SSRS INABIODIV
SPECIES PROFILE AND INFORMATION
Data is from direct observation and review on recent research paper
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Online Profile

Vatica pauciflora

(Swamp resak, raru)

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CONSERVATION STATUS

IUCN RedList
Vulnerable (2017)

CITES
This species is not listed in the CITES Appendices

Government of Indonesia
Not Protected Regulation of the Minister of Environment and Forestry of the Republic of Indonesia No. P.106/MENLHK/SETJEN/KUM.1/12/2018)

OVERALL DISTRIBUTION

Indonesia, Malaya, Thailand, Vietnam

OVERVIEW

Vatica pauciflora is a perennial plant that can reach 25 m in height. This species grows primarily in tropical biomes and is naturally distributed from southern Indo-China to Sumatra at elevations of 0-1,500 meters above sea level. Its leaves are ovate or oval, with an acute base and acute apex, and an alternate spiral arrangement. *Vatica pauciflora* plays a vital role in river ecosystems due to its dominant presence. Furthermore, its bark contains antioxidants and antidiabetic properties.

Citation
Nur'Aini S, Septianingrum D, Marfi KP. 2026. Indonesia Species Profile of Vatica pauciflora (Malvales: Dipterocarpaceae). *SSRS INABIODIV Species Profile and Information*. Vol. 3: No. 0015. https://publishing.ssrs.or.id/ojs/index.php/ssrs-inabiodiv

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IDENTITY

Scientific Name
Vatica pauciflora ((Korth.) Blume., 1856)

Synonym
Homotypic Synonym
Retinodendron pauciflorum (Korth, 1840)
Vateria pauciflora (Korth., 1845)

Heterotypic Synonym
Elaeogene sumatrana (Miq., 1861)
Pachynocarpus ruminatus ((Burck) Brandis, 1895)
Pachynocarpus wallichii ((Dyer) King, 1893)
Vatica forbesiana (Burck, 1887)
Vatica kelsallii (Ridl., 1910)
Vatica lamponga (Burck, 1887)
Vatica obtusa (Burck, 1887)
Vatica ruminate (Burck, 1887)
Vatica ovalifolia (Ridl., 1910)
Vatica sumatrana ((Miq.) Slooten, 1927)
Vatica wallichii (Dyer, 1874)
Vatica zollingeriana (A.DC., 1868)

Common Name (Indonesia)
Resak rawa

Indonesia Local Name
Resak rawang, resak laru, resak padang, raru (Sumatera);

CLASSIFICATION

Kingdom	:	Plantae
Division	:	Streptophyta
Class	:	Equisetopsida
Order	:	Malvales
Family	:	Dipterocarpaceae
Genus	:	*Vatica*
Species	:	*Vatica pauciflora* ((Korth.) Blume., 1856)

DESCRIPTION

Terrestrial, perennial trees, height up to 25 m. Stem is cylindrical straight. Bark is greyish brown, covered by moss and lichen. Leaves are simple, ovate or oval; base cuneate; apex acute; margin entire, undulate in profile; leaf attachment petiolate; leaf arrangement alternate spiral; lamina color adaxial glossy green, abaxial dull yellowish green. Lamina length 8.7-16.5 cm, width 3.7-6.9 cm. Internodule length 1.5-2 cm. Petiole glabrous, geniculate (bent like a knee). Petiole length 1.5 cm. Secondary veins eucamptodromous, 6-9 pairs, spacing length 1.4-2.4 cm. Tertiary venation scalariform, perpendicular to the midrib. Root system taproot.

ECOLOGY AND HABITAT

Vatica pauciflora grows primarily in wet tropical biomes and is natively distributed from southern Indo-China to Sumatra. This species distributed in riparian fringes, peat swamp-forests, coastal forests, hill dipterocarp forests, and lowland dipterocarp forests and has the widest ecological distribution according to El-Taguri and Latiff (2016). *Vatica* species usually grow at elevations of 0-1500 m asl (Purwaningsih 2004).

DISTRIBUTION

Distribution Region
Regional Distribution in Indonesia (Record)
Sumatera, Java, Borneo

Distribution Type
Global

Distribution Map

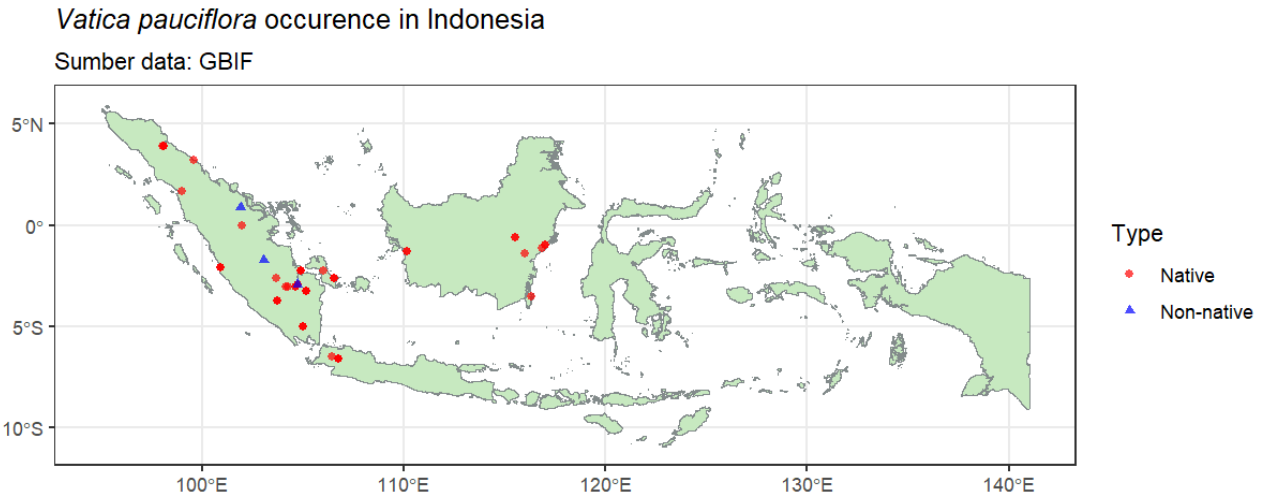


Figure 1. Distribution map *Vatica pauciflora* in Indonesia

Statistical Overview of Distribution

Indicator	Bioregion	Value (total, mean ± SD, range)	Unit
Distribution (GBIF on 2025)	Sumatera	34	Record
	Java	31	Record
	Borneo	9	Record
Bioclimatic – Elevation (DEM SRTM)	Sumatera	83,82 ± 160,10 (3 – 900)	Mean Sea Level (m)
	Java	241,19 ± 26,76 (97 – 246)	Mean Sea Level (m)
	Borneo	178,89 ± 242,16 (9 – 723)	Mean Sea Level (m)
Bioclimatic – Precipitation (CHIRPS UCSB) (2015-2025)	Sumatera	2773,95 ± 321,20 (2391,12 – 3532,94)	mm / years
	Java	4252,47 ± 135,61 (3521,77 – 4276,83)	mm / years
	Borneo	3008,25 ± 390,70 (2514,64 – 3555,74)	mm / years

Bioclimatic – Temperature (CHIRTS UCSB) (2015-2025)	Sumatera	32,66 ± 1,04 (27,76 – 34,06)	Mean Tmax (°C)
	Java	31,41 ± 0,08 (31,39 – 31,85)	Mean Tmax (°C)
	Borneo	31,21 ± 1,49 (27,56 – 32,27)	Mean Tmax (°C)

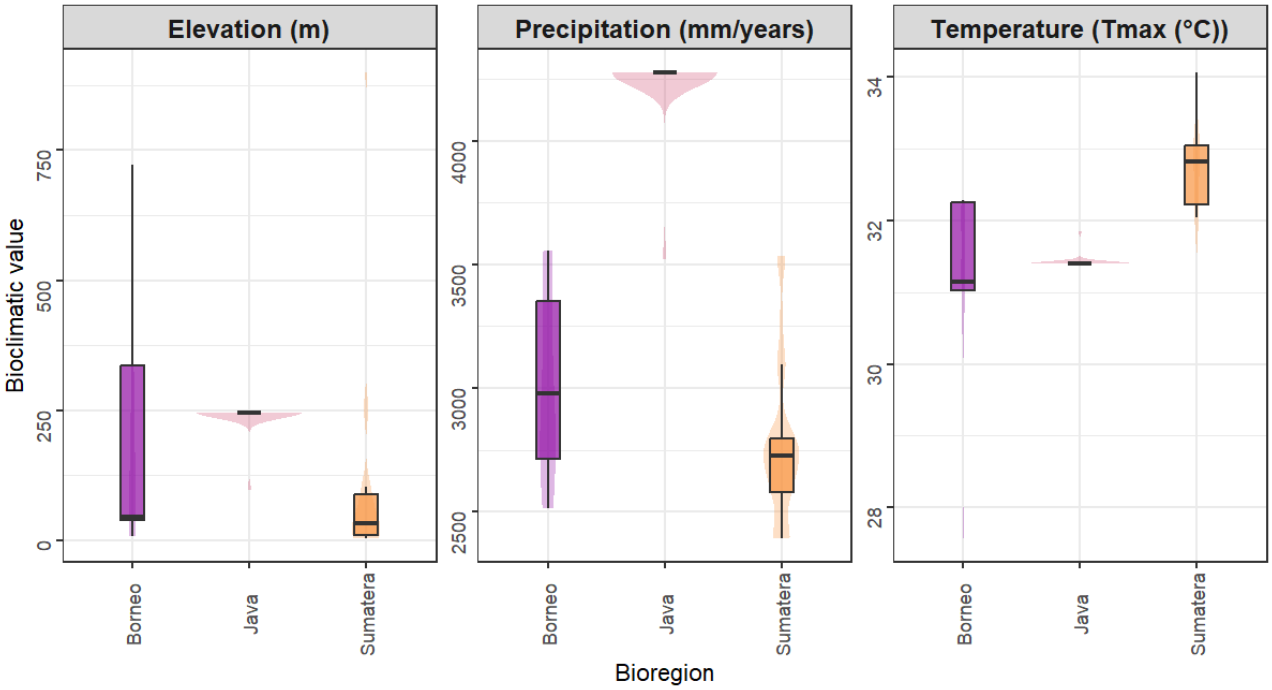


Figure 2. Statistical of bioclimatic characteristic

Distribution Map Based on Indonesia Bioregion – Sumatera

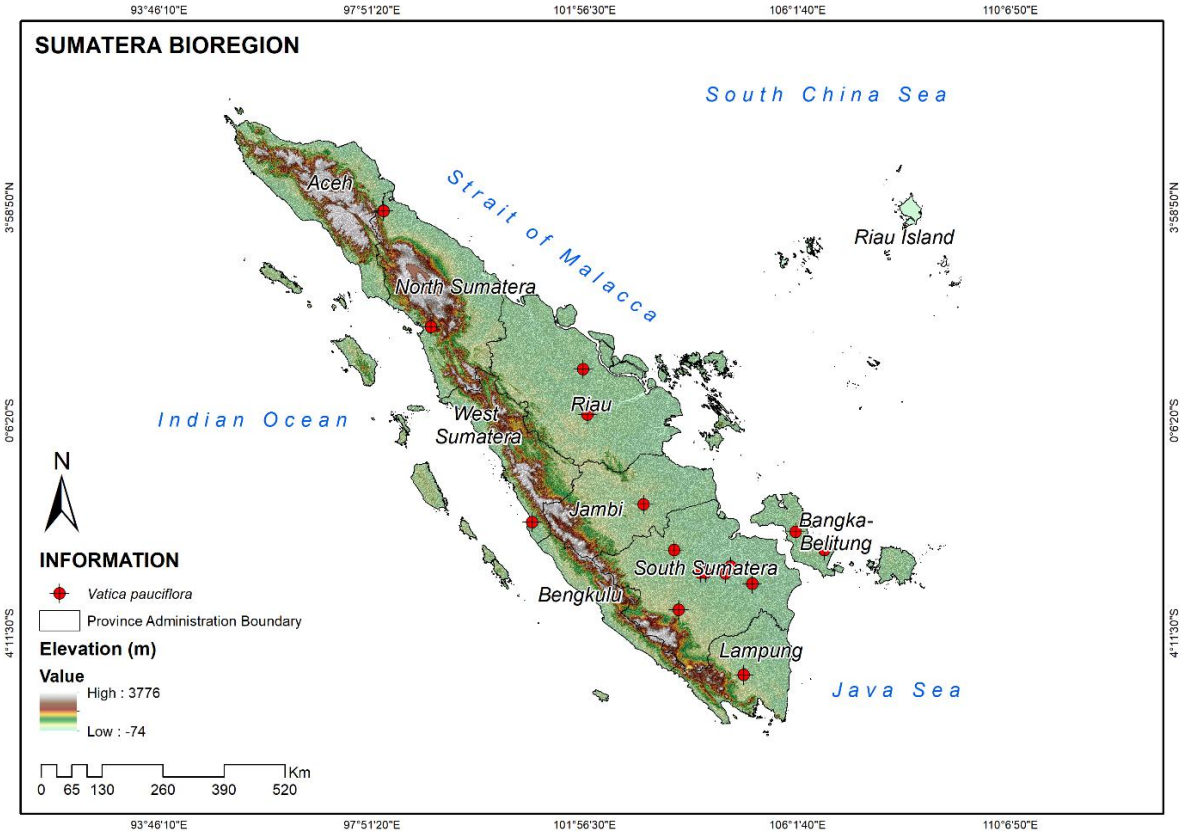


Figure 3. Distribution map of *Vatica pauciflora* in Sumatera bioregion by elevation gradient

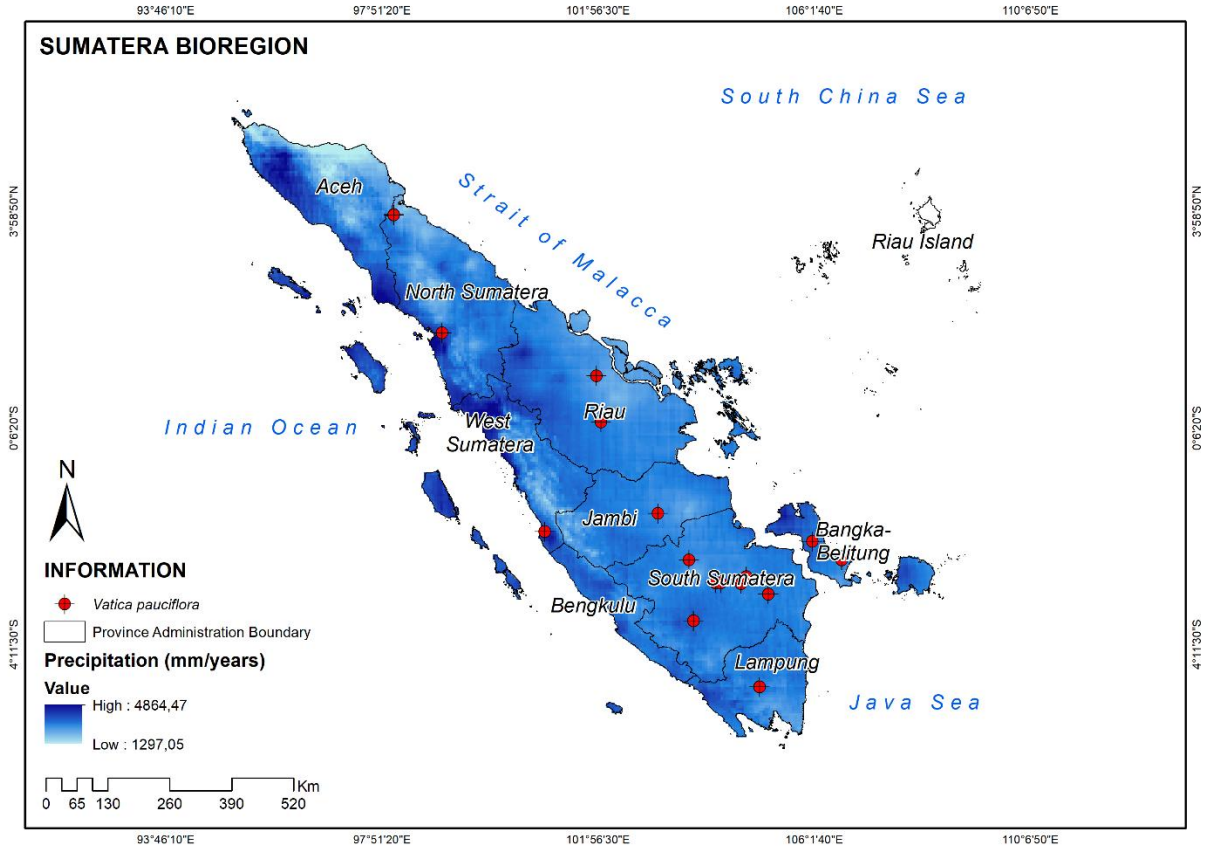


Figure 4. Distribution map of *Vatica pauciflora* in Sumatera bioregion by precipitation gradient

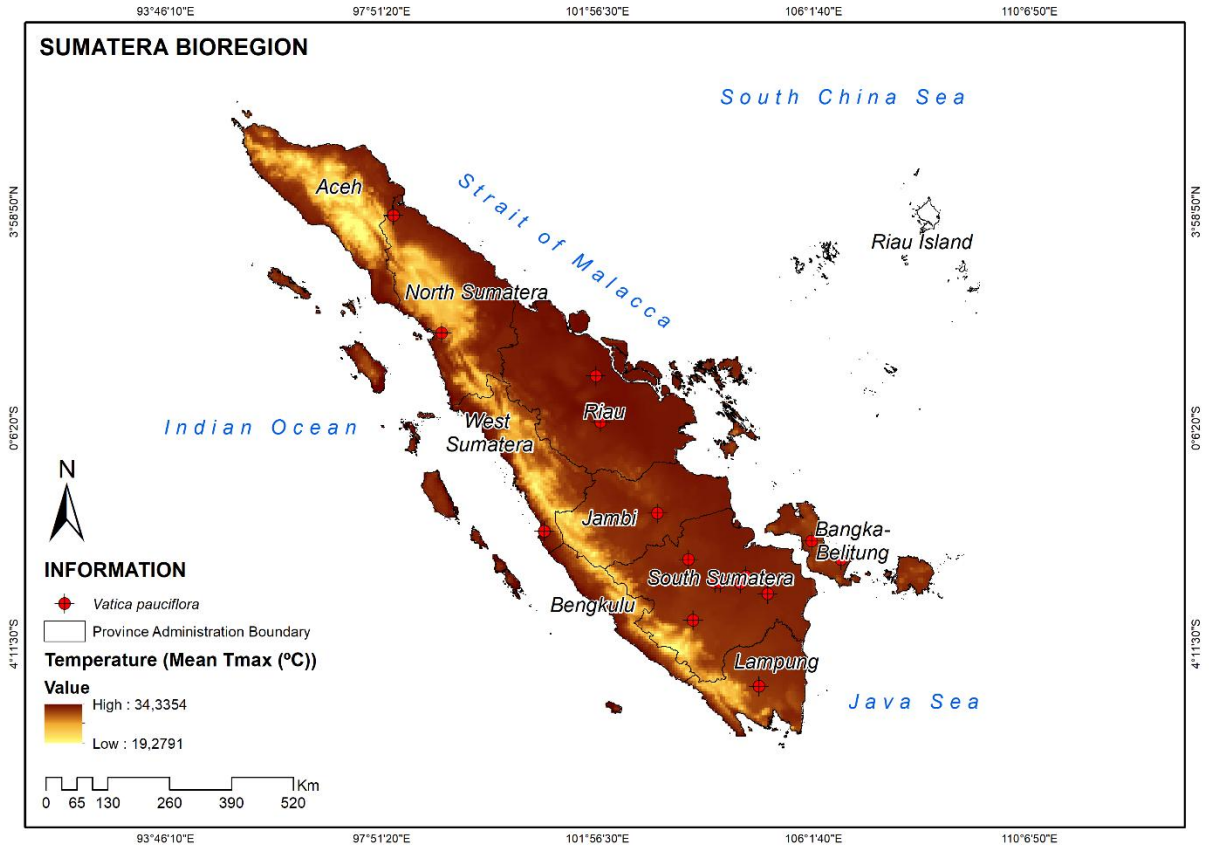


Figure 5. Distribution map of *Vatica pauciflora* in Sumatera bioregion by temperature gradient

Distribution Map Based on Indonesia Bioregion – Java

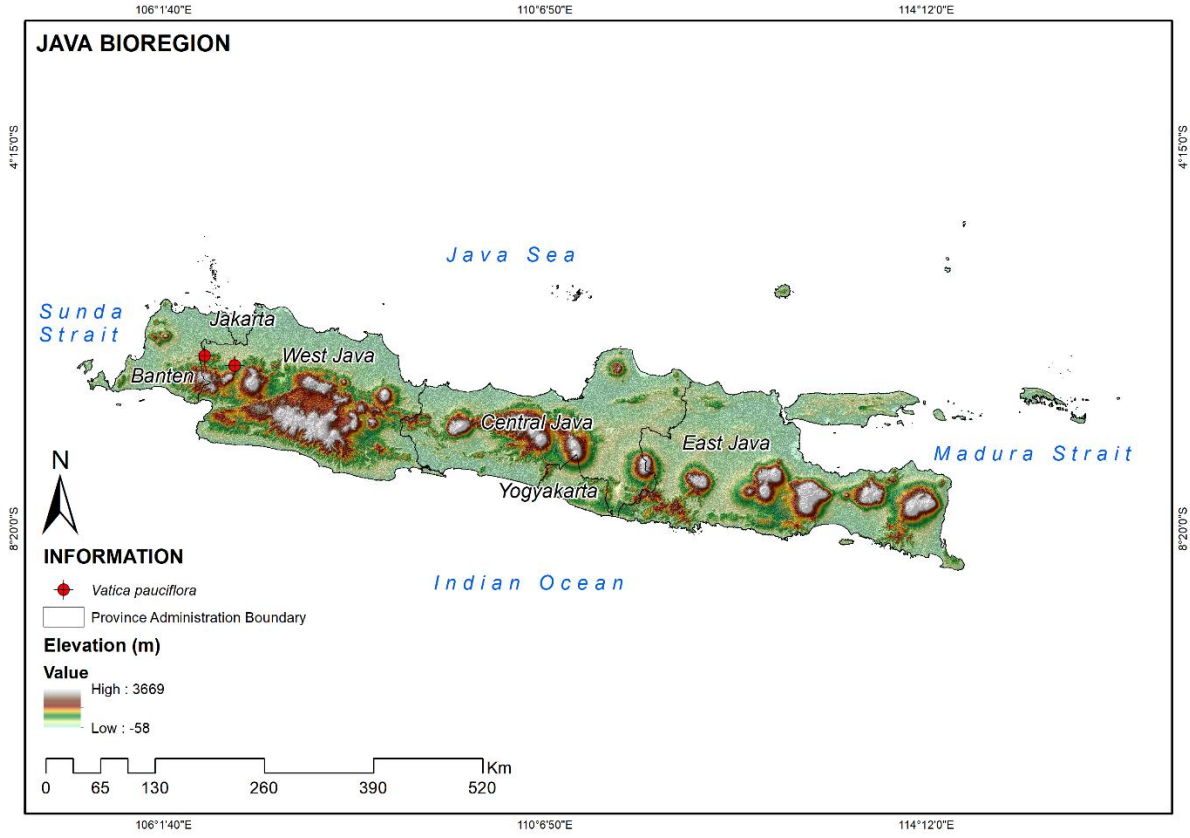


Figure 6. Distribution map of *Vatica pauciflora* in Java bioregion by elevation gradient

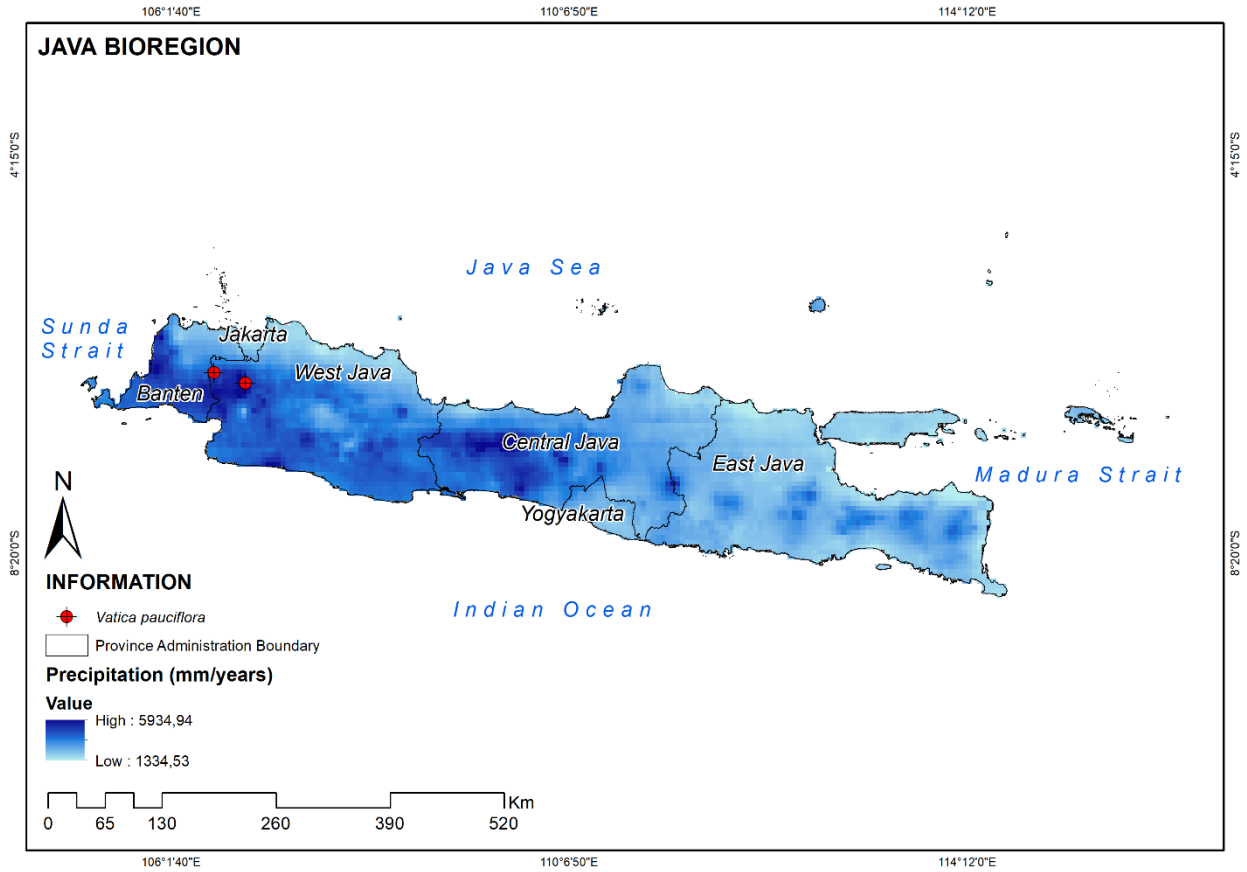


Figure 7. Distribution map of *Vatica pauciflora* in Java bioregion by precipitation gradient

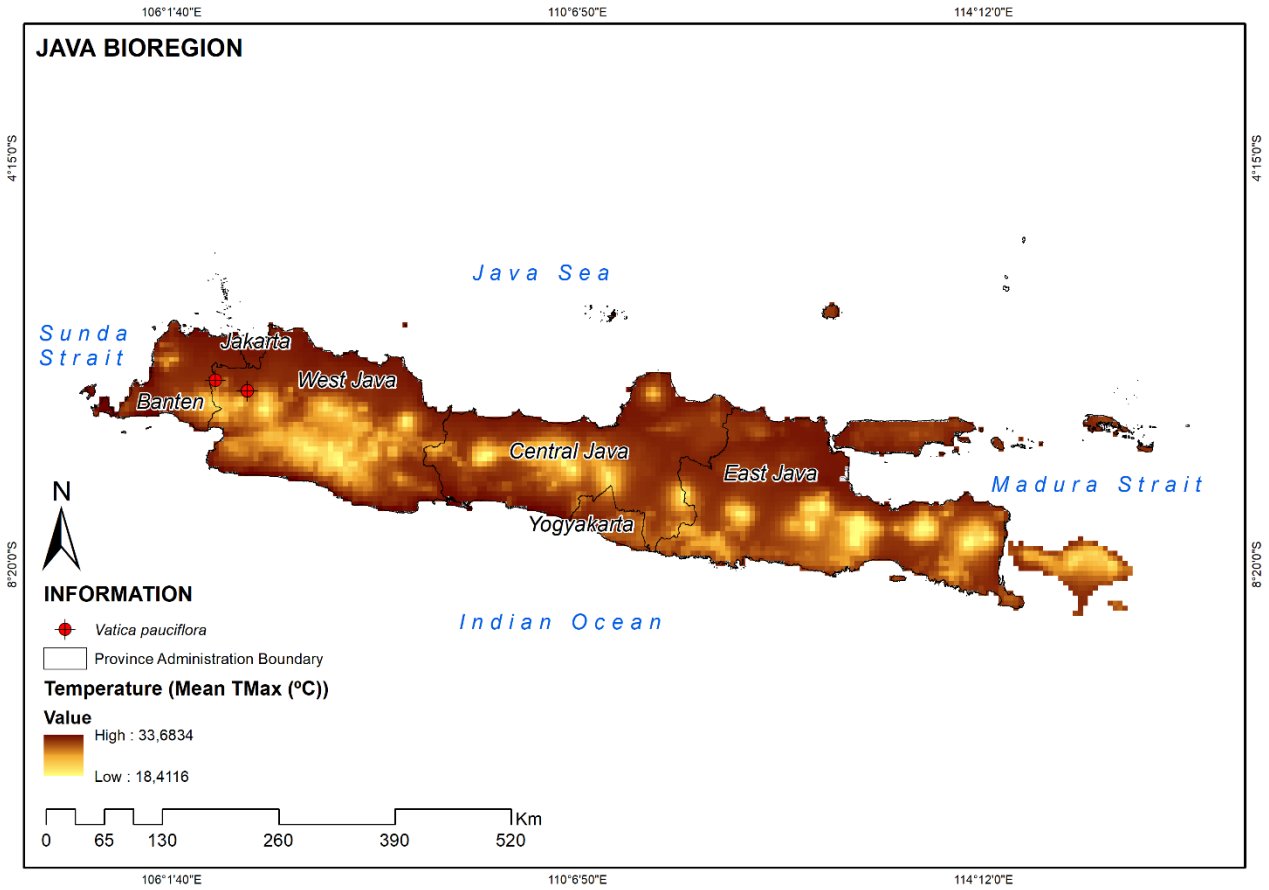


Figure 8. Distribution map of *Vatica pauciflora* in Java bioregion by temperature gradient

Distribution Map Based on Indonesia Bioregion – Borneo

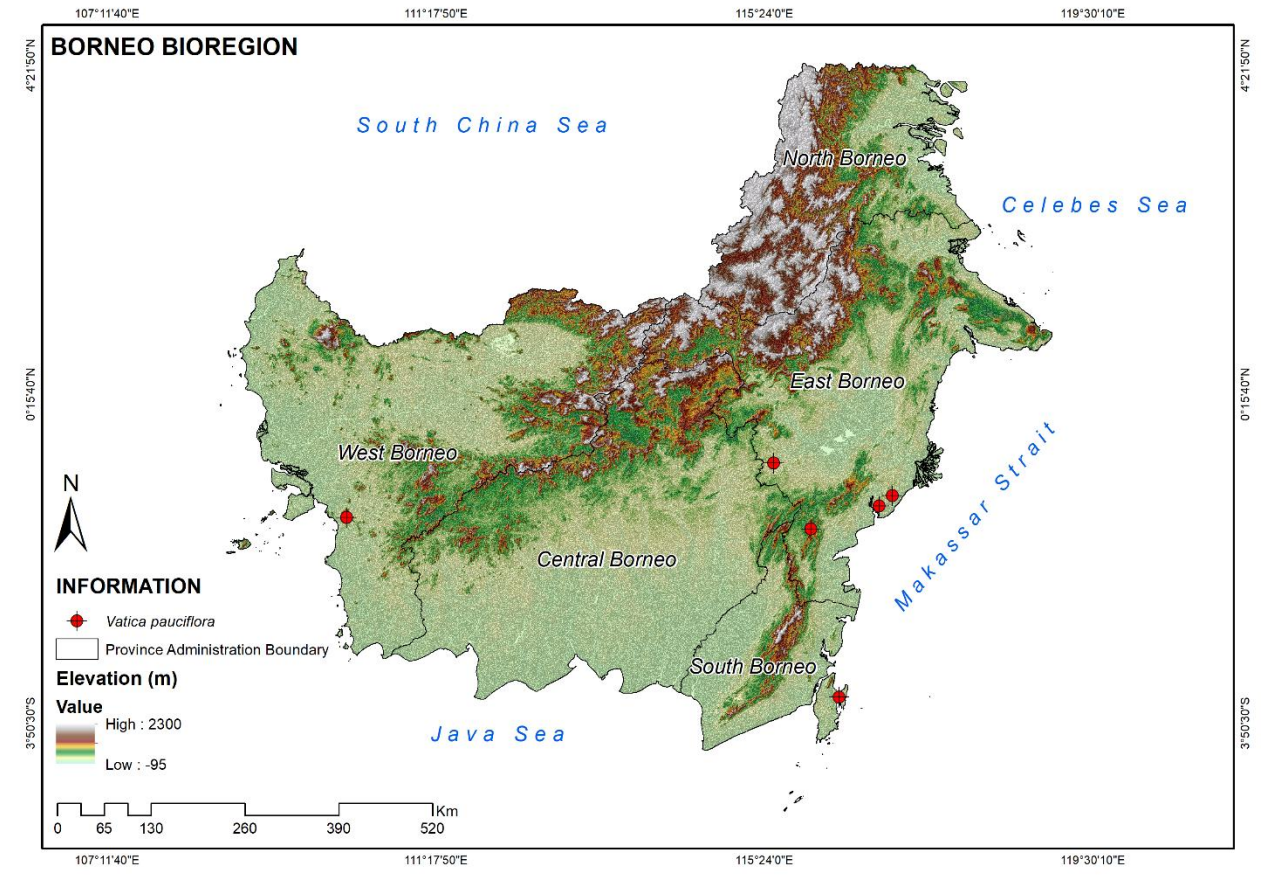


Figure 9. Distribution map of *Vatica pauciflora* in Borneo bioregion by elevation gradient

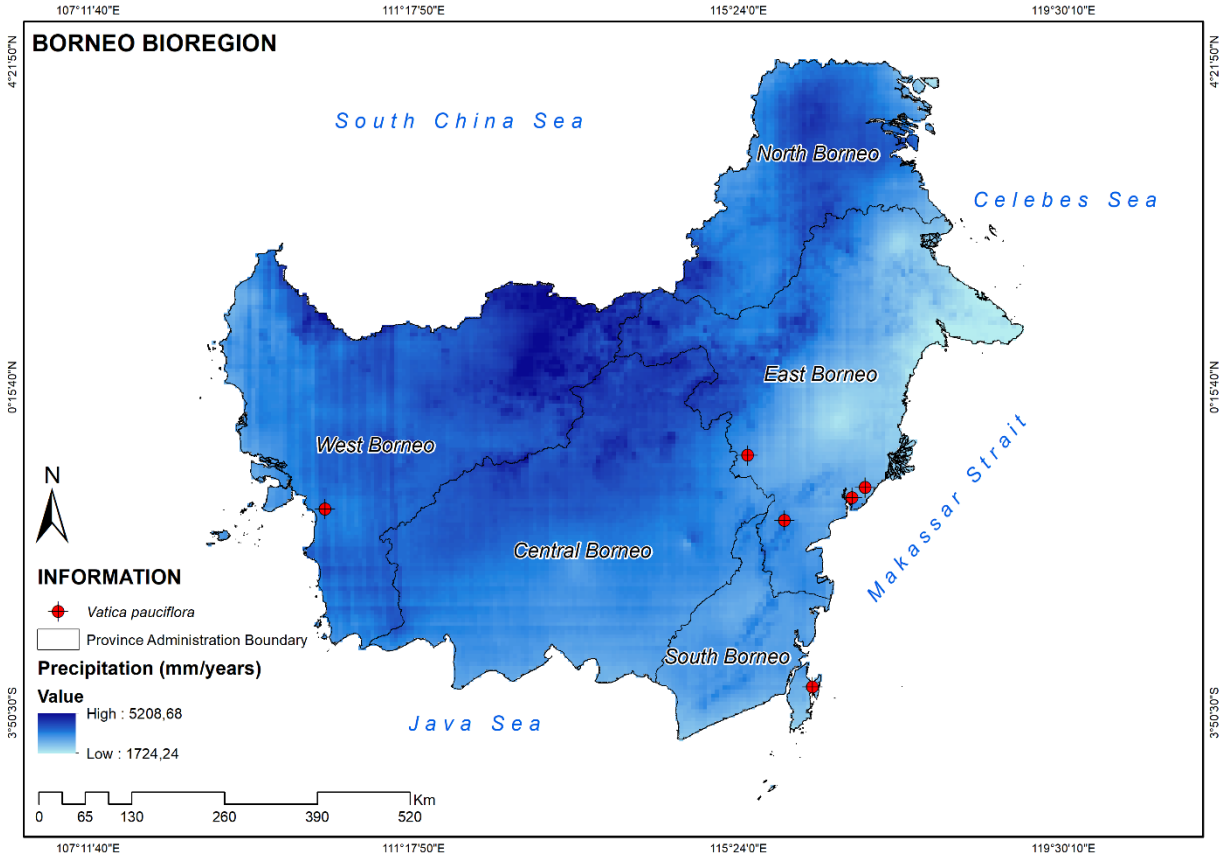


Figure 10. Distribution map of *Vatica pauciflora* in Borneo bioregion by precipitation gradient

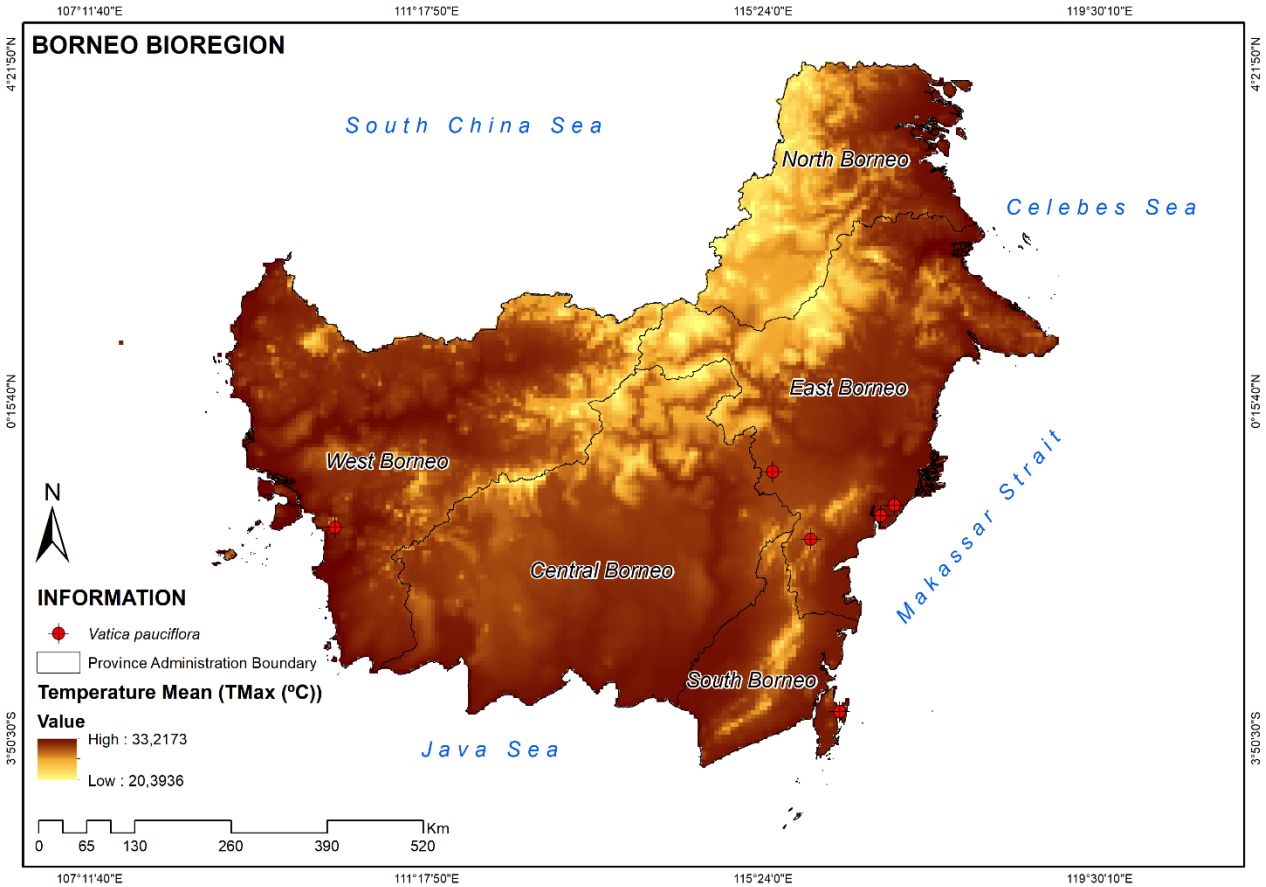


Figure 11. Distribution map of *Vatica pauciflora* in Borneo bioregion by temperature gradient

SPECIES VALUE

Ecological Value

Vatica pauciflora has been recorded as one of the dominant species in riparian vegetation surveys contributing to the structure and diversity of riverbank plant communities (Titisari *et al.* 2025).

Economic Value

Vatica pauciflora has stem bark that contain antioxidant compound, such as pauciflorols, isovaticanols, pauciflorosides, etc belonging to the resveratrol oligomer group (Ito *et al.* 2003). It also has a potential as an antidiabetic agent due to Methoxy bergenin extracted from the stem bark that can decrease the blood sugar level and body weight by interfere with the process for the breakdown of carbohydrates into monosaccharides, so it can not be absorb by the intestines. Therefore, after eating foods that contain carbohydrates, the blood sugar level are not elevated (Riris and Napitupulu 2017). According to Septiana *et al.* (2017), not only the stem bark that can inhibits enzim α-glukosidase (disaccharide-hydrolizing enzyme in the small intestine), but also aqueous root and leaf extract.

Socio-Cultural Value

Not identified

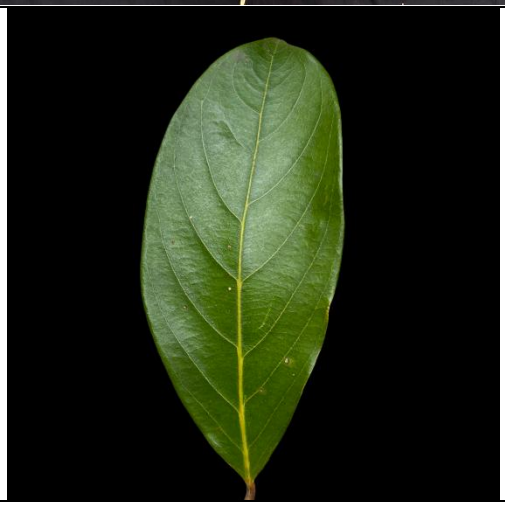
THREATS

Deforestation, illegal logging, overexploitation

DOCUMENTATION

Picture	Title	Caption
	Fruit	*Vatica pauciflora,* IPB University, Malasari Village, Dramaga District, Bogor Regency, Province of Jawa Barat, Indonesia, 31 January 2025

	Fruit skin and fruit meat	*Vatica pauciflora,* IPB University, Malasari Village, Dramaga District, Bogor Regency, Province of Jawa Barat, Indonesia, 31 January 2025
	Habitus	*Vatica pauciflora,* IPB University, Malasari Village, Dramaga District, Bogor Regency, Province of Jawa Barat, Indonesia, 31 January 2025
	Bark	*Vatica pauciflora,* IPB University, Malasari Village, Dramaga District, Bogor Regency, Province of Jawa Barat, Indonesia, 31 January 2025

	Adaxial leaves	*Vatica pauciflora,* IPB University, Malasari Village, Dramaga District, Bogor Regency, Province of Jawa Barat, Indonesia, 31 January 2025
	Abaxial leaves	*Vatica pauciflora,* IPB University, Malasari Village, Dramaga District, Bogor Regency, Province of Jawa Barat, Indonesia, 31 January 2025
	Adaxial leaf	*Vatica pauciflora,* IPB University, Malasari Village, Dramaga District, Bogor Regency, Province of Jawa Barat, Indonesia, 31 January 2025

	Abaxial leaf	*Vatica pauciflora,* IPB University, Malasari Village, Dramaga District, Bogor Regency, Province of Jawa Barat, Indonesia, 31 January 2025

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Ito T, Tanaka T, Iinuma M, Iliya I, Nakaya KI, Ali Z, Takahashi Y, Sawa R, Shirataki Y, Murata J, Darnaedi D. 2003. New resveratrol oligomers in the stem bark of *Vatica pauciflora*. *Tetrahedron*. 59(28):5347-5363.

Purwaningsih. 2004. Review: Ecological distribution of Dipterocarpaceae species in Indonesia. *Biodiversitas: Journal of Biological Diversity*. 5(2): 89-95.

Riris ID, Napitupulu MA. 2017. Antidiabetic activity of methoxy bergenin isolated from ethanol extract of raru stem bark (*Vatica pauciflora* Blume) in alloxan induced diabetic wistar rats. *Asian Journal of Chemistry*. 29(04):870-874.

Septiana E, Winarti W, Simanjuntak P. 2017. Penghambatan aktivitas enzim α-glukosidase dari ekstrak air kulit batang, daun, dan akar tanaman raru (*Vatica pauciflora*) secara *in vitro*.

Farmasains. 4(1): 9-13.
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