

Online Profile

Drepanosticta sundana

(Damselfly)

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CONSERVATION STATUS

IUCN RedList

Data Deficient (2007)

CITES

This species is not listed in the CITES Appendices

Government of Indonesia

Not Protected (Regulation of the Minister of Forestry Number 106 of 2018)

OVERALL DISTRIBUTION

Java, Indonesia

OVERVIEW

Drepanosticta sundana is a damselfly species from the family Platystictidae that is primarily associated with clean freshwater habitats in forested environments. The species is typically found around waterfalls and forest streams with fast-flowing water, low light intensity, and high humidity, where human disturbance is minimal. *D. sundana* is ecologically important as a bioindicator of freshwater ecosystem health due to its sensitivity to environmental change, particularly water pollution. In addition, the species provides indirect economic value by supporting environmental monitoring efforts and contributing to the conservation of forest–freshwater ecosystems with ecotourism potential.

Citation

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IDENTITY

Scientific Name

Drepanosticta sundana (Krüger, 1898)

Synonym

Drepanosticta amboinensis (van Tol, 2007)
Drepanosticta arcuata (Lieftinck, 1934)
Drepanosticta asahinai (Sasamoto & Karube, 2007)
Drepanosticta attala (Lieftinck, 1934)
Drepanosticta auriculata (Selys, 1878)
Drepanosticta barbatula (Lieftinck, 1940)
Drepanosticta bartelsi (Lieftinck, 1937)
Drepanosticta batanta (Kovács & Theischinger, 2015)
Drepanosticta berlandi (Lieftinck, 1939)
Drepanosticta bicolor (van Tol, 2007)
Drepanosticta bicornuta (Selys, 1878)
Drepanosticta bifida (van Tol, 2007)
Drepanosticta bispina (Fraser, 1932)
Drepanosticta claaseni (Lieftinck, 1938)
Drepanosticta clavata (Lieftinck, 1932)
Drepanosticta crenitis (Lieftinck, 1933)
Drepanosticta dorcadion (Lieftinck, 1949)
Drepanosticta drusilla (Lieftinck, 1934)
Drepanosticta ephippiata (Lieftinck, 1937)
Drepanosticta eucera (Lieftinck, 1949)
Drepanosticta exoleta (Lieftinck, 1932)
Drepanosticta floresiana (Lieftinck, 1939)
Drepanosticta gazella (Lieftinck, 1929)
Drepanosticta halmahera (van Tol, 2007)
Drepanosticta hamulifera (van Tol, 2007)
Drepanosticta inconspicua (Lieftinck, 1938)
Drepanosticta krugeri (Laidlaw, 1926)
Drepanosticta lepyricollis (Lieftinck, 1949)
Drepanosticta misoolensis (van Tol, 2007)
Drepanosticta moluccana (Lieftinck, 1938)
Drepanosticta obiensis (van Tol, 2007)
Drepanosticta penicillata (van Tol, 2007)
Drepanosticta psygma (van Tol, 2007)
Drepanosticta pytho (Lieftinck, 1937)
Drepanosticta quadrata (Selys, 1860)
Drepanosticta robusta (Fraser, 1926)
Drepanosticta rudicula (van Tol, 2007)
Drepanosticta rufostigma (Selys, 1886)
Drepanosticta seramensis (van Tol & Bedjanic, 2018)
Drepanosticta siebersi (Fraser, 1926)
Drepanosticta sumatrana (Sasamoto & Karube, 2007)
Drepanosticta spatulifera (Lieftinck, 1929)

Common Name (Indonesia)

Capung Jarum Hutan

Indonesia Local Name

Not Identified

CLASSIFICATION

Kingdom	:	Animalia
Division	:	Arthropoda
Class	:	Insecta
Order	:	Odonata
Family	:	Platystictidae
Genus	:	<i>Drepanosticta</i>
Species	:	<i>Drepanosticta sundana</i> (Krüger, 1898)

DESCRIPTION

Drepanosticta sundana is a damselfly species characterized by a predominantly dark body coloration. The wings are transparent with black venation and a brown pterostigma at the wing tips. The total body length reaches approximately 3.8 cm. The head is relatively small, measuring about 0.2 cm, with black compound eyes marked by two light blue stripes. The thorax is about 0.4 cm long and features yellowish-brown stripes on both the right and left sides. The abdomen is elongated, measuring around 3.0 cm, with the basal part of each abdominal segment colored yellowish brown. In females, the terminal part of the abdomen is larger than the preceding segments and functions as secondary genitalia during copulation (Zaman et al. 2019). The forewings are approximately 2.1 cm long, while the hindwings measure about 2.2 cm; both are transparent with brown coloration at the upper tips. The forelegs and midlegs are each about 0.6 cm long, whereas the hindlegs reach approximately 0.8 cm, and all legs are light brown in color.

ECOLOGY AND HABITAT

Drepanosticta sundana is highly sensitive to environmental disturbance, particularly water pollution (Zaman et al. 2019; Rachman & Rohman 2016). This species is commonly found around waterfalls with fast-flowing water originating from hill springs, where human activity is relatively low (Rachman & Rohman 2016). It has also been recorded in clean freshwater habitats within undisturbed primary forests (Zaman et al. 2017). *D. sundana* prefers forest habitats with low light intensity and humid conditions (Waryati & Triatmanto 2022). Suitable habitats for this species include mixed forest types characterized by shaded areas and dense vegetation cover (Herlambang et al. 2016).

DISTRIBUTION

Distribution Region

Regional Distribution in Indonesia,
Java

Distribution Type

Endemic in Java Island

Distribution Map In Indonesia

Drepanosticta sundana occurrence in Indonesia

Sumber data: GBIF

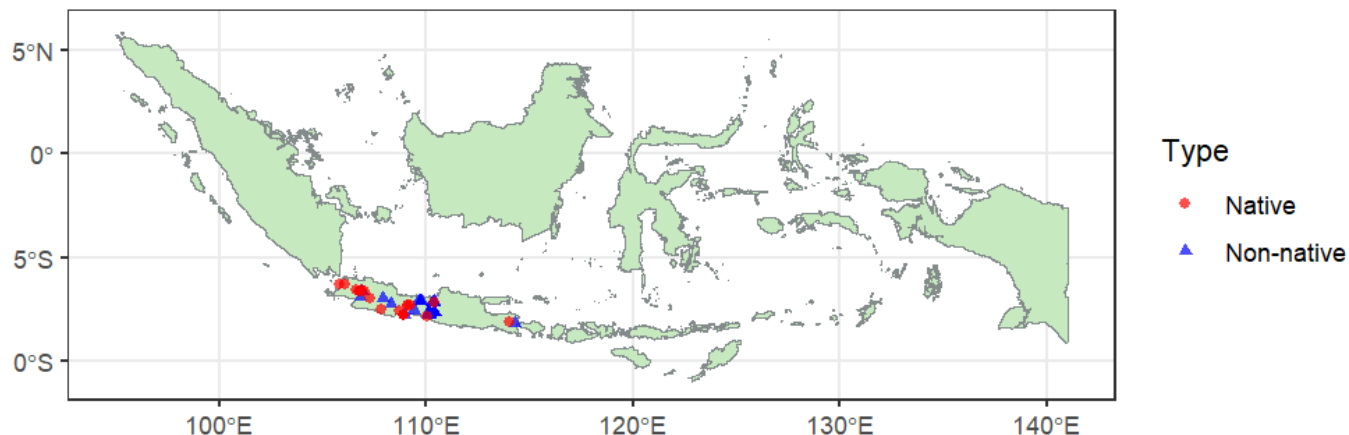


Figure 1. Distribution map *Drepanosticta sundana* in Indonesia

Statistical Overview of Distribution

Indicator	Bioregion	Value (total, mean \pm SD, range)	Unit
Distribution (GBIF on 2025)	Java	63	Record
Bioclimatic – Elevation (DEM SRTM)	Java	657,49 \pm 458,84 (20 - 2849)	Mean Sea Level (m)
Bioclimatic – Precipitation (CHIRPS UCSB) (2015-2025)	Java	3360,88 \pm 471,23 (2066,07 – 4821,41)	mm / years
Bioclimatic – Temperature (CHIRTS UCSB) (2015-2025)	Java	28,11 \pm 2,34 (19,88 – 33,20)	Mean Tmax (°C)

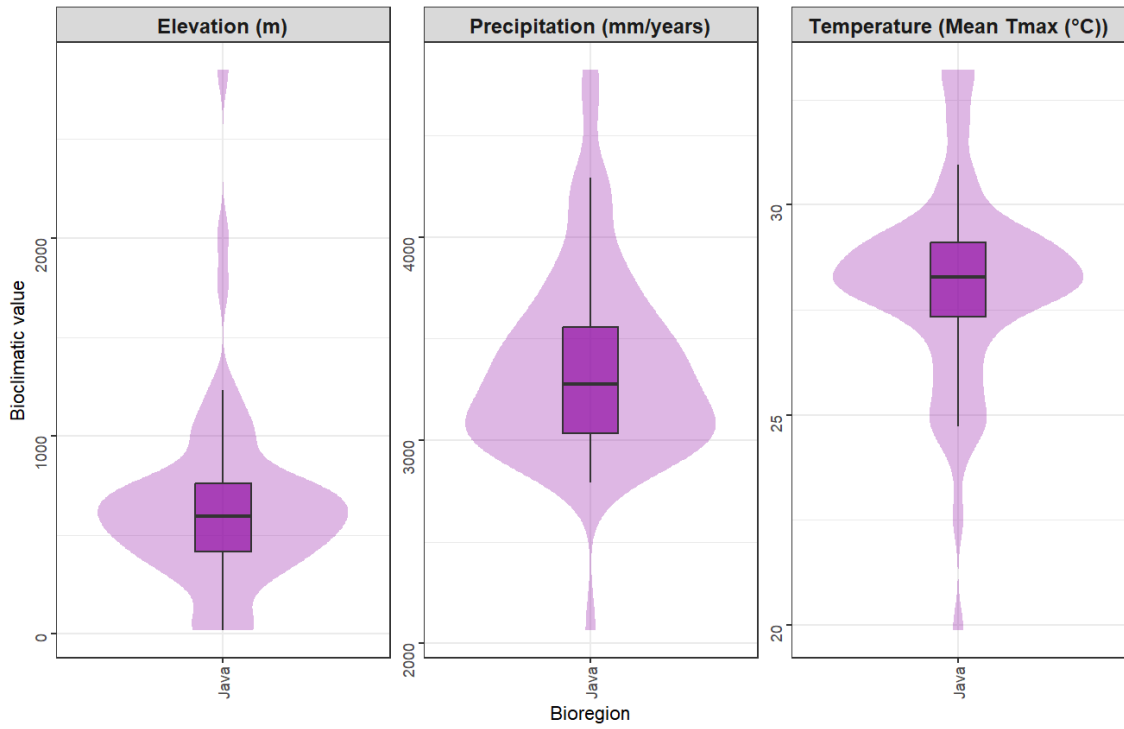


Figure 2. Statistical of bioclimatic characteristic

Distribution Map Based on Indonesia Bioregion

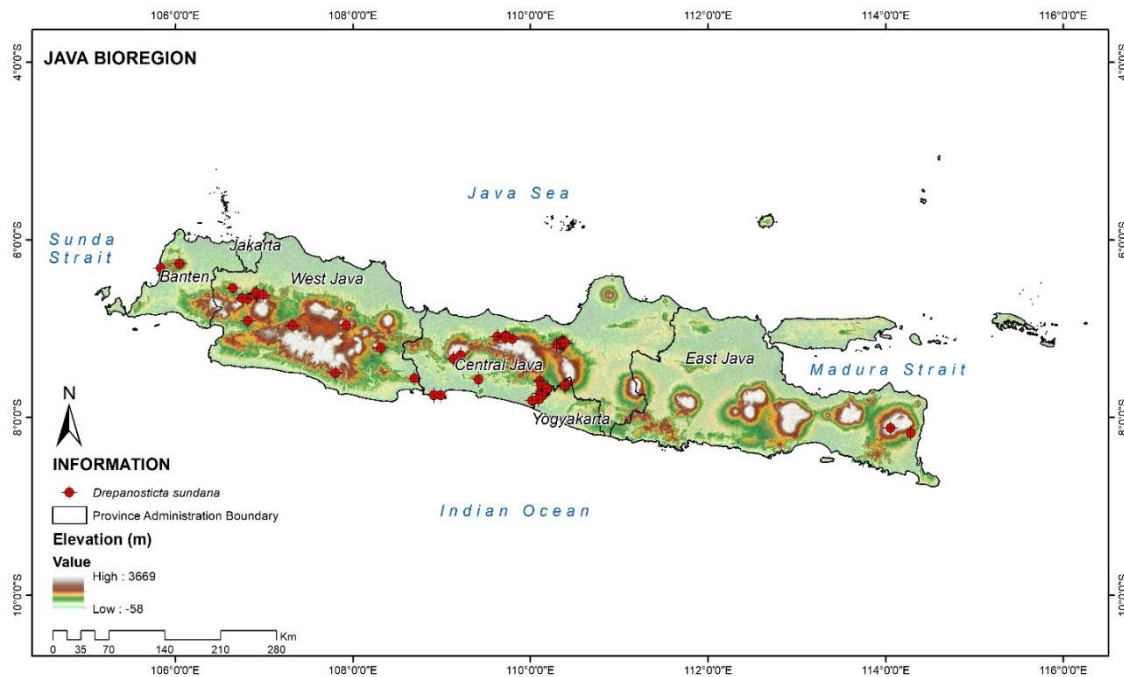


Figure 3. Distribution map *Drepanosticta sundana* in Indonesia bioregion

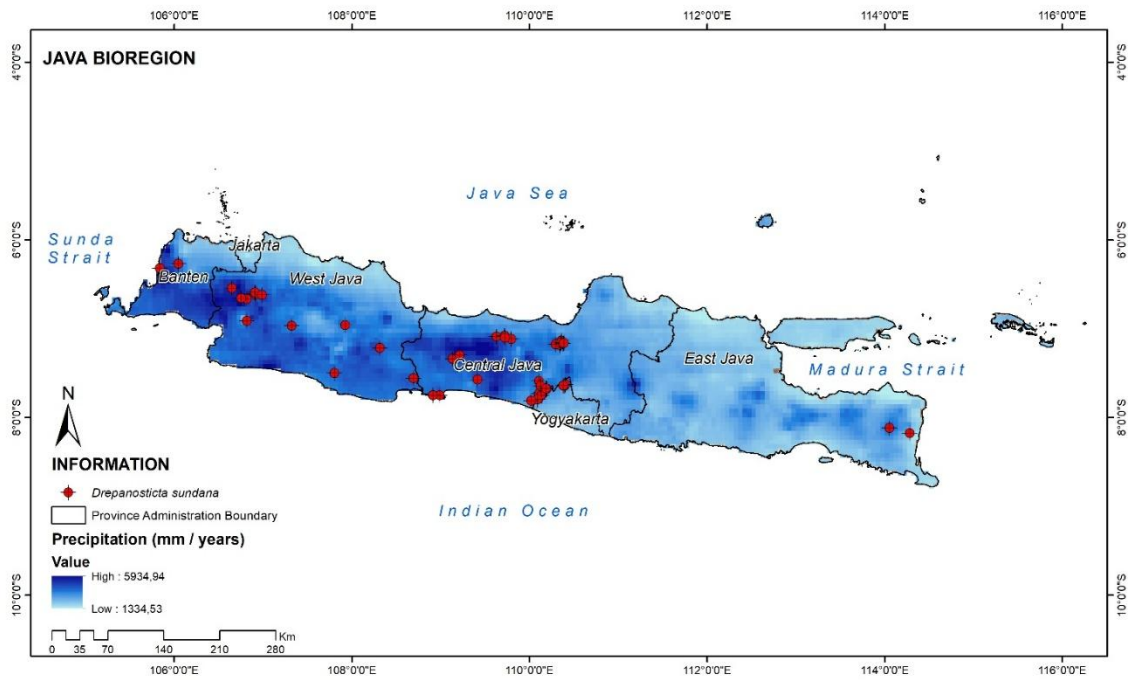


Figure 4. Distribution map of *Drepanosticta sundana* in Java bioregion by precipitation gradient

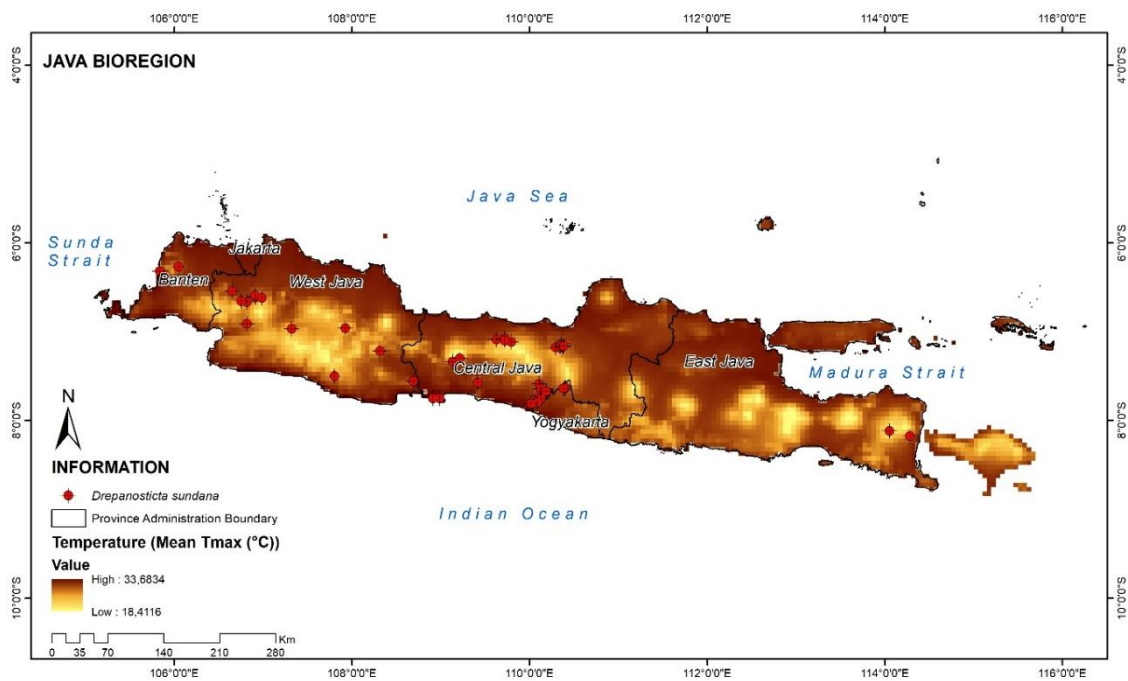


Figure 5. Distribution map of *Drepanosticta sundana* in Java bioregion by temperature gradient

SPECIES VALUE

Ecological Value

Drepanosticta sundana possesses ecological value due to its sensitivity to environmental conditions, which makes it an important indicator species within freshwater ecosystems (Zaman et al. 2017). Odonates are widely recognized as effective bioindicators of aquatic ecosystem health because of their strong dependence on water quality and their sensitivity to environmental changes, including pollution and habitat degradation (Irsa et al. 2024). More broadly, Odonata are extensively used as valuable tools for assessing the ecological condition of freshwater ecosystems, as their presence, diversity, and community composition reflect habitat quality and environmental stability (Vilencia et al. 2022). In particular, the presence of odonate larvae in water bodies indicates sufficient levels of dissolved oxygen, which is essential for maintaining healthy aquatic habitats and supporting overall ecosystem functioning (Adeleke 2024). Therefore, the occurrence of *D. sundana* and other odonate species can provide critical information for monitoring freshwater ecosystem integrity and guiding conservation efforts.

Economic Value

Drepanosticta sundana has indirect economic value through its role as a bioindicator of clean freshwater ecosystems. Its presence can support environmental monitoring and water quality assessment, helping to reduce long-term costs related to ecosystem degradation and restoration. In addition, habitats where *D. sundana* occurs, such as forest streams and waterfalls, often have ecotourism potential. The conservation of these habitats may therefore contribute to sustainable economic benefits through nature-based tourism and environmental education.


Socio-Cultural Value





Not identified

THREATS

Agriculture and Urban

DOCUMENTATION

Picture	Title	Caption
	<p>Dorsal vies</p>	<p><i>Orthetrum galucum</i>, Gunung Halimun Salak National Park (Cikaniki Forest Resort), Desa Malasari Kec. Nanggung, Kab. Bogor, Jawa Barat, 26 Oktober 2025</p>

	<p>Morphology</p>	<p>Total body length: 3.8 cm</p>
	<p>Wings</p>	<p>Wing length: 2.2 cm</p>
	<p>Thorax</p>	<p>Thorax: 0.4 cm</p>
	<p>Abdomen</p>	<p>Abdominal length: 3 cm</p>

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