

Inventory of Rattan in The Depati Karo Jayo Tuo Customary Forest, Rantau Kermas Village

Nur Apriani¹, Mahya Ihsan(*)¹ Uni Baroroh Husnudin¹,
Bambang Hariyadi¹, Pinta Murni²

¹ Department of Biology, Faculty of Science and Technology, University of Jambi,
² Department of Biology Education, University of Jambi
Jl. Jambi – Muara Bulian KM. 15, Mendalo Darat, Jambi Luar Kota, Muaro Jambi,
Jambi Province, Indonesia Postcode 36122

*Corresponding author: mahyaihsan@unja.ac.id

Submitted December 02Nd 2024 and Accepted February 28Th 2025


Abstract

The Depati Karo Jayo Tuo Customary Forest, located within the Merangin Geopark, is a conservation forest that contains various plant species, including rattan. However, specific data on rattan species in this area are unavailable. This study aims to inventory and categorize the rattan species in the forest. Data collection was carried out by exploring the forest's trekking path. Rattan samples were collected using the quadrat plot method. The identification results revealed the presence of seven rattan species in the Depati Karo Jayo Tuo Customary Forest, namely *Calamus micracanthus* Griff., *C. javensis* Blume, *C. oblongus* Reinw. ex Blume, *C. manan* Miq., *C. castaneus* Griff., *Calamus* sp., and *Korthalsia laciniosa* (Griff.) Mart. Among these, *C. oblongus* Reinw. ex Blume as the most abundant species with 1,050 individuals, while *C. castaneus* Griff. was the least abundant, with only 14 individuals recorded. According to the IUCN conservation status, all identified rattan species are classified as "Not Evaluated." Similarly, rattan is not listed as a protected species based on Indonesian Government Regulation No. 7 of 1999. Additionally, data from CITES indicate that rattan is not involved in international trade.

Keywords: Conservation Status; Customary Forest; Inventory; Rattan



Jurnal Pembelajaran dan Biologi Nukleus (JPBN) by LPPM Universitas Labuhanbatu is under a Creative Commons Attribution-ShareAlike 4.0 International License (CC BY - SA 4.0)

 <https://doi.org/10.36987/jpbn.v11i1.6506>

INTRODUCTION

Rattan is a plant from the Arecaceae family that exhibits a shrub and climbing habit in tree stands, characterized by thorny stems and scaly fruit (Kalima et al., 2019; Sanusi, 2012). Indonesia is rich in rattan species, with 9 genera comprising 314 species,

approximately 62 of which are commercially valuable and originate from various regions across the country (Uslinawaty et al., 2014; Kalima & jasni, 2015). Ecologically, rattan can thrive in tropical areas from lowlands to highlands, such as in swamps, dry soil, mountains, sandy dry soil, and sandy clay, and is generally found in wet and humid places (Loiwatu, 2017). A study by Ruppert et al., (2017) in the Segari Melintang Protection Forest found that *Daemonorops micracantha* occurs in swampy areas. However, research by Kalima et al., (2019) in the Bukit Lubuk Pekak Forest, Merangin, Jambi, showed that rattan species can also be found at altitudes of 800–1900 meters above sea level (masl), suggesting that various environmental factors support its presence across different habitats. Based on these findings, this study was conducted in the Depati Karo Jayo Tuo Customary Forest to further investigate how environmental factors influence rattan distribution and to identify the rattan species present in the area.

In Indonesia, rattan has numerous uses, including as a material for weaving, rigging, and the production of chairs, tables, and baskets (Ilham et al., 2023; Dianti et al., 2019). Additionally, rattan tubers (young rattan) are utilized by local communities as food ingredients (vegetables), traditional medicine, and dishes for traditional events (Kalima, 2022). The utilization of rattan has primarily relied on the exploitation of natural forests rather than cultivation. As a result, the destruction of natural forests directly impacts rattan supply. Without replanting efforts, continued exploitation could threaten the sustainability of rattan species and potentially lead to population decline in the future (Dewantara et al., 2023). Due to the high potential of rattan, it is necessary to determine its species and conservation status to help preserve it in nature. The results of this study are expected to be useful for preserving rattan species in the Depati Karo Jayo Tuo Customary Forest.

METHOD

Location

The research was conducted from July to August 2024. The exploration of rattan species took place in the northern part of the Depati Karo Jayo Tuo Customary Forest, Rantau Kermas Village, Merangin Regency, Jambi Province from the entry point located at coordinates S: 02°34'58.13" and E: 101°45'17.40" until the end of the forest at coordinates S: 02°34'42.15" and E: 101°44'42,53". The research location map can be seen in Figure 1. Rattan species were dried and identified at the Laboratory of Agroindustry, Medicinal Plants, and Biotechnology, Faculty of Science and Technology, Universitas Jambi.

Data collection

Data collection was carried out by exploring the forest's trekking path. Rattan samples were collected using the quadrat plot method with a size of 20 m × 20 m, extending 10 meters to the right and 10 meters to the left. The data taken during sampling are coordinates of the specimen found using a GPS receiver. Rattan samples were collected by taking vegetative and generative organs using plant scissors for species identification based on morphological characteristics, including habitus

(stature), stem (thorn arrangement, thorn color, knee, ocrea), leaf midrib (leaf color, leaf texture, leaf blade shape), climbing organs (cirrus and flagella), inflorescence, flower, and fruit (Kalima, 2022; Nasution et al., 2022). Environmental factors measured included soil temperature, pH, and moisture using a soil tester, air temperature, and humidity using a humidity meter, and light intensity using a lux meter.

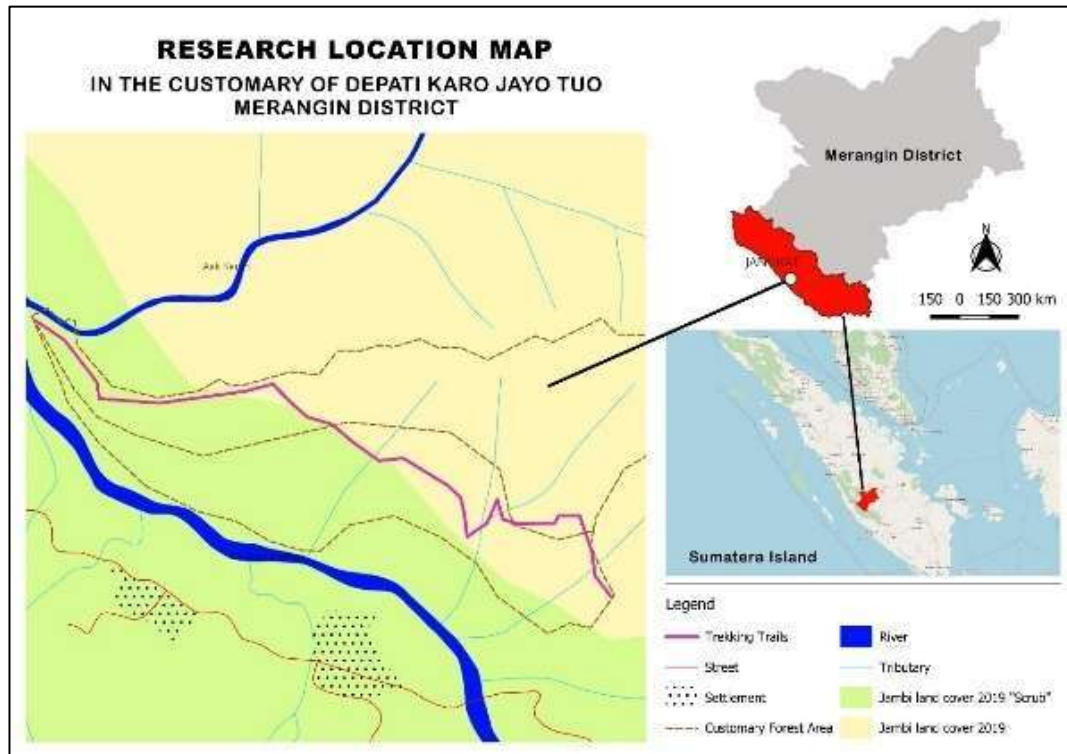


Figure 1. Depati Karo Jayo Tuo Customary Forest Map

Sample Preparation Procedure

After the rattan samples were documented, they were cleaned, labeled and numbered for the different species. The samples were placed on newspaper with the leaflets facing up and down to show the differences in the structure of the upper and lower surfaces of the leaves. The rattan samples were then wrapped in newspaper and placed in 10 kg plastic, moistened with 70 % alcohol and covered using isolation tape. The preserved rattan samples were then taken to the Mathematics and Natural Sciences Laboratory, Faculty of Science and Technology, Jambi University. The preserved rattan samples were replaced using new newsprint, stacked with wooden sasak on the top and bottom and tied. The samples were dried in an oven at 70 – 80 °C for 24 hours (Artayasa et al., 2020). After drying, the mounting process is carried out by attaching the specimen to duplex paper size 29.7x42 using clear isolation tape and the fruit specimen is inserted into the envelope and attached to the duplex paper.

Identification

Identification of rattan species was conducted at the Mathematics and Natural Sciences Laboratory, Faculty of Science and Technology, Jambi University. The identification process was carried out by comparing the rattan specimens with relevant rattan identification books including Atlas of Indonesian Rattan Volumes 1, 2, 3, Plant Resources of South-East Asia (Dransfield & Manokaran, 1993), Systematics, Ecology and Management of Rattans in Cambodia, Laos and Vietnam (Peters & Henderson, 2014), A Field Guide to Philippine Rattans (Primavera, 2009), and A Field Guide of The Rattans of Cambodia (Hourt, 2008). In addition, some relevant journals were also used (Anjani et al., 2022). Classification and naming followed Plants of the World Online and Itis.gov.

Data Analysis

Qualitative data analysis was conducted by describing rattan species and categorizing the conservation status of rattan based on IUCNredlist.org, CITES and Indonesian government regulation Number 7 of 1999 article 4 paragraph (1) concerning protected plant and animal species.

RESULT AND DISCUSSION

Rattan Species in the Depati Karo Jayo Tuo Customary Forest

The rattan species found in the Depati Karo Jayo Tuo Customary Forest include 7 species with a total of 2,483 individuals (Table 1). One rattan species was only identified to the genus level, namely *Calamus* sp., because it has not yet produced generative organs, making it difficult to identify up to the species level. The relatively low number of rattan species found in this study is likely due to the research location being in the highlands. This finding is consistent with Kalima (2019) study, which identified nine rattan species in the Bukit Lubuk Pekak Forest, Merangin, Jambi, at an altitude of 800–1900 masl. In contrast, more rattan species are typically found in lowland areas. As altitude increases, the number of rattan species decreases (Silalahi et al., 2019), aligning with (Binh, 2009) research in Vietnam, which reported a greater abundance of rattan in lowland areas (0–700 masl) compared to highland areas (1,500 masl). Despite the lower species diversity, the research location had a high number of rattan individuals. This is likely because rattan grows optimally in areas with high sunlight intensity (Fajeriadi et al., 2016). Higher sunlight intensity tends to support a greater number of rattan individuals but fewer species (Rahman et al., 2022).

The study found that most of the rattan species belong to the genus *Calamus*. Additionally, one species from the genus *Korthalsia* was also identified. This information is supported by the data presented in Figure 2. The *Calamus* genus is the most commonly found rattan genus and has the highest number of species, totaling 314 (Uslinawaty et al., 2014), and is most commonly found in Southeast Asia (Kaliky, 2018). Meanwhile, the genus *Korthalsia* has only nine species found in Sumatra (Maarif et al., 2021). *Korthalsia laciniosa* grows well in lowland hills near rivers with sandy and rocky forest floors at 600 masl (Santoso et al., 2017).

Table 1. Diversity of Rattan species in the Depati Karo Jayo Tuo Customary Forest

No	Species	Genus	Number of Individuals	Conservation Status		
				IUCN	CITES	Government Regulation
1.	<i>Calamus micracanthus</i> Griff.	<i>Calamus</i>	980	NE	-	NP
2.	<i>Calamus javensis</i> Blume	<i>Calamus</i>	235	NE	-	NP
3.	<i>Calamus</i> sp.	<i>Calamus</i>	92	NE	-	NP
4.	<i>Calamus oblongus</i> Reinw. ex Blume	<i>Calamus</i>	1050	NE	-	NP
5.	<i>Korthalsia laciniosa</i> (Griff.) Mart.	<i>Korthalsia</i>	53	NE	-	NP
6.	<i>Calamus manan</i> Miq	<i>Calamus</i>	59	NE	-	NP
7.	<i>Calamus castaneus</i> Griff.	<i>Calamus</i>	14	NE	-	NP

Remark: NE (Not Evaluated); NP (Not protected)

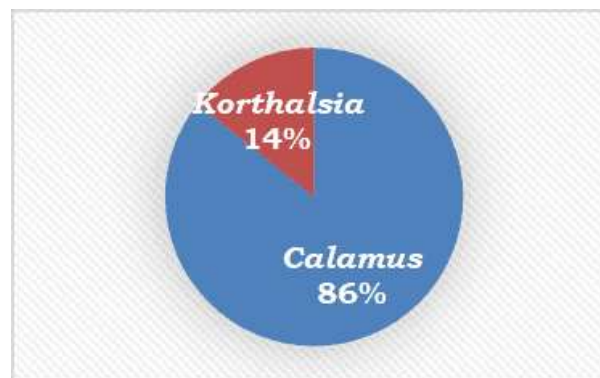


Figure 2. Percentage of Rattan Genus in The Depati Karo Jayo Tuo Customary Forest

The accumulation of decaying leaves on the forest floor in the Depati Karo Jayo Tuo Customary Forest indicates moist soil conditions and inadequate drainage. This makes the area less suitable for the growth of *Korthalsia laciniosa* which prefers sandy and rocky soil. The dominant rattan species in the Depati Karo Jayo Tuo Customary Forest are *Calamus oblongus* Reinw. ex Blume and *Calamus micracanthus* Griff. One of the factors that support the large number of rattan in this research location is that the Depati Karo Jayo Tuo Customary Forest is a tropical forest that is always wet and humid, making it ideal for the growth of rattan species (Kalima et al., 2019).

Table 2. Measurement of Environmental Parameters in the Rattan Habitat at Depati Karo Jayo Tuo Customary Forest

Parameter	Base Unit	Measurement Results
Soil Temperature	°C	21-26
Soil pH	-	6-7
Soil Moisture	%	15-91
Air Temperature	°C	21-27.5
Air Humidity	%	69-80
Light Intensity	Lux	126-1875

The Depati Karo Jayo Tuo Customary Forest is located in a highland area with cool, moist soil and well-maintained forest vegetation (Nazila et al., 2024), creating very favorable conditions for rattan growth. These conditions suit rattan's growth needs, as it thrives in habitats with high light intensity, low temperatures, and sufficient humidity (Nopriansyah et al., 2021). The study results show that rattan is found in areas with environmental conditions presented in Table 2. These conditions support rattan survival, aligning with the findings of Hermawan et al., (2012), which indicate that rattan from the *Calamus* genus thrives in light intensities ranging from 25-1,850 lux. The optimal soil pH for plant growth is 7 or approximately (Novia & Fajriani, 2021). The ideal temperature range for rattan is 24 – 30 °C and the optimal air humidity for rattan growth is in the range of 60 – 70 % (Fajeriadi et al., 2016). Meanwhile, the study results also show that rattan is found in areas with relatively high air humidity, ranging from 69 – 80 %.

Description of Rattan Species

The identification results showed that seven rattan species from the genus *Calamus* and *Korthalsia* were found in the Depati Karo Jayo Tuo Customary Forest. The species *Calamus micracanthus* Griff. and *Calamus oblongus* were identified as *Daemonorops micracantha* and *Daemonorops oblonga* based on some references (Kalima et al., 2019; Jasni, 2012). The genus *Daemonorops* has been revised to the genus *Calamus* (Baker et al., 2000).

***Calamus Micracanthus* Griff.**

Habitus climbing, living in groups, single stem round with a diameter of 1.13 cm and a length of stem segment of 14 cm. The stem is green, spiny with a sparse and irregular arrangement of spines, flat triangular spines are black, pointing downward with a length of 1.8 cm. It has a knee that is not spiny and sometimes spiny, has an ocrea with a length of 3.7 mm, and has no flagella. Leaves are regularly pinnate, linear in shape, green in color, with the length and width of the leaf blade 18 x 0.7 cm. The number of leaflets on the rachis is 86, the length of the petiole is 21 cm, the length of the rachis is 99 cm, and the length of the cirrus is 49.5 cm, the length of the leaf from the petiole to the cirrus reaches 169.5 cm and has an indumentum. The fruit is round, green, with a length and width of 2 x 1.8 cm. Fruit scales are vertically arranged, 10 in number, 5 mm long, and 4.5 mm wide. Seeds are top-shaped and measure 11.5 x 15 mm (Figure 3).



Figure 3. *Calamus micracanthus* Griff. Habitus (A), Stem (B), Fruit (C)

***Calamus javensis* Blume**

Habitus climbing, living in groups, single stem, round shape, stem diameter 0.6 cm, green stem, spines arranged sparsely and irregularly, brown triangular spines with a length of 5.8 mm. It has a spiny knee, an ocrea with a length of 2 cm, and flagella with a length of 92 cm. Leaves are regularly pinnate, oblong-shaped leaves, green leaves (leaves when young are slightly reddish), the length and width of the leaf blade is 9.5 x 3 cm, the number of leaflets on the shelf is 9, the length of the petiole is 2 cm, the length of the shelf is 38 cm, does not have a cirrus, the length of the petiole to the tip of the leaf is 40 cm and has an indumentum (Figure 4).

***Calamus* sp.**

Habitus climbing, living in groups, single stem is round with a diameter of 1.1 cm, and the length of the stem segment is 14 cm. The stem is green, spiny with a dense and irregular arrangement of spines, the spines are triangular and black in color, pointing downward. It has a spiny and octagonal knee with a length of 0.2 cm and has no flagella. Leaves are pinnate, lancet-shaped with regular leaf arrangement and gaps. The length of the leaf blade is 24.5 cm, the width of the leaf blade is 1.5 cm, the leaf is green and has an indumentum. The number of leaflets on the rachis is 29, the petiole

is 16 cm long, the rachis is 69 cm long, and has a cirrus with a length of 77 cm, the length of the leaf from the petiole to the cirrus reaches 162 cm (Figure 5).

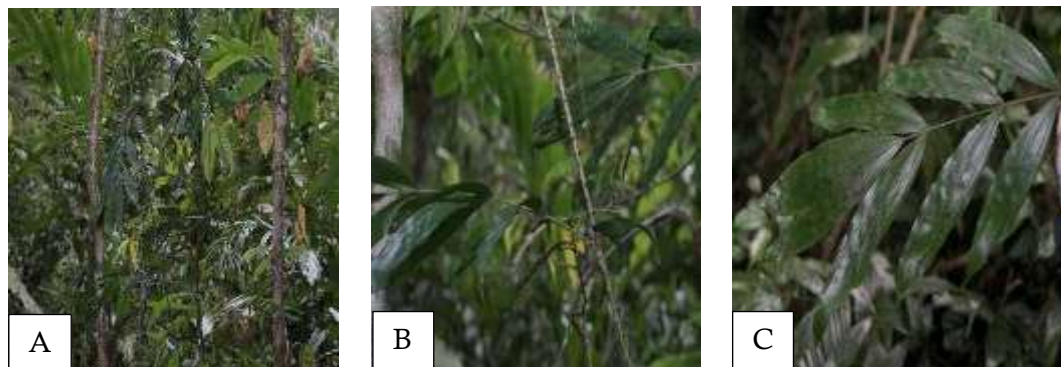


Figure 4. *Calamus javensis* Blume. Habitus (A), Stem (B), Leaf (C)



Figure 5. *Calamus* sp. Habitus (A), Stem (B), Leaf (C)

Calamus oblongus Reinw. ex Blume

Habitus climbing, living in groups, single stem round with a diameter of 1.7 cm and a length of stem segment of 14 cm. The stem segment is spiny with a sparse and irregular arrangement of spines pointing downward and upward, flat triangular spines are black with a length of 2 cm, the mouth of the leaf midrib is surrounded by black spines with a length of 12 cm. Lacks knees and flagella. Leaves are pinnate, linear, regularly arranged, with leaflets 20 x 1 cm long and wide. Leaves are green, have an indumentum, the number of leaflets on the rachis is 6, the length of the petiole is 42 cm, the length of the rachis is 50 cm, and the length of the cirrus is 75 cm, the length of the petiole to the cirrus reaches 167 cm. The fruit is ellipsoid, green when young, with a fruit length and width of 15.8 x 12.8 mm. The vertically arranged scales are 3.2 mm long and 4.2 mm wide and the seeds are ellipsoid (Figure 6).



Figure 6. *Calamus oblongus* Reinw. ex Blume. Habitus (A), Stem (B), Fruit (C)

***Korthalsia laciniosa* (Griff.) Mart.**

Habitus climbs, lives in groups, the stem is round with a stem diameter of 1 cm. The stem is brown, has spines measuring 3 mm arranged sparsely and irregularly pointing downward. Does not have knees and flagella. Okrea is shaped like a net with a length of 6.5 cm. Leaves are diamond-shaped with the length and width of the leaf blade 15 x 4.5 cm. The upper surface of the leaf is green, while the lower surface is gray. The leaf has no indumentum, with the number of leaflets on the rachis 12. The length of the petiole is 13.5 cm, the length of the rachis is 41.5 cm, and the length of the petiole to the tip of the leaf reaches 55 cm (Figure 7).

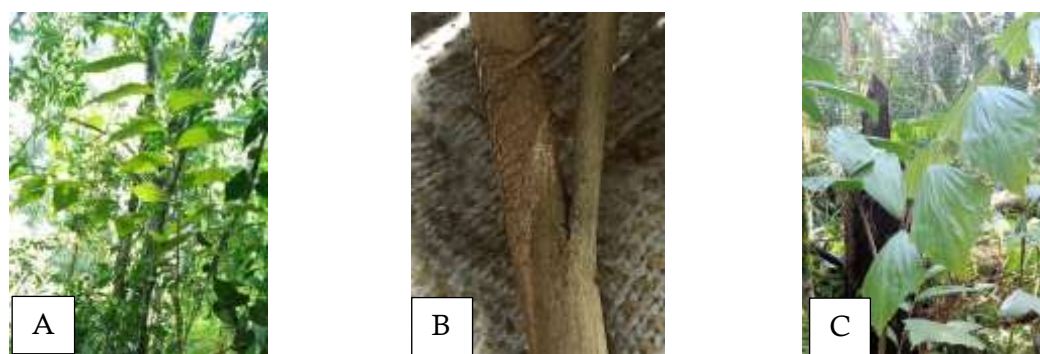


Figure 7. *Korthalsia laciniosa* (Griff.) Mart. Habitus (A), Stem (B), Leaf (C)

***Calamus manan* Miq**

Climbing habitat with a length of >15 meters, solitary life, single stem, green round shape. Spines are flat triangular in color, black, dense, and irregular arrangements of spines that point downward. Has a spiny knee and has no flagella. The pinnate leaves are lancet-shaped, the arrangement of the leaves is regular, the length of the leaf blade is 35 cm, the width of the leaf blade is 6.5 cm, and it has a cirrus that reaches 3 meters in length. The fruit is ovoid, 3 x 2 cm in length and width, with yellow vertically directed scales with brown margins. Vertically arranged scales number 6, length and width of scales 0.6 x 0.7 cm, ellipsoid seeds, length and width of seeds 17.1 x 13 mm (Figure 8).



Figure 8. *Calamus manan* Miq. Habitus (A), Stem (B), Fruit (C)

***Calamus castaneus* Griff.**

Solitary, round stem with a stem segment length of 5 cm. Does not have cirrus and flagella. Pinnate leaves are linear with regular leaf arrangement. The leaf blade length is 42 cm and the width is 2.6 cm, green color, and has an indumentum. Fruit is an ovoid-long beak, protected by spines that are 30 cm long. The fruit is green when young, with a length and width of 1.8 x 1 cm. The tip of the fruit is shaped like a 3-pronged hook, with vertically arranged scales numbering 10, scale length 2.4 x 3.2 mm. Seeds are ellipsoid with a length and width of 3 x 4.5 mm (Figure 9).

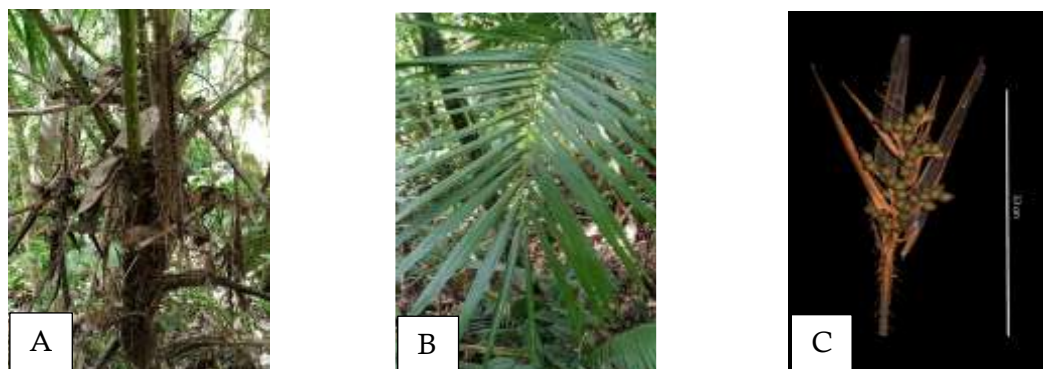


Figure 9. *Calamus castaneus* Griff. Habitus (A), Leaf (B), Fruit (C)

CONCLUSION

Seven rattan species from two genera were found in the Depati Karo Jayo Tuo Customary Forest, Rantau Kermas Village, Merangin, Jambi. These species include *Calamus micracanthus* Griff., *Calamus javensis* Blume, *Calamus oblongus* Reinw. ex Blume, *Calamus manan* Miq., *Calamus castaneus* Griff., *Calamus* sp., and *Korthalsia laciniosa* Griff. According to the IUCN, six of these species (*Calamus micracanthus*, *Calamus javensis*, *Calamus oblongus*, *Calamus manan*, *Calamus castaneus*, and *Korthalsia laciniosa*) are categorized as Not Evaluated. Additionally, CITES data indicate tharade. Furthermore, based on Indonesian Government Regulation No. 7 of 1999, these species are not listed as protected. Further research is needed to identify the unknown

rattan species by collecting generative organs. This effort is expected to enhance the understanding of rattan diversity in the Depati Karo Jayo Tuo Customary Forest, Rantau Kermas Village, Merangin, Jambi.

ACKNOWLEDGMENTS

This study was supported by the grant of Penelitian Dasar - PNB Faculty of Science and Technology, Universitas Jambi. We would like to thank the Rantau Kermas expedition team, Geopark Merangin, and the community of Rantau Kermas Customary Village, Merangin, Jambi Province.

REFERENCES

- Anjani, W., Umam, A. H., & Anhar, A. (2022). Vegetation Diversity, Evenness, and Richness of Lae Kombih Forest Reserve in Penanggalan Sub-district, Subulussalam City. *Jurnal Ilmiah Mahasiswa Pertanian*, 7(2), 770–778. <https://doi.org/10.17969/jimfp.v7i2.20136> [**In Indonesian language**]
- Artayasa, I. P., Muhlis, M., & Ramdani, A. (2020). Plant and Animal Specimen Making and Its Benefits in Junior High School Science Learning. *Jurnal Pengabdian Magister Pendidikan IPA*, 3(2), 156–162. <https://doi.org/10.29303/jpmipi.v3i2.519> [**In Indonesian language**]
- Baker, W. J., Hedderson, T. A., & Dransfield, J. (2000). Molecular phylogenetics of Calamus (Palmae) and related rattan genera based on 5S nrDNA spacer sequence data. *Molecular Phylogenetics and Evolution*, 14(2), 218–231. <https://doi.org/10.1006/mpev.1999.0697>
- Binh, B. M. (2009). *Rattans of Ecology, Demography and Harvesting*. Doctoral Thesis of Utrecht University, Nederland. 194 page
- Dewantara, I., Darwati, H., & Sulistiawati, N. (2023). Potential and Distribution Patterns of Rattan Species in PT Hutan Ketapang Industri Kendawangan Sub-district, Ketapang Regency, West Kalimantan, Case Study: Pangkalan Batu Village and Kedondong Village. *Jurnal Hutan Lestari*, 11(4), 1033–1044. [**In Indonesian language**]
- Dianti, Y. S., Idham, M., & Oramahi, H. A. (2019). Utilisation of Rattan as a Craft Material in Paoh Concong Village, Simpang Hulu District, Ketapang Regency. *Jurnal Hutan Lestari*, 7(3), 1213–1222. <https://doi.org/10.26418/jhl.v7i3.37275> [**In Indonesian language**]
- Dransfield, J., & Manokaran, N. (1993). Plant Resources of South-East Asia 6. *Econ Botani*, Volume 49, 248. 137 pp. (hardcover). <https://doi.org/10.1007/BF02862341>
- Fajeriadi, H., Dharmoni, & Muchyar. (2016). Rattan Diversity Around Rampah Menjangan Waterfall Loksado Hulu Sungai Selatan Regency. *Prosiding Seminar Nasional Lahan Basa August*, 62–65. [**In Indonesian language**]

- Hourt, K. E. (2008). A Field Guide Of The Rattans of Cambodia. In *Paper Knowledge. Toward a Media History of Documents*. Greater Mekong: WWF Cambodia. 68 page.
- Ilham, M., Rizal, R., & Arsyita, A. H. (2023). Training on the utilisation of rattan into high-value handicraft products. *Amal Ilmiah: Jurnal Pengabdian Kepada Masyarakat*, 4(2), 155–166. **[In Indonesian language]**
- Kaliky, F. (2018). Identification of rattan species in home industries in Waitatiri Village, Salahutu Sub-district, Central Maluku Regency. *Jurnal Agrohut*, 9(1), 31–36. **[In Indonesian language]**
- Kalima, T. (2022). Identification and Classification of Rattan Species in Indonesia. *Conference Proceeding of SNPBS (Seminar Nasional Pendidikan Biologi Dan Saintek)*, 33–40. **[In Indonesian language]**
- Kalima, T., Damayanti, R., & Susilo, A. (2019). Potential Rattan from the Bukit Lubuk Pekak Forest, Merangin, Jambi. *Journal of Tropical Biodiversity and Biotechnology*, 4(1), 32–41. <https://doi.org/10.22146/jtbb.40645> **[In Indonesian language]**
- Kalima, T., & Jasni, J. (2015). Research and development priority of local important rattan species. *Prosiding Seminar Nasional Masyarakat Biodiversitas Indonesia*, 1(8), 1868–1876. <https://doi.org/10.13057/psnmbi/m0108220>
- Loiwatu, M. (2017). Effect of Altitude and Type on Rattan Shrinkage. *Jurnal Hutan Pulau-Pulau Kecil*, 1(3), 234–246. <https://doi.org/10.30598/jhppk.2017.1.3.234> **[In Indonesian language]**
- Maarif, F., Rustiami, H., & Priyanti, P. (2021). A Phenetic Analysis of *Korthalsia* spp. in Sumatra Based on Morphological Characters. *Jurnal Penelitian Hutan Dan Konservasi Alam*, 18(1), 67–82. <https://doi.org/10.20886/jphka.2021.18.1.67-82>
- Nasution, I. A., Sitanggang, K. D., Saragih, S. H. Y., & Dalimunthe, B. A. (2022). Morphological Characterization of Rattan In Labuhanbatu Sumatera Utara. *Jurnal Pertanian Agros*, 24(2), 580–585. **[In Indonesian language]**
- Nazila, J., Husnudin, U. B., Ihsan, M., & Maritsa, H. U. (2024). The Diversity of Terrestrial Ferns in the Customary Forest of Depati Karo Jayo Tuo , Jambi. *Al-Hayat: Journal of Biology and Applied Biology*, 7(2), 177–189.
- Nopriansyah, A., Aluyah, C., & Sosilawati, E. (2021). Growth Response of 3-Year-Old Jernang Rattan (*Daemonorops draco* Willd.) Plants to Light Intensity Under Mixed Stands in KHDTK Kemampo, Banyuasin Regency. *Sylva: Jurnal Ilmu-Ilmu Kehutanan*, 10(1), 12. <https://doi.org/10.32502/sylva.v10i1.3508> **[In Indonesian language]**
- Peters, C. M., & Henderson, A. (2014). *Systematics, Ecology and Management of Rattans in Cambodia, Laos and Vietnam*. NewYork: Agricultural Publishing House. 221 page.
- Primavera, J. H. (2009). *A Field Guide to Philippine Mangroves*. Philippines: Zoological Society of London.

- Rahman, A., Tellu, A. T., Jamhari, M., & Rede, A. (2022). Rattan Diversity in the Pangi Binangga Nature Reserve Area, Pangi Village, Parigi Moutong Regency and its Utilisation as a Learning Medium. *Journal of Biology Science and Education (JBSE)*, 10(1), 16–20. [*In Indonesian language*]
- Santoso, E., Fahrizal, & Ardian, H. (2017). Identification of Rattan Species in Selimbau District, Lake Sentarum National Park Area. *Jurnal Tengawang*, 7(1), 57–62. [*In Indonesian language*]
- Sanusi, D. (2012). *Rattan a Treasure of the Indonesian Wilderness*. Surabaya: Brillan Internasional Surabaya. [*In Indonesian language*]
- Silalahi, R. H., Sihombing, B. H., & Sinaga, P. S. (2019). Potential Non-Timber Forest Products (NTFPs) in the Humala Raya Protection Forest, Simalungun Regency. *Jurnal Akar*, 1(1), 38–51. <https://doi.org/10.36985/jar.v8i1.113> [*In Indonesian language*]
- Uslinawaty, Z., Rosmarlinasih, & Asrun. (2014). Morphology and abundance of rattan species in Papalia Protection Forest, South Konawe District. *Biowallacea*, 1(2), 90–96. [*In Indonesian language*]

How To Cite This Article, with APA style :

Apriani, N., Ihsan, M., Husnudin, U.B., Hariyadi, B., & Murni, P. (2025). Inventory of Rattan in the Depati Karo Jayo Tuo Customary Forest, Rantau Kermas Village. *Jurnal Pembelajaran dan Biologi Nukleus*, 11(1), 149-161. <https://doi.org/10.36987/jpbn.v11i1.6506>

Conflict of interest : The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Author contributions : All authors contributed to the study's conception and design. Material preparation, data collection and analysis were performed by all authors. The first draft of the manuscript was submitted by [Nur Apriani]. All authors contributed on previous version and revisions process of the manuscript. All authors read and approved the final manuscript.