



Wild fruit trees in Pelangai Forest Reserve, Kuala Pilah, Negeri Sembilan

Nik Hazlan Nik Hashim¹, Ahmad Fitri Zohari^{2*}, Mohamad Sobre Zohari³, Nur Syamimi Hamzah⁴, Nik Norafida Nik Ali⁵, Nur 'Aqilah Mustafa Bakray², Mohammad Khairul Faizi Zulkifli⁶, Wan Norilani Wan Ismail² Mazlin Kusin¹, Engku Azlin Rahayu Engku Ariff¹, Khairunnisaa Abd Rasid⁷, Mohd Nizam Mohd Said² & Abdul Latiff Mohamad²

¹Faculty of Applied Science, Universiti Teknologi MARA Cawangan Pahang, 26400 Bandar Tun Abdul Razak, Jengka, Pahang.

²Department of Biological Sciences and Biotechnology, Faculty of Science and Technology, Universiti Kebangsaan Malaysia, 43600, Bangi, Selangor

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

⁴University Health Centre, Universiti Kebangsaan Malaysia, 43600, UKM Bangi, Selangor.

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 26 June 2026; Accepted 27 June 2026

Published 29 June 2026

DOI: 10.24191/bioenv.v4i2.157

ABSTRACT. A checklist of wild fruit trees in Pelangai Forest Reserve, Kuala Pilah, Negeri Sembilan was provided. Data collection was carried out around the forest trail randomly. A total of 19 species within 13 genera and 10 families of wild fruit trees were recorded. Three families, namely Clusiaceae, Fabaceae and Phyllanthaceae had the largest number of species, with three species each. The common species include *Artocarpus lanceifolius*, *Baccaurea parviflora*, *Lepisanthes senegalensis* and *Microcos fibrocarpa*. The total number of wild fruit tree species in this forest can be considered low for a lowland dipterocarp forest that had been logged. However, the maintenance and conservation of wild fruit trees are important as food resources for frugivores which inhabit this logged-over forest.

Keywords: Wild fruit trees, Pelangai Forest Reserve, Clusiaceae, Sapindaceae

1. INTRODUCTION

Wild fruit trees are trees that have fruit or edible seeds (Kochummen, 1990) and have long been recognized by local people since ancient times. Certain genera or species such as *Artocarpus*, *Baccaurea*, *Castanopsis*, *Durio zibethinus*, *Garcinia mangostana*, *Mangifera spp.*, *Nephelium lappaceum* and *Parkia speciosa* have been long recognized and also cultivated for their fruits. In general, the wild fruits were collected from trees that grow wild in the forests or from trees that are grown on a small scale around their villages or homes. They may collect wild fruits for their own consumption or for sale on a small scale.

Nevertheless, studies on wild fruit trees mainly from the diversity of species found in the forests of Peninsular Malaysia are still lacking and restricted to the particular area. Several studies have been conducted to determine the composition and diversity of wild fruit trees including Kochummen (1990), Salma et al. (2000), Saw et al. (1991), Whitmore (1971) and Ahmad Fitri et al. (2014). Most of the study was conducted in the primary rainforest and only

*Corresponding author:

E-mail address: ahmadfitri@ukm.edu.my (Ahmad Fitri)

the study by Ahmad Fitri et al. (2014) was carried out in the logged-over forest. Therefore, the data of wild fruit trees species from logged-over forests is still inadequate. For this purpose, a study was conducted in the logged-over forest of Pelangai Forest Reserve to provide a checklist of wild fruit trees that occurred in this forest.

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). The forest reserve covers an area of approximately 6,630 ha (Forestry Department of Negeri Sembilan, 2017). About 400 ha of the area were later allocated to UiTM, with some portions developed to accommodate infrastructure for the new campus and related facilities. Pelangai Forest Reserve has undergone selective logging in the past, as indicated by the presence of skid trails and the scarcity of large trees, particularly dipterocarps. Based on its current vegetation condition, the area can be classified as a regenerating lowland dipterocarp forest.

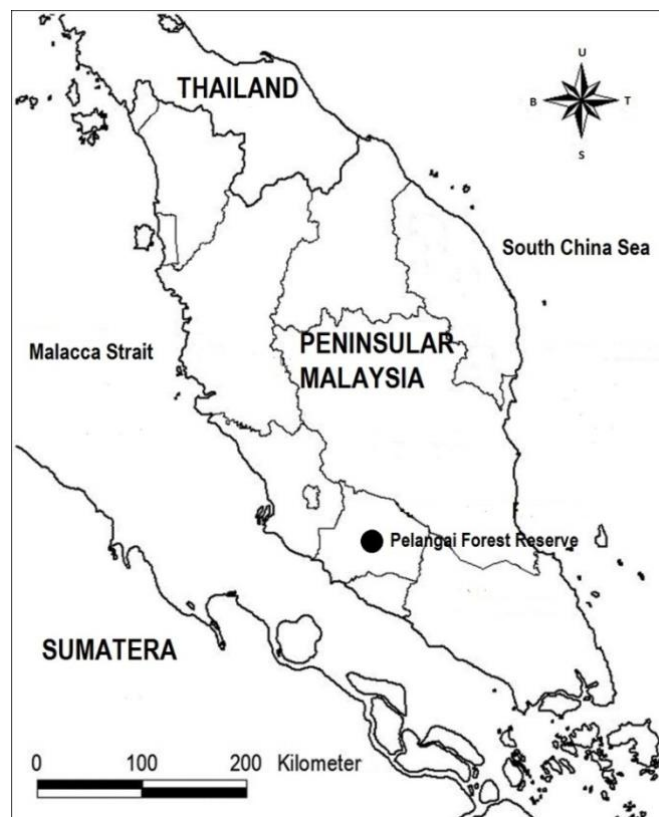


Figure 1. Geographical location of Pelangai Forest Reserve, Kuala Pilah, Negeri Sembilan, Malaysia.

2.2. Sample collections

Samples of wild fruit trees, mostly the leaf samples, were collected randomly within the UiTM area, around the forest trail, during the fieldwork. Samples from small trees were collected using a pole, while for the taller trees, a catapult or binoculars were used. Common specimens were recorded directly in the field without involving the collection of specimens. Then, the specimens were cured and processed by following the method of Bridson and Forman (1992) and kept in the oven for one week at 60 °C. Local flora books such as Tree Flora of Malaya (Ng, 1978, 1989;

Whitmore, 1972, 1973) were used for identification and to obtain information about the status of edible fruit trees. Selected publications related to wild fruit tree species were also reviewed (Saw et al., 1991; Whitmore, 1971).

2.3. Data analysis

The data were tabulated into species, genera and families. Information on the abundance and size of certain species were obtained from the ecological plot studies (two plots with dimensions of 25 m × 20 m with DBH of ≥ 5.0 cm).

3. RESULTS AND DISCUSSION

3.1. The floristic composition

A total of 19 species of wild fruit trees from 13 genera and 10 families was recorded (Table 1). Three families, namely Clusiaceae, Fabaceae and Phyllanthaceae had the largest number of species, with three species each.

Table 1. Total number of genus/genera and species for all families of wild fruit trees in Pelangai Forest Reserve, Kuala Pilah, Negeri Sembilan.

Family	Total number of genus/genera	Total number of species
Anacardiaceae	1	1
Burseraceae	1	1
Calophyllaceae	1	1
Euphorbiaceae	1	1
Malvaceae	2	2
Moraceae	1	2
Sapindaceae	1	2
Clusiaceae	1	3
Fabaceae	3	3
Phyllanthaceae	1	3
Total	13	19

Based on the data obtained, the number of species of wild fruit trees in Pelangai Forest Reserve was lower compared with other lowland dipterocarp forests in Peninsular Malaysia. For instance, the study by Ahmad Fitri et al. (2014) in the lowland dipterocarp forest at Gunung Tebu Forest Reserve, Terengganu, recorded a total of 34 species from 15 genera and 12 families. Similar results were also reported by Ahmad Fitri et al. (2016) in the lowland dipterocarp forest at Kledang Saiong Forest Reserve, Perak. They recorded as many as 31 species of wild fruit trees from 13 genera and 10 families. In Kuala Keniam, Taman Negara, Pahang, Nik Hazlan et al. (2022) reported 41 species of wild fruit trees from 19 genera and 11 families. Clusiaceae was listed as the highest, with 10 species (24.4%), while *Garcinia* recorded the highest total number of species, also with 10 species.

The low total number of wild fruit tree species was also reported in the primary lowland forest in Negeri Sembilan. A study by Ahmad Fitri et al. (2023) reported that a total of 22 species from 15 genera and 12 families of wild fruit trees had been recorded in Sungai Menyala Forest Reserve. Clusiaceae and Sapindaceae are the most speciose

families, with four taxa followed by Euphorbiaceae with three taxa.

In Pelangai Forest Reserve, the common species include *Artocarpus lanceifolius*, *Baccaurea parviflora*, *Lepisanthes senegalensis*, *Microcos fibrocarpa*. The largest stand was *Xerospermum laevigatum*, with a DBH of 105.0 cm and 35 m tall. One stand of *Parkia speciosa* has a DBH of 47.1 cm, while a stand of *Artocarpus lanceifolius* have a DBH of 37.7 cm. A full list of wild fruit trees species is shown in Table 2. A further detailed survey is needed to gather more information on the importance of wild fruit trees in this forest, including the data on mature and juvenile individuals.

Table 2. Full checklist of wild fruit tree species in Pelangai Forest Reserve, Kuala Pilah, Negeri Sembilan.

No.	Species	Family	Vernacular name
1	<i>Archidendron bubalinum</i> (Jack) I.C. Nielsen	Fabaceae	Kerdas
2	<i>Artocarpus lanceifolius</i> Roxb.	Moraceae	Terap hitam
3	<i>Artocarpus lamellosus</i> Blanco	Moraceae	Tampang
4	<i>Baccaurea brevipes</i> Hook.f.	Phyllanthaceae	Rambai tikus, rambai ayam, rambai hutan
5	<i>Baccaurea javanica</i> (Blume) Müll.Arg.	Phyllanthaceae	Tampoi
6	<i>Baccaurea parviflora</i> (Müll.Arg.) Müll.Arg.	Phyllanthaceae	Asam tambun
7	<i>Calophyllum macrocarpum</i> Hook.f.	Calophyllaceae	Bintangor bunut
8	<i>Canarium littorale</i> Blume	Burseraceae	Kedondong gergaji
9	<i>Dialium platysepalum</i> Baker	Fabaceae	KerANJI kuning besar
10	<i>Elatiospermum tapos</i> Blume	Euphorbiaceae	Perah
11	<i>Garcinia mangostana</i> var. <i>malaccensis</i> (Hook.f.) Nazre	Clusiaceae	Manggis burung
12	<i>Garcinia parvifolia</i> (Miq.) Miq.	Clusiaceae	Kandis
13	<i>Garcinia prainiana</i> King	Clusiaceae	Kecupu
14	<i>Mangifera quadrifida</i> Jack	Anacardiaceae	Macang hutan
15	<i>Microcos fibrocarpa</i> (Mast.) Burret	Malvaceae	Cenderai
16	<i>Parkia speciosa</i> Hassk.	Fabaceae	Petai
17	<i>Scaphium macropodum</i> (Miq.) Beumée ex K.Heyne	Malvaceae	Kembang semangkok jantung
18	<i>Xerospermum laevigatum</i> Radlk.	Sapindaceae	Rambutan pacat
19	<i>Xerospermum noronhianum</i> (Blume) Blume	Sapindaceae	Rambutan pacat

4. CONCLUSION

Pelangai Forest Reserve harboured a low number of wild fruit trees species with less than 20 taxa. However, the presence of the large stand of *Xerospermum laevigatum*, with a DBH of more than 100 cm, was among the unique features and attractions of this forest.

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 their assistance during the fieldwork in June and December 2023.

AUTHOR CONTRIBUTIONS

Nik Hazlan Nik Hashim: supervision, writing – review & editing; **Ahmad Fitri Zohari:** conceptualization, data curation, supervision, writing – review & editing; **Mohamad Sobre Zohari:** data collection; **Nur Syamimi Hamzah:** 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 **A. Latiff:** 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. & Latiff, A. (2014). *Pokok buah-buahan liar di Hutan Simpan Gunung Tebu, Terengganu*. In Abdul Rahman, A.R., Mohd Nasir, A.H., Azmi, N., Nor Hasliza, M.B. & Latiff, A. (Eds) *Hutan Simpan Gunung Tebu. Pengurusan hutan, persekitaran fizikal dan kepelbagaian biologi*, Siri Kepekabagaian Biologi Hutan 22, Forestry Department of Peninsular Malaysia, Kuala Lumpur, pp. 224–230.
- Ahmad Fitri, Z., Sani, M., Nik Hazlan, N. H. & Latiff, A. (2016). *Pokok buah-buahan liar di Hutan Simpan Kledang Saiong, Perak*. In Mohd. Sidi, D., Tuan Rusli, T.M., Othman, K., Nurul ‘Amalina, M.N., Nur Asikin, R., Mohd Khalis, A.B., Hishamahir, A.A., Mohd Shafeea, L. & Latiff, A. (Eds) *Aspiring Geopark Lembah Kinta, Perak. geology, archaeology, biodiversity and socio-economy*, Jabatan Mineral dan Geosains Malaysia, Ipoh, pp. 130–135.
- Ahmad Fitri, Z., Nur ‘Aqilah, M. B., Mohamad Khairul Faizi, Z., Nizam, M. S., Nik Hazlan, N. H., Nik Norafida, N. A., Wan Norilani, W. I., Noraini, T. & Latiff, A. (2023). A preliminary survey of wild fruit trees in Sungai Menyala Forest Reserve, Port Dickson, Negeri Sembilan. In Hamid, A.H., Nuazri, S., Umikalsum, N., Siti Norhayati, M. M., Noor Izianti, I., & Latiff, A. (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. 66–70.

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

Bridson, D. & Forman, L. (1992). *The Herbarium Handbook*. WCB/McGraw-Hill, Boston.

Kochummen, K. M. (1990). Wild fruit trees of Taman Negara. *Journal of Wildlife and Parks*, 10, 30–33. <http://myagric.upm.edu.my/id/eprint/14606>

Nik Hazlan, N.H., Ahmad Fitri, Z., Sarmin, S.N., Kusin, M., Ariff, E.A.R.E., Ahmad, B.E., Hashim, T.T.M.Z., Yamani, S.A.K., Nazip, S., & Latiff, A., (2022). Wild fruit trees in Kuala Keniam at Taman Negara, Pahang, Malaysia. *IOP Conference Series: Earth and Environmental Science* 1019, 012043. <https://doi.org/10.1088/1755-1315/1019/1/012043>

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.

Salma, I. Masrom, H. & Yahya, I. (2000). A survey of edible fruit species in Belum Forest Reserve, Perak, Peninsular Malaysia. *Malayan Nature Journal* 54(3), 223–226.

Saw, L. G., La Frankie, J. V., Kochummen, K. M. & Yap, S. K. (1991). Fruit trees in a Malaysian rain forest. *Economic Botany*, 45(1), 120–136.

Whitmore, T. C. (1971). Wild fruits trees and some horticulture and farmaceutical plants in Ulu Kelantan. *Malayan Nature Journal*, 22, 222-224.

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

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



© 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/>).