at the highest frequency, despite the abandonment of the rubber plantations about 60 years ago. Native species were found to make up two-thirds of all the species that we recorded from this forest patch. 31% of the recorded species are nationally threatened. Upper Thomson Forest has conservation value as a refuge for nationally threatened native species, and can function as a buffer to the Central Catchment Nature Reserve, the boundary of which it lies just outside.

ACKNOWLEDGEMENTS

We would like to extend our thanks to all those who assisted us with the collection of field data from our vegetation plots. We are also grateful to Serena Lee and Gwee Aik Teck from the Herbarium, Singapore Botanic Gardens for their aid in the identification of plant specimens, and to Jon S. Y. Tan for providing the identities of all fern and fern ally species.

LITERATURE CITED

- Ang, W. F., A. F. S. L. Lok, K. Y. Chong & H. T. W. Tan, 2010. Status and distribution in Singapore of Neoscortechinia sumatrensis S.Moore (Euphorbiaceae). Nature in Singapore, 3: 333–336.
- Bickford D., T. H. Ng, L. Qie, E. P. Kudavidanage & C. J. A. Bradshaw, 2010. Forest fragment and breeding habitat characteristics explain frog diversity and abundance in Singapore. *Biotropica*, **42**: 119–125.
- Boo, C. M., 1996. A Study of Secondary Forest in Singapore. Unpublished Honours Thesis, Department of Botany, National University of Singapore. 97 pp.
- Castelletta, M., J.-M. Thiollay & N. S. Sodhi, 2005. The effects of extreme forest fragmentation on the bird community of Singapore Island. *Biological Conservation*, 121: 135–155.
- Chen, D. & L. Pedley, 2010. Paraderris. Flora of China, 10: 170-172.
- Chief Surveyor, Singapore, 1969. 1:63,360 Singapore Series I Edition I. 84 Survey Squadron RE, AD Survey Far East Land Forces.
- Chong, K. Y., H. T. W. Tan & R. T. Corlett, 2009. A Checklist of the Total Vascular Plant Flora of Singapore: Native, Naturalised and Cultivated Species. Raffles Museum of Biodiversity Research, National University of Singapore, Singapore. 273 pp. Uploaded 12 Nov.2009. <u>http://rmbr.nus.edu.sg/raffles_museum_pub/flora_of_singapore_tc.pdf</u>. (Accessed 10 Apr.2013).
- Chong, K. Y., P. T. Ang & H. T. W. Tan, 2010. Identity and spread of an exotic Syngonium species in Singapore. *Nature in Singapore*, **3**: 1–5.
- Corlett, R. T., 1991. Plant succession on degraded land in Singapore. Journal of Tropical Forest Science, 4: 151–161.
- Croat, T. B., 1981. A revision of Syngonium (Araceae). Annals of the Missouri Botanical Garden, 68: 565-651.

Deng, Y.-f., 2008. Araliaceae. Flora of Hong Kong, 2: 291-296.

- Edwards, D. P., T. H. Larsen, T. D. S. Docherty, F. A. Ansell, W. W. Hsu, M. A. Derhé, K. C. Hamer & D. S. Wilcove, 2011. Degraded lands worth protecting: The biological importance of Southeast Asia's repeatedly logged forests. *Proceedings of the Royal Society B*, 278: 82–90.
- Google, 2012. Google Earth 6.2.2.6613. Google, California. http://earth.google.com/. (Accessed 10 Apr.2013).
- Koh, L. P. & N. S. Sodhi, 2004. Importance of reserves, fragments, and parks for butterfly conservation in a tropical urban landscape. *Ecological Applications*, **14**: 1695–1708.
- Lew, B. T. C., 1965. *The Rubber Industry of Singapore*. Unpublished Honours Thesis. University of Singapore, Singapore. 67 pp.
- Lugo, A. R. & E. Helmer, 2004. Emerging forests on abandoned land: Puerto Rico's new forests. Forest Ecology and Management, 190: 145–161.
- McMullen, C. K., 1999. Flowering Plants of the Galápagos. Comstock Pub. Associates, Ithaca, New York. 370 pp.
- McShea, W. J., C. Stewart, L. Peterson, P. Erb, R. Stuebing & B. Giman, 2009. The importance of secondary forest blocks for terrestrial mammals within an *Acacia*/secondary forest matrix in Sarawak, Malaysia. *Biological Conservation*, 142: 3108–3119.
- Ministry of Defence, Singapore, 1975. 1:25,000, R.S.O. Metric Grid, Singapore. Officer Commanding, Mapping Branch, Ministry of Defence, Singapore.
- Neo, L., A. T. K. Yee, K. Y. Chong, Carmen Y. Kee, Reuben C. J. Lim, W. Q. Ng, X. Y. Ng & H. T. W. Tan, 2013a. The vascular plant flora of Bukit Batok, Singapore. *Nature in Singapore*, **6**: 265–287.
- Neo, L., A. T. K. Yee, K. Y. Chong, T. C. Zeng & H. T. W. Tan, 2013b. The vascular plant flora of abandoned plantations in Singapore III: Lentor Forest. *Nature in Singapore*, **6**: 113–124.
- Quantum GIS Development Team, 2010. *Quantum GIS Geographic Information System*. Open Source Geospatial Foundation Project. <u>http://qgis.osgeo.org</u>.

- R Development Core Team, 2011. R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria. http://www.R-project.org.
- Shepherd, E. E. & S. R. Shepherd, 1968. *Bukit Sembawang—A Rubber Estate*. F. W. Chesire Publishing Pty Ltd, Melbourne. 29 pp.
- Shono, K., S. J. Davies & Y. K. Chua, 2006. Regeneration of native plant species in restored forests on degraded lands in Singapore. *Forest Ecology and Management*, **237**: 574–582.
- Singapore Mapping Unit, 1982. 1:25,000 Topographic Map. Mapping Unit, Ministry of Defence, Singapore.
- Singapore Mapping Unit, 1987. 1:25,000 Topographic Map. Mapping Unit, Ministry of Defence, Singapore.
- Singapore Mapping Unit, 1992. 1:25,000 Topographic Map. Mapping Unit, Ministry of Defence, Singapore.
- Singapore Mapping Unit, 2000. 1:25,000 Topographic Map. Mapping Unit, Ministry of Defence, Singapore.

Singapore Mapping Unit, 2008. 1:25,000 Topographic Map. Mapping Unit, Ministry of Defence, Singapore.

- Surveyor-General, Federated Malay States and Straits Settlements, 1924. *1 Mile: 6 Inches Municipal Area, Singapore.* Surveyor-General, Federated Malay States and Straits Settlements.
- Surveyor-General, Malaya, 1953. 1: 25,000 Singapore Provisional Issue. Survey Department Federation of Malaya, Malaya.
- Survey Production Centre, South East Asia, 1945. 1: 25,000 Topographic Map. Survey Department, Federation of Malaya.
- Tan, H. T. W., K. S. Chua & I. M. Turner, 1995. Rubiaceae of the Bukit Timah Nature Reserve. Gardens' Bulletin, Singapore, Supplement 3: 29–59.
- The Grassroots Organisations of Nee Soon Constituency, 1987. Rural Economy. In: Lim, H. S. & G. H. Lim (eds.), *A Pictorial History of Nee Soon Community*. National Archives, Singapore. Pp. 59–74.
- Turner, I. M. & K. S. Chua, 2011. Checklist of the Vascular Plant Species of the Bukit Timah Nature Reserve. Raffles Museum of Biodiversity Research, Department of Biological Sciences, National University of Singapore, Singapore. 85 pp. Uploaded 8 Aug.2011. <u>http://rmbr.nus.edu.sg/raffles_museum_pub/btnr_plants_checklist.pdf</u>. (Accessed 27 Feb.2014)
- Turner, I. M. & R. T. Corlett, 1996. The conservation value of small, isolated fragments of lowland tropical rain forest. *Trends in Ecology and Evolution*, **11**: 330–333.
- URA (Urban Redevelopment Authority), 2008. *Master Plan 2008*. URA, Singapore. <u>http://www.ura.gov.sg/uramaps/?</u> <u>config=config_preopen_xml&preopen=Master%20Plan/</u>. (Accessed 12 Nov.2013)

Wong, K. M., 1989. Rubiaceae. Tree Flora of Malaya, 4: 324-425.

APPENDIX 1

Checklist of the vascular plant flora of Upper Thomson Forest. Nomenclature and conservation status categories follow those of Chong et al. (2009) with some updating based on our observations. "Weed of Uncertain Origin" of Chong et al. (2009) is "Cryptogenic" in this list. Species are grouped by family and arranged in alphabetical order.

S/No.	Species	Nativeness	National Status
	ACANTHACEAE		
1.	Asystasia gangetica (L.) T.Anderson subsp. micrantha	Exotic	Naturalised
2.	Blechum pyramidatum (Lam.) Urb.	Exotic	Not assessed
3.	Peristrophe roxburghiana (Roem. & Schult.) Bremek.	Cryptogenic	Cryptogenic
4.	Thunbergia fragrans Roxb.	Exotic	Naturalised
	ADIANTACEAE		
5.	Adiantum latifolium Lam.	Exotic	Naturalised
	ANACARDIACEAE		
6.	Campnosperma auriculatum (Blume) Hook.f.	Native	Common
7.	Campnosperma squamatum Ridl.	Native	Common
8.	Mangifera indica L.	Exotic	Casual
	ANNONACEAE		
9.	Artabotrys maingayi Hook.f. & Thoms.	Native	Critically endangered
10.	Artabotrys suaveolens (Blume) Blume	Native	Endangered
11.	Fissistigma manubriatum (Hook.f. & Thoms.) Merr.	Native	Vulnerable
12.	Mitrella kentii (Blume) Miq.	Native	Common
	APOCYNACEAE		
13.	Alstonia angustiloba Miq.	Native	Common
14.	Alstonia scholaris (L.) R.Br.	Exotic	Cultivated only

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S/No.	Species	Nativeness	National Status
15.	Cerbera odollam Gaertn.	Native	Vulnerable
16.	Hoya latifolia G.Don	Native	Endangered
	ARACEAE		
17.	Aglaonema commutatum Schott	Exotic	Casual
18.	Alocasia longiloba Miq.	Native	Common
10. 19.	Dieffenbachia seguine (Jacq.) Schott var. seguine	Exotic	Casual
20.	Epipremnum aureum (Linden ex André) Bunting	Exotic	Casual
21.	Epipremnum pinnatum (L.) Engl.	Native	Critically endangered (persistence from cultivation)
22.	Philodendron bipinnatifidum Schott ex Endl.	Exotic	Cultivated only
23.	Philodendron hederaceum (Jacq.) Schott	Exotic	Casual
24.	Syngonium podophyllum Schott	Exotic	Naturalised
	ARALIACEAE		
25.	Arthrophyllum diversifolium Blume	Native	Common
26.	Eleutherococcus trifoliatus (L.) S.Y.Hu	Exotic	Not assessed
27.	ARECACEAE Caryota mitis Lour.	Native	Common
28.	Cocos nucifera L.	Exotic	Naturalised
20. 29.	Elaeis guineensis Jacq.	Exotic	Cultivated only
29. 30.	· ·	Exotic	-
	Livistona rotundifolia (Lam.) Mart.		Cultivated only
31.	Plectocomia elongata Mart. ex Blume	Native	Vulnerable
32.	<i>Ptychosperma macarthurii</i> (H.Wendl. ex anon.) H.Wendl. ex Hook.f.	Exotic	Naturalised
	ASPARAGACEAE		
33.	Cordyline fruticosa (L.) A.Chev.	Exotic	Casual
34.	Dracaena braunii Engl.	Exotic	Cultivated only
35.	Dracaena fragrans (L.) Ker Gawl.	Exotic	Casual
36.	Dracaena porteri Baker	Native	Common
30. 37.	Dracaena sanderiana hort.Sander ex Mast.	Exotic	Cultivated only
37. 38.	Dracaena surculosa Lindl.	Exotic	Cultivated only
20	ASPLENIACEAE	NI	Common
39.	Asplenium longissimum Blume	Native	Common
40.	Asplenium nidus L.	Native	Common
	ASTERACEAE		
41.	Erechtites valerianifolius (Link ex Spreng.) DC	Exotic	Naturalised
42.	Mikania micrantha Kunth	Exotic	Naturalised
	BIGNONIACEAE		
43.	Spathodea campanulata P.Beauv.	Exotic	Naturalised
44.	Tabebuia rosea (Bertol.) DC.	Exotic	Casual
	BLECHNACEAE		
45.	Stenochlaena palustris (Burm.f.) Bedd.	Native	Common
	CALOPHYLLACEAE		
46.	Calophyllum ferrugineum Ridl.	Native	Common
40. 47.	Calophyllum teysmannii Miq.	Native	Vulnerable
+/.		mauve	v unici aute
10	CANNABACEAE	NT /	
48.	Gironniera nervosa Planch.	Native	Common
49.	Trema cannabina Lour.	Native	Common
	CENTROPLACACEAE		
			~
50.	Bhesa paniculata Arn.	Native	Common
50.	Bhesa paniculata Arn. CLUSIACEAE	Native	Common

S/No.	Species	Nativeness	National Status
52.	Garcinia mangostana L.	Exotic	Casual
3.	COMBRETACEAE Tominalia astana I	Native	Common
5.	Terminalia catappa L.	Inative	Common
	CONNARACEAE		
54.	Agelaea macrophylla (Zoll.) Leenh.	Native	Critically endangered
-	CONVOLVULACEAE	N T	
5.	Erycibe tomentosa Blume	Native	Common
	COSTACEAE		
6.	Costus speciosus (Koenig) Smith	Native	Common
	CUCURBITACEAE		
7.	Coccinia grandis (L.) Voigt	Exotic	Naturalised
	CYATHEACEAE		
8.	Cyathea latebrosa (Wall.) Copel.	Native	Vulnerable
	CYPERACEAE		
9.	Kyllinga polyphylla Willd. ex Kunth	Exotic	Naturalised
0.	Scleria levis Retz.	Cryptogenic	Cryptogenic
	DAVALLIACEAE		
1.	Davallia denticulata (Burm.) Mett.	Native	Common
	. ,		
	DILLENIACEAE		
2.	Dillenia suffruticosa (Griff. ex Hook.f. & Thomson) Martelli	Native	Common
3. 4.	<i>Tetracera fagifolia</i> Blume <i>Tetracera indica</i> (Christm. & Panz.) Merr.	Native Native	Vulnerable Common
4.	Terracera maica (Christin, & Faiz.) Men.	Ivative	Common
	DIOSCOREACEAE		
5.	Dioscorea pyrifolia Kunth	Native	Common
6.	Dioscorea sansibarensis Pax	Exotic	Naturalised
57.	DRYOPTERIDACEAE Pleocnemia irregularis (C.Presl) Holttum	Native	Common
8.	Tectaria incisa Cav.	Exotic	Not assessed
	ELAEOCARPACEAE		
i9.	Elaeocarpus ferrugineus (Jack) Steud.	Native	Common
'0. '1.	Elaeocarpus mastersii King Elaeocarpus petiolatus (Jack) Wall	Native Native	Common Common
1.	Lineocurpus penoinius (Jack) wan	INALLVE	Common
	EUPHORBIACEAE		
2.	Acalypha hispida Burm.f.	Exotic	Cultivated only
3.	Acalypha siamensis Oliv. ex Gage	Exotic	Casual
4.	Claoxylon indicum (Reinw. ex Blume) Hassk.	Native	Common
5. 6.	Hevea brasiliensis (Willd. ex A.Juss.) Müll.Arg.	Exotic Native	Naturalised Common
o. 7.	Macaranga bancana (Miq.) Müll.Arg. Macaranga conifera (Zoll.) Müll.Arg.	Native	Common
8.	Macaranga gigantea (Rchb.f. & Zoll.) Müll.Arg.	Native	Common
'9.	Macaranga griffithiana Müll.Arg.	Native	Vulnerable
60 .	Macaranga hullettii King ex Hook.f.	Native	Critically endangered
1.	Macaranga hypoleuca (Rchb.f. & Zoll.) Müll.Arg.	Native	Common
2.	Manihot carthagenesis (Jack) Müll.Arg. subsp. glaziovii (Müll Arg.) Allem	Exotic	Naturalised
33.	(Müll.Arg.) Allem Manihot esculenta Crantz	Exotic	Naturalised
34.	Neoscortechinia sumatrensis S.Moore	Native	Critically endangered
35.	Triadica cochinchinensis Lour.	Native	Common

Neo et al.: The Flora of Upper Thomson Forest	

	S/No.	Species	Nativeness	National Status
	86.		Exetia	Naturalised
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4.Cinnamomum iners Reinw.NativeCommon5.Cryptocarya nitens (Blume) Koord. & ValetonNativeNot assessed6.Lindera lucida (Blume) Boerl.NativeVulnerable7.Litsea elliptica (Blume) NeesNativeCommon8.Litsea firma Hook.f.NativeVulnerable9.Indorouchera griffithiana (Planch.) Hallier f.NativeCommonMALVACEAE	13.	Vitex pinnata L.	Native	Common
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16. Lindera lucida (Blume) Boerl. Native Vulnerable 17. Litsea elliptica (Blume) Nees Native Common 18. Litsea firma Hook.f. Native Vulnerable 19. Indorouchera griffithiana (Planch.) Hallier f. Native Common MALVACEAE Native Common	14.			
 Litsea elliptica (Blume) Nees Litsea firma Hook.f. Native LINACEAE Indorouchera griffithiana (Planch.) Hallier f. Native Common MALVACEAE 	15.			
 <i>Litsea firma</i> Hook.f. Native Vulnerable <i>LINACEAE</i> <i>Indorouchera griffithiana</i> (Planch.) Hallier f. Native Common MALVACEAE 	16.			
LINACEAE 19. Indorouchera griffithiana (Planch.) Hallier f. Native Common MALVACEAE	17.			
 Indorouchera griffithiana (Planch.) Hallier f. Native Common MALVACEAE 	18.	Litsea firma Hook.1.	Native	Vulnerable
MALVACEAE				
	119.	Indorouchera griffithiana (Planch.) Hallier f.	Native	Common
20. Durio zibethinus L. Exotic Casual	•		. .	
	120.	Durio zibethinus L.	Exotic	Casual

S/No.	Species	Nativeness	National Status
121.	Grewia laevigata Vahl	Native	Vulnerable
122.	Muntingia calabura L.	Exotic	Naturalised
123.	Scaphium linearicarpum (Mast.) Pierre	Native	Critically endangered
124.	Theobroma cacao L.	Exotic	Cultivated only
	MARANTACEAE		
125.	Calathea picturata (Linden) K.Koch & Linden	Exotic	Cultivated only
	MARATTIACEAE		
126.	Angiopteris evecta (Forst.) Hoffm.	Native	Vulnerable
	MELASTOMATACEAE		
127.	<i>Clidemia hirta</i> (L.) D.Don	Exotic	Naturalised
127.	Dissochaeta viminalis (Jack) Clausing	Native	Critically endangered
	Melastoma malabathricum L.	Native	Common
129.	Pternandra caerulescens Jack		Vulnerable
130.		Native	
131.	Pternandra echinata Jack	Native	Vulnerable
1.2.5	MELIACEAE		
132.	Aphanamixis polystachya (Wall.) Parker	Native	Endangered
133.	Lansium domesticum Corrêa	Exotic	Cultivated only
	MENISPERMACEAE		
134.	Fibraurea tinctoria Lour.	Native	Common
135.	Tinospora crispa (L.) Hook.f. & Thomson	Exotic	Casual
	MORACEAE		
136.	Artocarpus heterophyllus Lam.	Exotic	Casual
137.	Artocarpus integer (Thunb.) Merr.	Exotic	Casual
138.	Ficus aurata Miq.	Native	Vulnerable
139.	<i>Ficus elastica</i> Roxb. ex Hornem.	Exotic	Casual
139.		Native	Common
	Ficus fistulosa Reinw. ex Blume		
141.	Ficus globosa Blume	Native	Endangered
142.	Ficus grossularioides Burm.f. var. grossularioides	Native	Common
143.	Ficus heteropleura Blume	Native	Common
144.	Ficus microcarpa L.f.	Native	Common
145.	Ficus punctata Lam.	Exotic	Cultivated only
146.	Ficus variegata Blume	Native	Common
147.	Ficus vasculosa Wall. ex Miq.	Native	Endangered
148.	Ficus villosa Blume	Native	Critically endangered
	MYRISTICACEAE		
149.	Knema malayana Warb.	Native	Endangered
	MYRSINACEAE		
150.	Embelia ribes Burm.f.	Native	Common
	MYRTACEAE		
151.	Rhodamnia cinerea Jack	Native	Common
152.	Syzygium borneense (Miq.) Miq.	Native	Common
153.	Syzygium grande (Wight) Walp.	Native	Common
154.	Syzygium jambos (L.) Alston	Exotic	Casual
155.	Syzygium Junious (L.) Histon Syzygium lineatum (DC.) Merr. & L.M.Perry	Native	Common
155.	Syzygium myrtifolium Walp.	Native	Nationally extinct
157.	Syzygium polyanthum (Wight) Walp.	Native	(escaped from cultivation) Vulnerable
150	NYCTAGINACEAE	E ··	
158.	Bougainvillea glabra Choisy	Exotic	Cultivated only
159.	OCHNACEAE Ochna kirkii Oliv.	Exotic	Cultivated only

S/No.	Species	Nativeness	National Status
	OLEANDRACEAE		
60.	Nephrolepis auriculata (L.) Trimen	Cryptogenic	Cryptogenic
	PANDANACEAE		
161.	Pandanus amaryllifolius Roxb.	Exotic	Casual
	PASSIFLORACEAE		
162.	<i>Adenia macrophylla</i> (Blume) Koord. var. <i>singaporeana</i> (Wall. ex G.Don) de Wilde	Native	Vulnerable
	PENTAPHYLACACEAE		
163.	Adinandra dumosa Jack	Native	Common
164.	Eurya acuminata DC.	Native	Common
	PHYLLANTHACEAE		
165.	Aporosa falcifera Hook.f.	Native	Critically endangered
166.	Aporosa frutescens Blume	Native	Common
167.	Aporosa lucida (Miq.) Airy Shaw var. lucida	Native	Critically endangered
168.	Baccaurea motleyana (Müll.Arg.) Müll.Arg.	Native	Critically endangered
			(persistence from cultivation)
169.	Breynia coronata Hook.f.	Native	Endangered
170.	Bridelia stipularis (L.) Blume	Native	Vulnerable
171.	Bridelia tomentosa Blume	Native	Common
172.	Sauropus androgynus (L.) Merr.	Native	Common
	PIPERACEAE		
173.	Piper betle L.	Exotic	Casual
174.	Piper caninum Blume	Native	Common
175.	Piper sarmentosum Roxb.	Native	Common
	POACEAE		
176.	Centotheca lappacea (L.) Desv.	Native	Critically endangered
	POLYGALACEAE		
177.	Xanthophyllum flavescens Roxb.	Native	Endangered
	POLYGONACEAE		
178.	Antigonon leptopus Hook. & Arn.	Exotic	Casual
	PTERIDACEAE		
179.	Pteris ensiformis Burm.f.	Cryptogenic	Cryptogenic
180.	Taenitis blechnoides (Willd.) Sw.	Native	Common
	RHIZOPHORACEAE		
181.	Carallia brachiata (Lour.) Merr.	Native	Endangered
182.	Gynotroches axillaris Blume	Native	Common
	ROSACEAE		
183.	Prunus polystachya (Hook.f.) Kalkm.	Native	Common
184.	Rubus moluccanus L.	Native	Vulnerable
	RUBIACEAE		
185.	<i>Gynochthodes sublanceolata</i> Miq.	Native	Common
186.	Oxyceros longiflorus (Lam.) T.Yamazaki	Native	Vulnerable
187.	Paederia foetida L.	Native	Common
188.	Psychotria ovoidea Wall.	Native	Vulnerable
189.	Psychotria sarmentosa Blume	Native	Critically endangered
190.	<i>Psycholical surmemosa</i> Diane <i>Psydrax</i> sp. 10 of Wong (1989)	Native	Not assessed
191.	Timonius wallichianus (Korth.) Valeton	Native	Common
192.	Uncaria longiflora (Poir.) Merr. var. pteropoda (Miq.)	Native	Critically endangered

S/No.	Species	Nativeness	National Status
	RUTACEAE		
93.	Bergera koenigii L.	Exotic	Casual
94.	Clausena excavata Burm.f.	Native	Common
	SAPINDACEAE		
95.	Dimocarpus longan Lour.	Exotic	Cultivated only
96.	Filicium decipiens (Wight & Arn.) Thwaites ex Hook.f.	Exotic	Cultivated only
97.	Guioa pleuropteris (Blume) Radlk.	Native	Vulnerable
98.	Guioa pubescens (Z. & M.) Radlk.	Native	Vulnerable
99.	Nephelium lappaceum L.	Native	Critically endangered (persistence from cultivation)
	SAPOTACEAE		
00.	Palaquium obovatum (Griff.) Engl.	Native	Vulnerable
01.	Pouteria obovata (R.Br.) Baehni	Native	Vulnerable
	SCHIZAEACEAE		
02.	Lygodium flexuosum (L.) Sw.	Native	Common
03.	Lygodium longifolium (Willd.) Sw.	Native	Vulnerable
.04.	Lygodium microphyllum (Cav.) R.Br.	Native	Common
	SELAGINELLACEAE		
05.	Selaginella argentea (Wall.) Spring	Native	Critically endangered
	SMILACACEAE		
06.	Smilax setosa Miq.	Native	Common
	STRELITZIACEAE		
207.	Strelitzia reginae Aiton	Exotic	Cultivated only
	SYMPLOCACEAE		
08.	Symplocos fasciculata Zoll.	Native	Vulnerable
00	THEACEAE		
09.	Gordonia singaporiana Wall. ex Ridl.	Native	Endangered
10	THELYPTERIDACEAE	NT /	
10.	Amphineuron opulentum (Kaulf.) Holttum	Native	Endangered
11.	Christella subpubescens (Blume) Holttum	Native	Common
12. 13.	Pronephrium triphyllum (Sw.) Holttum Sphaerostephanos heterocarpus (Blume) Holttum	Native Native	Common Common
	URTICACEAE		
214.	Cecropia pachystachya Trécul	Exotic	Naturalised
14.	Pipturus argenteus (G.Forst.) Wedd.	Exotic	Naturalised
216.	VITACEAE Cissus hastata Miq.	Cryptogenic	Cryptogenic
216. 217.	Cissus nastata Miq. Cissus nodosa Blume	Native	Cryptogenic Critically endangered
217. 218.	Leea indica (Burm.f.) Merr.	Native	Common
10.		1 au ve	Common
10	VITTARIACEAE	Native	Common
.19.	Vittaria elongata Sw.	Native	Common

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APPENDIX 2

Mean percentage basal area per plot of sub-canopy and canopy species sampled from Upper Thomson Forest. Species are arranged in descending order of the mean number of stems per plot, except for species with only one individual found out of all the plots, which are arranged in decreasing order of stem size.

S/No.	Species	Mean Percentage Basal Area per Plot ±	Mean No. Of Stems per Plot ±
1.	Hevea brasiliensis	Standard Error of the Mean 1.88 ± 0.42	Standard Error of the Mean 9.60 ± 9.11
2.	Cinnamomum iners	0.97 ± 0.20	4.60 ± 1.81
2. 3.	Dracaena fragrans	0.97 ± 0.20 0.87 ± 0.09	3.20 ± 2.06
<i>4</i> .	Spathodea campanulata	9.98 ± 5.82	2.60 ± 1.94
5.	Nephelium lappaceum	1.76 ± 0.37	2.00 ± 1.54 2.20 ± 0.58
5. 6.	Macaranga bancana	0.35 ± 0.05	1.20 ± 1.20
а. 7.	Artocarpus heterophyllus	0.94 ± 0.32	1.00 ± 1.00
7. 8.	Andira inermis	4.79 ± 3.88	1.00 ± 0.45
9.	Ficus fistulosa	0.56 ± 0.30	0.80 ± 0.58
). 10.	Durio zibethinus	3.34 ± 1.08	0.80 ± 0.49
10.	Aporosa frutescens	0.61 ± 0.17	0.80 ± 0.49 0.80 ± 0.37
11.	Cyathea latebrosa	1.88 ± 0.42	0.60 ± 0.60
12.	Lansium domesticum	0.88 ± 0.40	0.60 ± 0.60
13.	Artocarpus integer	10.74 ± 0.13	0.40 ± 0.40
14.	Claoxylon indicum	2.35 ± 1.21	0.40 ± 0.40
15. 16.	Gnetum gnemon var. gnemon	0.47 ± 0.16	0.40 ± 0.40 0.40 ± 0.40
10. 17.	Indorouchera griffithiana	11.40 ± 10.79	0.40 ± 0.40 0.40 ± 0.40
17.	Lindera lucida	3.41 ± 2.33	0.40 ± 0.40 0.40 ± 0.40
18. 19.	Macaranga gigantea	0.62	0.40 ± 0.40 0.40 ± 0.40
20.	Macaranga griffithiana	1.36 ± 0.80	0.40 ± 0.40
20. 21.	Symplocos fasciculata	6.18 ± 4.91	0.40 ± 0.40 0.40 ± 0.40
21.	Macaranga conifera	8.16 ± 6.41	0.40 ± 0.40 0.40 ± 0.24
22. 23.	Litsea elliptica	56.33	0.40 ± 0.24 0.20 ± 0.20
23. 24.	Peltophorum pterocarpum	15.90	0.20 ± 0.20 0.20 ± 0.20
24. 25.	Vitex pinnata	3.69	0.20 ± 0.20 0.20 ± 0.20
23. 26.	Prunus polystachya	0.70	0.20 ± 0.20 0.20 ± 0.20
20. 27.	Pipturus argenteus	0.41	0.20 ± 0.20 0.20 ± 0.20
27. 28.	Gironniera nervosa	0.41	0.20 ± 0.20 0.20 ± 0.20
28. 29.	Bhesa paniculata	0.29	0.20 ± 0.20 0.20 ± 0.20
29. 30.	Syzygium lineatum	0.22	0.20 ± 0.20 0.20 ± 0.20
30. 31.		0.21	0.20 ± 0.20 0.20 ± 0.20
31.	Macaranga hullettii	0.15	0.20 ± 0.20