



A contribution to trees and shrubs checklist in Pelangai Forest Reserve, Kuala Pilah, Negeri Sembilan

Ahmad Fitri Zohari¹, Mohamad Sobre Zohari², Nur Syamimi Hamzah³, Nik Hazlan Nik Hashim^{4*}, Nik Norafida Nik Ali⁵, Nur 'Aqilah Mustafa Bakray¹, Mohammad Khairul Faizi Zulkifli⁶, Wan Norilani Wan Ismail¹, Mazlin Kusin⁴, Engku Azlin Rahayu Engku Ariff⁴, Khairunnisaa Abd Rasid⁷, Mohd Nizam Mohd Said¹ & Abdul Latiff Mohamad¹

¹Department of Biological Sciences and Biotechnology, Faculty of Science and Technology, Universiti Kebangsaan Malaysia, 43600, Bangi, Selangor

²Apartment Seri Cempaka, Jalan 6/3, Seksyen 16, 43650, Bandar Baru Bangi, Selangor.

³University Health Centre, Universiti Kebangsaan Malaysia, 43600, UKM Bangi, Selangor.

⁴Faculty of Applied Science, Universiti Teknologi MARA Cawangan Pahang, 26400 Bandar Tun Abdul Razak, Jengka, Pahang.

⁵Es Eco Smart Sdn. Bhd., Level 6, Menara ES, No. 9, Persiaran Industri, Bandar Sri Damansara, 52200, Kuala Lumpur, Malaysia.

⁶Laboratory & Instrumentation Secretariat, Faculty of Science and Technology, Universiti Kebangsaan Malaysia, 43600, Bangi, Selangor.

⁷No. 14 Lorong TJI 29, Taman Jengka Indah, 26400 Bandar Tun Abdul Razak, Jengka, Pahang.

Received 7 May 2026; Revised 22 June 2026; Accepted 22 June 2026

Published 30 June 2026

DOI: 10.24191/bioenv.v4i2.156

ABSTRACT. A preliminary floristic study focusing on a checklist of trees and shrubs in Pelangai Forest Reserve, Negeri Sembilan, was conducted during scientific expeditions in June and December 2023. The expeditions were organised by UiTM Kuala Pilah Campus, Negeri Sembilan, to document the biodiversity of flora and fauna in the forest reserve. Voucher and herbarium specimens were collected along forest trails and within two ecological plots measuring 25 m × 20 m. A total of 165 tree and shrub species, representing 122 genera and 47 families, were recorded. Among these, seven species endemic to Peninsular Malaysia were documented, namely *Alphonsea maingayi*, *Cleistanthus ellipticus*, *Dendrokingstonia nervosa*, *Dichapetalum griffithii*, *Diospyros singaporensis*, *Pentace strychnoidea*, and *Ptychopyxis caput-medusae*. Further surveys are recommended to provide a more comprehensive inventory of tree species and other flowering plants in Pelangai Forest Reserve.

Keywords: Pelangai Forest Reserve, trees, shrubs, checklist, lowland forest, endemic

1. INTRODUCTION

Malaysia is recognised as one of the world's megadiversity countries, with its tropical rainforests harbouring more than 12,500 species of vascular plants (Faridah-Hanum & Tipot, 1993; Latiff, 1997). These plant species occur across various forest types, ranging from mixed lowland dipterocarp forests to montane ericaceous forests, as well as edaphic forest formations such as limestone, mangrove, and riparian forests. However, many primary lowland dipterocarp forests in Peninsular Malaysia have been subjected to logging since the 1960s, with some areas converted into plantations or used for other development purposes. Other logged areas have been allowed to regenerate for subsequent logging cycles, while selected forests have been protected and gazetted as permanent forest reserves. In Negeri Sembilan, most permanent forest reserves have experienced past logging activities, except for certain protected areas such as virgin jungle reserves and dynamic ecological plots. Pelangai Forest Reserve, located in the

*Corresponding author:

E-mail address: nikhazlan@uitm.edu.my (Nik Hazlan)

central part of Negeri Sembilan, is one such forest area and is known to support diverse flora and fauna.

Despite its ecological importance, there is currently limited published information on the flora of Pelangai Forest Reserve, particularly its tree and shrub species. Therefore, further floristic studies are required to document the plant diversity of this forest. This study aimed to record tree and shrub species observed along selected forest trails in Pelangai Forest Reserve during the 2023 scientific expedition. The findings are expected to provide preliminary baseline information for future development of a more comprehensive checklist of flowering plants in the forest reserve.

2. METHODOLOGY

2.1. Study Area

Pelangai Forest Reserve was gazetted as a forest reserve on 1 December 1936 and is located in the district of Kuala Pilah, Negeri Sembilan (Figure 1). This forest covered an area of 6,630 ha (Forestry Department of Negeri Sembilan, 2017). About 400 hectares were handed over to UiTM, and some areas were developed to accommodate infrastructure for the UiTM Kuala Pilah Campus facilities. The forest has undergone selective logging with the presence of skid trails, resulting in a scarcity of large trees, particularly dipterocarps.

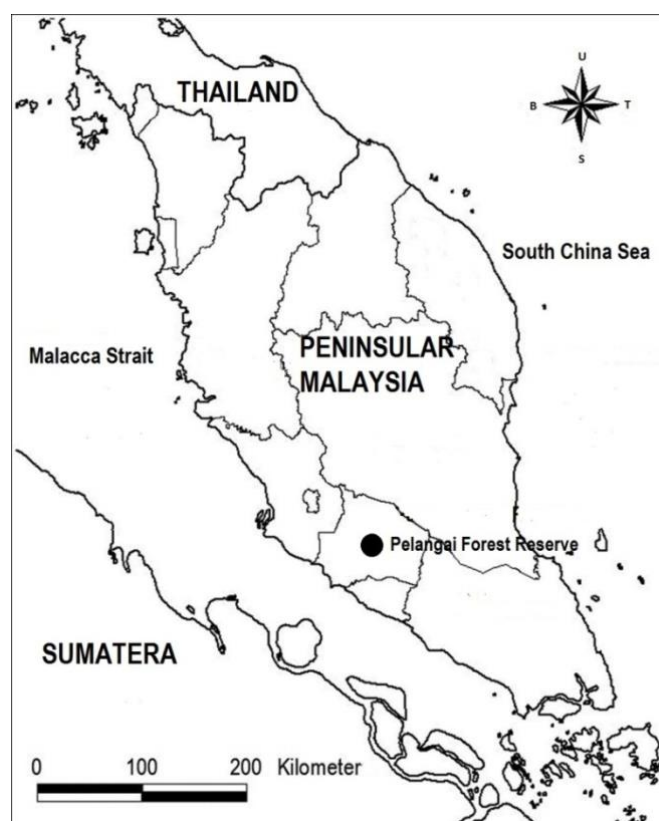


Figure 1. Location of Pelangai Forest Reserve, Kuala Pilah, Negeri Sembilan.

2.2. Sample collection

The study for the checklist of trees and shrubs was conducted in Pelangai Forest Reserve for two days during the

scientific expedition in June and December 2023. Collection of voucher and herbarium specimens was carried out around the forest trails. Additional data were also obtained from two ecological plots with a size of 25 m × 20 m each. All trees with DBH $\geq$ 5.0 cm were tagged and measured. Samples were collected and marked with numbered tags, together with relevant information and photographs were also taken. All specimens that have been collected were identified by family, genus and species. The identification method was used to match the morphological similarities of the specimens with the existing collections from Herbarium, Universiti Kebangsaan Malaysia (UKMB), and Herbarium of Forest Research Institute Malaysia (KEP), as well as using several publications on local floras (Ng, 1978, 1989; Whitmore, 1972, 1973a). All voucher specimens were deposited at the Herbarium of Universiti Kebangsaan Malaysia (UKMB) after drying and identification. The distribution and endemic status in Peninsular Malaysia were determined by Turner (1995) and Royal Botanic Gardens, Kew (2024).

2.3. Data analysis

The data were tabulated into species, genera and families. The abundance and size of certain species were obtained from the ecological plot studies.

3. RESULTS AND DISCUSSION

3.1. The floristic composition

A survey of flora conducted in selected forested trails at Pelangai Forest Reserve recorded a total of 165 species of trees and shrubs, consisting of 122 genera and 47 families (Table 1). The most speciose families are Euphorbiaceae with 13 species, followed by Dipterocarpaceae with 12 species. In the third and fourth rank are Burseraceae and Ebenaceae with nine (9) species each. On the fifth rank, sixth rank, and seventh rank are Annonaceae, Fabaceae and Phyllanthaceae with eight (8) species each. The total number of species in this study is lower compared to previous ecological records due to time constraints (a two-day survey). However, some studies have also documented a lower total number of trees and shrubs, such as Ahmad Fitri et al. (2023) study in Sungai Menyala Forest Reserve, Negeri Sembilan, which recorded a total of 187 species of trees and shrubs, spanning 121 genera and 50 families. This forest exhibits the typical floristic diversity of coastal lowland forests in Peninsular Malaysia.

A similar result was also reported by Ahmad Fitri et al. (2022) from the primary forest of Taman Negara (Pahang). They had listed only 187 species from 124 genera and 49 families. Many species from the common families of Burseraceae, Dipterocarpaceae, Euphorbiaceae, Leguminosae, Myrtaceae and Sapindaceae can also be found in other primary lowland dipterocarp forests, such as Pasoh Forest Reserve and Taman Negara, Pahang.

Table 1. Total number of genera and species for all families of trees and shrubs in selected forest trails at Pelangai Forest Reserve, Negeri Sembilan.

No.	Family	Total number of genus/genera	Total number of species
1	Achariaceae	1	1
2	Anacardiaceae	4	4
3	Anisophylleaceae	1	1

4	Annonaceae	8	8
5	Apocynaceae	2	2
6	Aristolochiaceae	1	1
7	Asparagaceae	1	1
8	Burseraceae	3	9
9	Calophyllaceae	2	2
10	Cannabaceae	1	2
11	Cardiopteridaceae	1	1
12	Clusiaceae	1	3
13	Cornaceae	1	1
14	Dichapetalaceae	1	1
15	Dipterocarpaceae	9	12
16	Ebenaceae	1	9
17	Euphorbiaceae	10	13
18	Fabaceae	8	8
19	Fagaceae	1	1
20	Gentianaceae	1	1
21	Hypericaceae	1	1
22	Ixonanthaceae	1	2
23	Lamiaceae	3	4
24	Lauraceae	5	6
25	Lecythidaceae	1	1
26	Malvaceae	4	5
27	Melastomataceae	5	7
28	Meliaceae	4	4
29	Moraceae	5	7
30	Myristicaceae	2	6
31	Myrtaceae	3	7
32	Olacaceae	1	1
33	Opiliaceae	1	1
34	Pandaceae	1	1
35	Passifloraceae	1	1
36	Pentaphylacaceae	1	1
37	Phyllanthaceae	5	8
38	Polygalaceae	1	1
39	Primulaceae	2	2
40	Putranjivaceae	1	1
41	Rhizophoraceae	2	2
42	Rubiaceae	5	5
43	Rutaceae	3	3
44	Salicaceae	1	1
45	Sapindaceae	2	3

46	Sapotaceae	2	2
47	Simaroubaceae	1	1
Total		122	165

The largest genus is *Diospyros* (Ebenaceae) with nine species, followed by *Knema* (Myristicaceae) and *Syzygium* (Myrtaceae) with five species each (Table 2). *Dacryodes* (Burseraceae) and *Rubroshorea* (Dipterocarpaceae) are fourth and fifth ranked with four species each.

Table 2. The 10 most speciose genera in selected forest trails at Pelangai Forest Reserve, Kuala Pilah, Negeri Sembilan.

Genus	Family	Total number of species
<i>Diospyros</i>	Ebenaceae	9
<i>Knema</i>	Myristicaceae	5
<i>Syzygium</i>	Myrtaceae	5
<i>Dacryodes</i>	Burseraceae	4
<i>Rubroshorea</i>	Dipterocarpaceae	4
<i>Baccaurea</i>	Phyllanthaceae	3
<i>Canarium</i>	Burseraceae	3
<i>Garcinia</i>	Clusiaceae	3
<i>Macaranga</i>	Euphorbiaceae	3
<i>Memecylon</i>	Melastomataceae	3

3.2. The common species

The common trees, treelets and shrubs species in this study include *Adinobotrys atropurpureus*, *Aidia densiflora*, *Anisophyllea corneri*, *Artocarpus lanceifolius*, *Baccaurea parviflora*, *Canarium patentinervium*, *Cleistanthus ellipticus*, *Endospermum diadenum*, *Lepisanthes senegalensis*, *Microcos fibrocarpa*, *Pentace strychnoidea*, *Pternandra echinata*, *Richetia multiflora* and *Sindora coriacea*.

3.3. Endemic species

A total of seven species are listed as endemic to Peninsular Malaysia, namely *Alphonsea maingayi*, *Cleistanthus ellipticus*, *Dendrokingstonia nervosa*, *Dichapetalum griffithii*, *Diospyros singaporensis*, *Pentace strychnoidea* and *Ptychopyxis caput-medusae* (Table 3). Six species occurred in four or more states in Peninsular Malaysia. Only *Cleistanthus ellipticus* is distributed in two states: Terengganu and Perak (Whitmore, 1973b).

Table 3. The list of endemic taxa for Peninsular Malaysia in selected forest trails at Pelangai Forest Reserve, Kuala Pilah, Negeri Sembilan.

Species	Family	Distribution	Habitat
<i>Alphonsea maingayi</i> Hook.f. & Thomson	Annonaceae	Pk, Sl, NS, MI, Jh	lowland forest
<i>Cleistanthus ellipticus</i> Hook.f.	Phyllanthaceae	Tg, Pk	rocky lowland forest

<i>Dendrokingstonia nervosa</i> (Hook.f. & Thomson) Rauschert	Annonaceae	Pk, Ph, Sl, NS, MI	lowland forest
<i>Dichapetalum griffithii</i> (Hook.f.) Engl.	Dichapetalaceae	Pk, Sl, NS, MI	lowland forest
<i>Diospyros singaporensis</i> Bakh.	Ebenaceae	Kd, Pk, Ph, Sl, NS, MI, Jh	lowland & hill forest
<i>Pentace strychnoidea</i> King	Malvaceae	Kd, Kl, Tg, Pk, Ph, Sl, NS	lowland & hill forest
<i>Ptychopyxis caput-medusae</i> (Hook.f.) Ridl.	Euphorbiaceae	Kl, Tg, Pk, Ph, Sl, NS, MI	lowland & hill forest

Note: Kd = Kedah, Pn = Pulau Pinang, Pk = Perak, Sl = Selangor, NS = Negeri Sembilan, MI = Melaka, Jh = Johor, Ph = Pahang, Kl = Kelantan, Tg = Terengganu

3.4. The Checklist of Trees and Shrubs

A list of families, genera and species of flowering plants in alphabetical order is presented in Table 4. The habit of all species is also given as "tree" or "shrub". The status of endemism is also included.

Table 4. The checklist of trees and shrubs in selected forest trails at Pelangai Forest Reserve, Kuala Pilah, Negeri Sembilan.

No.	Species	Family	Habit	Endemism
1	<i>Actinodaphne pruinosa</i> Nees	Lauraceae	Tree	
2	<i>Adenanthera malayana</i> Kosterm.	Fabaceae	Tree	
3	<i>Adina eurhyncha</i> (Miq.) Å.Krüger & Löfstrand	Rubiaceae	Tree	
4	<i>Adinobotrys atropurpureus</i> (Wall.) Dunn	Fabaceae	Tree	
5	<i>Aidia densiflora</i> (Wall.) Masam.	Rubiaceae	Tree	
6	<i>Alangium ebenaceum</i> (C.B.Clarke) Harms	Cornaceae	Tree	
7	<i>Alphonsea maingayi</i> Hook.f. & Thomson	Annonaceae	Tree	Endemic
8	<i>Alstonia angustiloba</i> Miq.	Apocynaceae	Tree	
9	<i>Anaxagorea javanica</i> Blume	Annonaceae	Treelet	
10	<i>Anisophyllea corneri</i> Ding Hou	Anisophylleaceae	Tree	
11	<i>Anthoshorea bracteolata</i> (Dyer) P.S.Ashton & J.Heck.	Dipterocarpaceae	Tree	
12	<i>Aporosa aurea</i> Hook.f.	Phyllanthaceae	Tree	
13	<i>Aporosa microstachya</i> (Tul.) Müll.Arg.	Phyllanthaceae	Treelet	
14	<i>Archidendron bubalinum</i> (Jack) I.C. Nielsen	Fabaceae	Tree	
15	<i>Ardisia crenata</i> Sims	Primulaceae	Shrub	
16	<i>Artocarpus lanceifolius</i> Roxb.	Moraceae	Tree	
17	<i>Artocarpus lamellosus</i> Blanco	Moraceae	Tree	
18	<i>Baccaurea brevipes</i> Hook.f.	Phyllanthaceae	Treelet	
19	<i>Baccaurea javanica</i> (Blume) Müll.Arg.	Phyllanthaceae	Tree	
20	<i>Baccaurea parviflora</i> (Müll.Arg.) Müll.Arg.	Phyllanthaceae	Treelet	
21	<i>Balakata baccata</i> (Roxb.) Esser	Euphorbiaceae	Tree	
22	<i>Barringtonia macrostachya</i> (Jack) Kurz	Lecythidaceae	Tree	
23	<i>Beilschmiedia madang</i> Blume	Lauraceae	Tree	
24	<i>Buchanania sessifolia</i> Blume	Anacardiaceae	Tree	

25	<i>Calophyllum macrocarpum</i> Hook.f.	Calophyllaceae	Tree	
26	<i>Canarium littorale</i> Blume	Burseraceae	Tree	
27	<i>Canarium patentinervium</i> Miq.	Burseraceae	Tree	
28	<i>Canarium pilosum</i> Benn.	Burseraceae	Tree	
29	<i>Champereia manillana</i> (Blume) Merr.	Opiliaceae	Treelet	
30	<i>Chisocheton tomentosus</i> (Roxb.) Mabb.	Meliaceae	Tree	
31	<i>Donella lanceolata</i> (Blume) Aubrév.	Sapotaceae	Tree	
32	<i>Cinnamomum mollissimum</i> Hook.f.	Lauraceae	Tree	
33	<i>Cleistanthus ellipticus</i> Hook.f.	Phyllanthaceae	Tree	Endemic
34	<i>Clerodendrum laevifolium</i> Blume	Lamiaceae	Shrub	
35	<i>Miconia crenata</i> (Vahl) Michelang.	Melastomataceae	Shrub	
36	<i>Cratoxylum formosum</i> (Jack) Dyer	Hypericaceae	Tree	
37	<i>Croton argyratus</i> Blume	Euphorbiaceae	Tree	
38	<i>Cryptocarya ferrea</i> Blume	Lauraceae	Tree	
39	<i>Dacryodes costata</i> (Benn.) H.J. Lam	Burseraceae	Tree	
40	<i>Dacryodes longifolia</i> (King) H.J. Lam	Burseraceae	Tree	
41	<i>Dacryodes rostrata</i> (Blume) H.J. Lam	Burseraceae	Tree	
42	<i>Dacryodes rugosa</i> (Blume) H.J. Lam	Burseraceae	Tree	
43	<i>Decaspermum parviflorum</i> (Lam.) A.J. Scott ssp. <i>quadripartitum</i> J. Parn. & Nic Lughadha	Myrtaceae	Tree	
44	<i>Dendrokingstonia nervosa</i> (Hook.f. & Thomson) Rauschert	Annonaceae	Tree	Endemic
45	<i>Desmos chinensis</i> Lour.	Annonaceae	Shrub	
46	<i>Dialium platysepalum</i> Baker	Fabaceae	Tree	
47	<i>Dichapetalum griffithii</i> (Hook.f.) Engl.	Dichapetalaceae	Shrub	Endemic
48	<i>Tritaxis muricata</i> (Hook.f.) R.Y.Yu & Welzen	Euphorbiaceae	Treelet	
49	<i>Diospyros apiculata</i> Hiern	Ebenaceae	Tree	
50	<i>Diospyros argentea</i> Griff.	Ebenaceae	Tree	
51	<i>Diospyros buxifolia</i> (Blume) Hiern	Ebenaceae	Tree	
52	<i>Diospyros confertiflora</i> (Hiern) Bakh.	Ebenaceae	Tree	
53	<i>Diospyros ismailii</i> Ng	Ebenaceae	Tree	
54	<i>Diospyros singaporensis</i> Bakh.	Ebenaceae	Tree	Endemic
55	<i>Diospyros</i> sp.	Ebenaceae	Tree	
56	<i>Diospyros venosa</i> Wall. ex A. DC. var. <i>venosa</i>	Ebenaceae	Tree	
57	<i>Diospyros wallichii</i> King & Gamble ex F.N. Williams	Ebenaceae	Tree	
58	<i>Discospermum malaccense</i> (Hook.f.) Kuntze	Rubiaceae	Tree	
59	<i>Dipterocarpus cornutus</i> Dyer	Dipterocarpaceae	Tree	
60	<i>Dracaena elliptica</i> Thunb. & Dalm.	Asparagaceae	Shrub	
61	<i>Drimycarpus luridus</i> (Hook.f.) Ding Hou	Anacardiaceae	Tree	
62	<i>Drypetes longifolia</i> (Blume) Pax & K. Hoffm.	Putranjivaceae	Tree	
63	<i>Pseudocarapa dumosa</i> (King) Holzmeyer & Mabb.	Meliaceae	Treelet	

64	<i>Elateriospermum tapos</i> Blume	Euphorbiaceae	Tree
65	<i>Endospermum diadenum</i> (Miq.) Airy Shaw	Euphorbiaceae	Tree
66	<i>Epicharis cuneata</i> (Hiern) Harms	Meliaceae	Tree
67	<i>Epiprinus malayanus</i> Griff.	Euphorbiaceae	Tree
68	<i>Eurya acuminata</i> DC.	Pentaphylacaceae	Treelet
69	<i>Eurycoma longifolia</i> Jack	Simaroubaceae	Treelet
70	<i>Fagraea</i> sp.	Gentianaceae	Treelet
71	<i>Ficus chartacea</i> (Wall. ex Kurz) Wall. ex King	Moraceae	Treelet
72	<i>Ficus grossularioides</i> Burm.f. var. <i>grossularioides</i>	Moraceae	Treelet
73	<i>Garcinia mangostana</i> var. <i>malaccensis</i> (Hook.f.) Nazre	Clusiaceae	Tree
74	<i>Garcinia parvifolia</i> (Miq.) Miq.	Clusiaceae	Tree
75	<i>Garcinia prainiana</i> King	Clusiaceae	Treelet
76	<i>Gironniera nervosa</i> Planch.	Cannabaceae	Tree
77	<i>Gironniera subaequalis</i> Planch.	Cannabaceae	Tree
78	<i>Glochidion glomerulatum</i> (Miq.) Boerl.	Phyllanthaceae	Treelet
79	<i>Gluta macrocarpa</i> (Engl.) Ding Hou	Anacardiaceae	Tree
80	<i>Glycosmis chlorosperma</i> Spreng. var. <i>chlorosperma</i>	Rutaceae	Shrub
81	<i>Gonocaryum gracile</i> Miq.	Cardiopteridaceae	Treelet
82	<i>Gymnacranthera farquhariana</i> (Hook.f. & Thomson) Warb. var. <i>eugeniifolia</i> (A. DC.) R.T.A. Schouten	Myristicaceae	Tree
83	<i>Gynotroches axillaris</i> Blume	Rhizophoraceae	Tree
84	<i>Heritiera simplicifolia</i> (Mast.) Kosterm.	Malvaceae	Tree
85	<i>Homalium longifolium</i> Benth.	Salicaceae	Tree
86	<i>Hopea dryobalanoides</i> Miq.	Dipterocarpaceae	Tree
87	<i>Huberantha rumphii</i> (Blume ex Hensch.) Chaowasku	Annonaceae	Tree
88	<i>Hullettia dumosa</i> King ex Hook.f.	Moraceae	Treelet
89	<i>Ixonanthes icosandra</i> Jack	Ixonanthaceae	Tree
90	<i>Ixonanthes reticulata</i> Jack	Ixonanthaceae	Tree
91	<i>Kayea lepidota</i> (T.Anderson) Pierre	Calophyllaceae	Tree
92	<i>Knema curtisii</i> (King) Warb. var. <i>curtisii</i>	Myristicaceae	Treelet
93	<i>Knema hookeriana</i> (Wall. ex Hook.f. & Thomson) Warb.	Myristicaceae	Tree
94	<i>Knema laurina</i> (Blume) Warb.	Myristicaceae	Treelet
95	<i>Knema patentinervia</i> (J. Sinclair) W.J. de Wilde	Myristicaceae	Tree
96	<i>Knema stenophylla</i> (Warb.) J. Sinclair	Myristicaceae	Treelet
97	<i>Koompassia malaccensis</i> Maing. ex Benth.	Fabaceae	Tree
98	<i>Lepisanthes senegalensis</i> (Poir.) Leenh.	Sapindaceae	Tree
99	<i>Lijndenia laurina</i> Zoll. & Moritzi	Melastomataceae	Tree
100	<i>Lithocarpus lucidus</i> (Roxb.) Rehder	Fagaceae	Tree
101	<i>Litsea ferruginea</i> (Blume) Blume	Lauraceae	Tree
102	<i>Litsea grandis</i> (Wall. ex Nees) Hook.f.	Lauraceae	Tree

103	<i>Macaranga gigantea</i> (Rchb.f. & Zoll.) Müll.Arg.	Euphorbiaceae	Tree	
104	<i>Macaranga hosei</i> King ex Hook.f.	Euphorbiaceae	Tree	
105	<i>Macaranga lowii</i> King ex Hook.f.	Euphorbiaceae	Treelet	
106	<i>Maclurodendron porteri</i> (Hook.f.) T.G. Hartley	Rutaceae	Tree	
107	<i>Maesa ramentacea</i> Wall. ex Roxb.	Primulaceae	Tree	
108	<i>Mangifera quadrifida</i> Jack	Anacardiaceae	Tree	
109	<i>Melicope glabra</i> (Blume) T.G. Hartley	Rutaceae	Tree	
110	<i>Memecylon amplexicaule</i> Roxb.	Melastomataceae	Tree	
111	<i>Memecylon intermedium</i> Blume	Melastomataceae	Tree	
112	<i>Memecylon paniculatum</i> Jack	Melastomataceae	Treelet	
113	<i>Microcos fibrocarpa</i> (Mast.) Burret	Malvaceae	Treelet	
114	<i>Microdesmis caseariifolia</i> Planch.	Pandaceae	Treelet	
115	<i>Monocarpia maingayi</i> (Hook.f. & Thomson) I.M.Turner	Annonaceae	Tree	
116	<i>Neobalanocarpus heimii</i> (King) P.S. Ashton	Dipterocarpaceae	Tree	
117	<i>Oxyspora bullata</i> (Griff.) J.F. Maxwell	Melastomataceae	Shrub	
118	<i>Parartocarpus bracteatus</i> (King) Becc.	Moraceae	Tree	
119	<i>Parkia speciosa</i> Hassk.	Fabaceae	Tree	
120	<i>Paropsia vareciformis</i> (Griff.) Mast.	Passifloraceae	Tree	
121	<i>Payena lucida</i> A. DC.	Sapotaceae	Tree	
122	<i>Pellacalyx saccardianus</i> Scort.	Rhizophoraceae	Tree	
123	<i>Pentace strychnoidea</i> King	Malvaceae	Tree	Endemic
124	<i>Phyllanthus oxyphyllus</i> Miq.	Phyllanthaceae	Shrub	
125	<i>Pimelodendron griffithianum</i> (Müll.Arg.) Benth.	Euphorbiaceae	Tree	
126	<i>Popowia fusca</i> King	Annonaceae	Tree	
127	<i>Porterandia anisophylla</i> (Jack ex Roxb.) Ridl.	Rubiaceae	Tree	
128	<i>Pternandra echinata</i> Jack	Melastomataceae	Tree	
129	<i>Ptychopyxis caput-medusae</i> (Hook.f.) Ridl.	Euphorbiaceae	Tree	Endemic
130	<i>Ptychopyxis costata</i> Miq. var. <i>oblanceolata</i> Airy Shaw	Euphorbiaceae	Treelet	
131	<i>Rhodamnia cinerea</i> Jack	Myrtaceae	Tree	
132	<i>Richetia multiflora</i> (Burck) P.S.Ashton & J.Heck.	Dipterocarpaceae	Tree	
133	<i>Rubroshorea acuminata</i> (Dyer) P.S.Ashton & J.Heck.	Dipterocarpaceae	Tree	
134	<i>Ryparosa fasciculata</i> King	Achariaceae	Treelet	
135	<i>Santiria apiculata</i> Benn. var. <i>apiculata</i>	Burseraceae	Tree	
136	<i>Santiria tomentosa</i> Blume	Burseraceae	Tree	
137	<i>Saraca declinata</i> (Jack) Miq.	Fabaceae	Tree	
138	<i>Scaphium linearicarpum</i> (Mast.) Pierre	Malvaceae	Tree	
139	<i>Scaphium macropodum</i> (Miq.) Beumée ex Heyne	Malvaceae	Tree	
140	<i>Shorea guiso</i> (Blanco) Blume	Dipterocarpaceae	Tree	
141	<i>Rubroshorea leprosula</i> (Miq.) P.S.Ashton & J.Heck.	Dipterocarpaceae	Tree	

142	<i>Rubroshorea macroptera</i> (Dyer) P.S.Ashton & J.Heck.	Dipterocarpaceae	Tree
143	<i>Rubroshorea parvifolia</i> (Dyer) P.S.Ashton & J.Heck.	Dipterocarpaceae	Tree
144	<i>Rubroshorea ovalis</i> (Korth.) P.S.Ashton & J.Heck.	Dipterocarpaceae	Tree
145	<i>Sindora coriacea</i> (Baker) Maingay ex Prain	Fabaceae	Tree
146	<i>Strombosia ceylanica</i> Gardn.	Olacaceae	Tree
147	<i>Syzygium acuminatissimum</i> (Blume) DC.	Myrtaceae	Tree
148	<i>Syzygium chloranthum</i> (Duthie) Merr. & L.M. Perry	Myrtaceae	Tree
149	<i>Syzygium dyerianum</i> (King) P. Chantaranonthai & J. Parn.	Myrtaceae	Tree
150	<i>Syzygium rugosum</i> Korth. var. <i>rugosum</i>	Myrtaceae	Tree
151	<i>Syzygium watsonianum</i> (M.R. Hend.) I.M. Turner	Myrtaceae	Tree
152	<i>Tabernaemontana macrocarpa</i> Jack	Apocynaceae	Tree
153	<i>Taxotrophis taxoides</i> (B.Heyne ex Roth) Chew ex E.M.Gardner	Moraceae	Treelet
154	<i>Teijsmanniodendron coriaceum</i> (C.B. Clarke) Kosterm.	Lamiaceae	Tree
155	<i>Thottea grandiflora</i> Rottb.	Aristolochiaceae	Shrub
156	<i>Timonius wallichianus</i> (Korth.) Valetton	Rubiaceae	Treelet
157	<i>Trigonostemon malaccanus</i> Müll.Arg.	Euphorbiaceae	Shrub
158	<i>Vatica hullettii</i> (Ridl.) P.S. Ashton	Dipterocarpaceae	Treelet
159	<i>Vitex pinnata</i> L.	Lamiaceae	Tree
160	<i>Vitex vestita</i> Wall. ex Schauer	Lamiaceae	Treelet
161	<i>Walsura pinnata</i> Hassk.	Meliaceae	Tree
162	<i>Xanthophyllum eurhynchum</i> Miq.	Polygalaceae	Tree
163	<i>Xerospermum laevigatum</i> Radlk.	Sapindaceae	Tree
164	<i>Xerospermum noronhianum</i> (Blume) Blume	Sapindaceae	Tree
165	<i>Xylophia ferruginea</i> (Hook.f. & Thomson) Hook.f. & Thomson var. <i>ferruginea</i>	Annonaceae	Tree

4. CONCLUSION

This study provides a preliminary checklist of trees and shrubs in Pelangai Forest Reserve, one of the remaining logged-over lowland dipterocarp forests in Negeri Sembilan. A total of more than 160 tree and shrub species were recorded, including seven species endemic to Peninsular Malaysia. Several species documented in this study, such as *Artocarpus lanceifolius*, *Baccaurea parviflora*, and *Endospermum diadenum*, are also commonly found in other lowland dipterocarp forests. These findings indicate that Pelangai Forest Reserve continues to support notable floristic diversity despite its history as a logged-over forest. Further botanical surveys are recommended to produce a more comprehensive inventory of the flora and to improve understanding of plant species composition, distribution, and conservation value within the forest reserve.

ACKNOWLEDGEMENTS

The authors would like to thank the management of UiTM Kuala Pilah Campus for their invitation and permission to carry out this study. Special thanks to Mrs. Sarah Shazwani Zakaria and Mr. Kairizan Zainal for the assistance during the fieldwork in June and December 2023.

AUTHOR CONTRIBUTIONS

Ahmad Fitri Zohari: conceptualization, data curation, supervision, writing, review and editing; **Mohamad Sobre Zohari**: data collection; **Nur Syamimi Hamzah**: writing, review and editing; **Nik Hazlan Nik Hashim**: supervision, writing, review and editing; **Nik Norafida Nik Ali**: conceptualization, data curation; **Nur ‘Aqilah Mustafa Bakray**: writing, review and editing; **Mohamad Khairul Faizi Zulkifli**: data collection; **Wan Norilani Wan Ismail**: conceptualization, data curation; **Mazlin Kusin**: data collection; **Engku Azlin Rahayu Engku Ariff**: data collection; **Khairunnisaa Abd Rasid**: writing, review and editing; **Mohd Nizam Mohd Said**: writing, review and editing and **Abdul Latiff Mohamad**: supervision, writing, review and editing.

FUNDING

This work was self-funded by the authors.

DECLARATION OF GENERATIVE AI IN THE WRITING PROCESS

The authors declared that no AI tool was used during the writing process.

DATA AVAILABILITY

Not applicable.

COMPETING INTEREST

The authors declare that there are no competing interests.

COMPLIANCE WITH ETHICAL STANDARDS

Not applicable.

SUPPLEMENTARY MATERIAL

No supplementary material is associated with this article.

REFERENCES

Ahmad Fitri, Z., Nik Hazlan, N.H., Kusin, M., Faezah, P., Asmida, I., Sarmin, S.N., Ariff, E.A.R.E., Hashim, T.T.M.Z., Syarifah Haniera, S.K., Yamani, S.A.K., & Nazip, S. (2022). A contribution to trees and shrubs checklist in Kuala Keniam at Taman Negara, Pahang, Malaysia. *IOP Conference Series: Earth and Environmental Science*, 1019(1), 012029. <https://doi.org/10.1088/1755-1315/1019/1/012029>

Ahmad Fitri, Z., Nur ‘Aqilah, M. B., Mohammad Khairul Faizi, Z., Nizam, M. S., Nik Hazlan, N. H., Nik Norafida, N. A., Wan Norilani, W. I., Noraini, T. & Latiff, A. (2023). Towards a flora of Sungai Menyala Forest Reserve: A

contribution to trees and shrubs checklist. In Hamidi Abd. Halim, Nuazri Sedik, Umikalsum Nan, Siti Norhayati Mohamad Mastar, Noor Izianti Ishak & A. Latiff (Eds). *Hutan Simpan Sungai Menyala, Port Dickson, Negeri Sembilan: Persekitaran fizikal dan kepelbagaian biologi*. Siri Kepelbagaian Biologi Hutan. No. 28, Jabatan Perhutanan Negeri Sembilan, Seremban, pp. 207-226.

Faridah-Hanum, I. & Tipot, L. (1993). Status of tree taxonomy in Southern Asia with special reference to Malaysia. In Griffin, T., Faridah-Hanum, I., Soerianegara, I., Enriquez, G.L. & Umboh, T. (eds.). *Taxonomy of tropical trees for genetic diversity studies*, BIOTROP, Bogor: pp. 13–19.

Forestry Department of Negeri Sembilan (2017). *Laporan Tahunan*. Forestry Department of Negeri Sembilan, Seremban.

Latiff, A. (1997). *Kepelbagaian tumbuhan: Status sumber alam Malaysia*. In Hassan, M. N., Latiff, A. & Zakri, A.H. (Eds) *Kepelbagaian biologi implikasi kepada Malaysia*. Penerbit Universiti Kebangsaan Malaysia, Bangi, pp. 52–83.

Ng, F. S. P. (1978). *Tree flora of Malaya*. Volume 3. Longman Malaysia Sdn. Berhad, Kuala Lumpur.

Ng, F. S. P. (1989). *Tree flora of Malaya*. Volume 4, Longman Malaysia Sdn. Berhad, Petaling Jaya.

Royal Botanic Gardens, Kew (2024). Plants of the World Online. Available from <https://powo.science.kew.org/>. Access online 18 March 2026.

Turner, I.M. (1995). A catalogue of the vascular plant of Malaya. *Gardens' Bulletin Singapore*, 47(1), 1–757.

Whitmore, T. C. (1972). *Tree flora of Malaya*. Volume 1. Longman Malaysia Sdn. Berhad, Kuala Lumpur.

Whitmore, T. C. (1973a). *Tree flora of Malaya*. Volume 2. Longman Malaysia Sdn. Berhad, Kuala Lumpur.

Whitmore, T. C. (1973b). Euphorbiaceae. In Whitmore, T.C. (Ed). *Tree flora of Malaya*. Volume 2, Longman Malaysia Sdn. Berhad, Kuala Lumpur, pp. 34-136.



© 2026 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY-NC-ND) license (<http://creativecommons.org/licenses/by/4.0/>).