

# **A new species of *Epimastidia* Druce, 1891 from Papua, Indonesia (Lepidoptera: Lycaenidae)**

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*Abstract:* A new species of the genus *Epimastidia* closely related to *E. inops* is described from the Baliem Valley in Papua, Indonesia.

*Ikhtisar:* Spesies baru dipertelakan dari genus *Epimastidia* yang dekat dengan *E. inops* dan berasal dari Lembah Baliem, Papua, Indonesia.

*Keywords:* Polyommatini, *Jamides*, New Guinea.

## **Depositories**

The abbreviations given below have been used throughout the text.

- BT - Private collection Bernard Turlin, Andrésey, France
- JM - Private collection Jacques Marquet, Grisy-Suisnes, France
- JP - Private collection John Pasko, Thousand Oaks, LA, U.S.A.
- KSP - Koleksi Serangga Papua, Jayapura

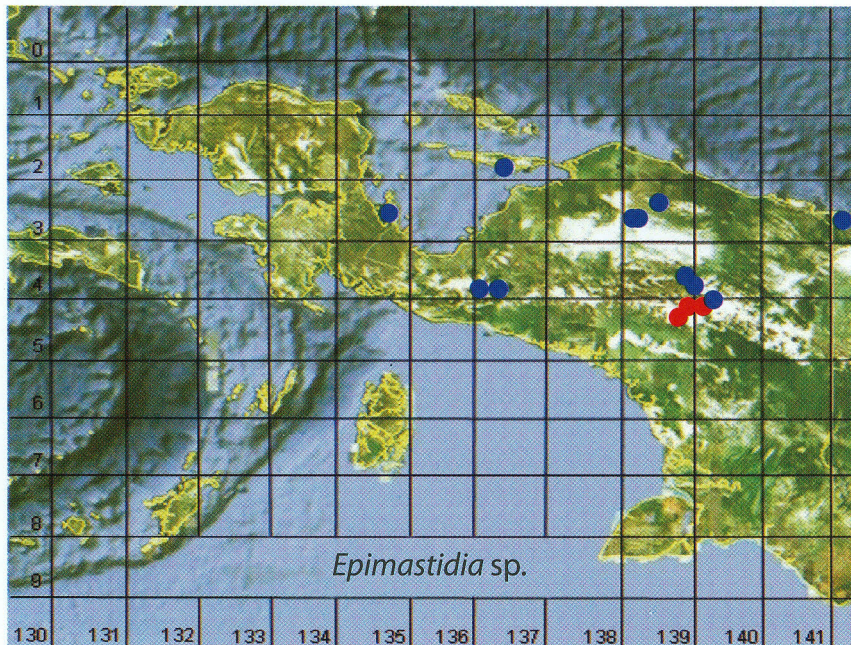
## **Introduction**

In this paper, a new species of the genus *Epimastidia* Druce, 1891, is described. The genus, a small one of the Polyommatini (Lycaeninae, Lycaenidae), occurs from the Aru islands through New Guinea to the Solomons Archipelago.

Eliot (1973) regarded *Epimastidia* as closely related to *Danis* Fabricius, 1807. However, because of similarities in forewing venation, where a short cross-vein links veins Sc and R<sub>1</sub>, and the structure of the genitalia, Hirowatari (1992) transferred the genus *Epimastidia* with its only two species to the *Jamides*-section *sensu* Eliot, 1973.

The new *Epimastidia* described herein was already briefly mentioned from the Baliem Valley as a "species close related to *E. inops*" by Parsons (1999: 452) and the specimen referred to was collected on a joint trip of John Pasko and Henk van Mastrigt to *air garam* (salt water source) at Yiwika, the type locality of the new species.

Although *E. inops* is widely distributed in Papua and occurs also in the surroundings of the Baliem Valley, no localities are known where the newly described species and *E. inops* are sympatric (Map. 1). The new species likes to fly in sunny areas in primary and secondary forests, where the shining-blue males are easily recognised in the sunlight.



**Map 1.** Distribution of *Epimastidia* sp. in Papua, based on material in KSP.  
(red spot: *E. yiwikana*; blue spot: *E. inops*)

### The species of *Epimastidia* currently recognised

*Epimastidia arienis* Druce, 1891 occurs in several subspecies from the Bismarck Archipelago to the Solomon Islands (Tennent, 2001; 2006) and is also recorded from the Island of Seram. Based on the unusual occurrence of *E. arienis staudingeri*

(Röber, 1886) on Seram and its absence from New Guinea, Parsons (1999) suggested that it may represent a distinct species.

*Epimastidia inops* (C. & R. Felder, 1860) is widely distributed across New Guinea and is also known from the Aru islands.

A third species, *Epimastidia celebica* Eliot, 1969 from Sulawesi (Hirowatari, 1992: pl. 1, fig. 11), was tentatively placed in this genus, but subsequently transferred to *Jamides* Hübner, 1819, where it takes an isolated position within the "*celebica*-subgroup" *sensu* Hirowatari, which contains *J. celebica* only. Recently Muller (pers. comm.) mentioned the existence of a further undescribed species from Papua.

The KSP collection also yields two specimens with morphologically intermediate characters. They are characterized by more elongate wings and additionally show some markings within the whitish area of both underside wings.

## Description of the new species

### *Epimastidia yiwikana* spec. nov.

Figs 1-4

**Holotype:** ♂, Jayawijaya, Wamena, Yiwika, 28.X.1980, leg. Henk v. Mastrigt, KSP.

**Paratypes** (7 ♂♂+ 2 ♀♀): data as holotype, but 18.X.1980, 1 ♂, 1 ♀, KSP; 1 ♂, JP; 29.X.1980, 1 ♀, KSP (KSP 12904); Air Garam, XII, 1996, 1 ♂ KSP; 16.VIII.2009, leg. Jacques Marquet, 1 ♂, JM; 16.VIII.2009, leg. Bernard Turlin, 1 ♂, BT; Honolama, Kali Helo, 21.VIII.1986, leg. Henk van Mastrigt, 1 ♂, KSP; Welesi, Kali Mil, 2000 m, 4.XII.1986, leg. Henk van Mastrigt, 1 ♂, KSP.

Note: Labelling of specimens appears inconsistent, but all type material –except the ones from Honolama and Welesi– are from the same locality: the track from Yiwika to the salt water source.

**Diagnosis:** *Epimastidia yiwikana* is easily separated from *E. inops*, as the underside of the hindwing has a broad grey to black terminal band, with five orange spots on the innerside of the dark terminal spots.

Male: forewing upperside shining sky-blue with a greenish tinge; the black border measures 0.5 mm at tornus and extends to 2 mm at apex. Hindwing with no blue scales above vein M<sub>1</sub>, blue scaling being actually limited to below an imaginary straight line from base of wing to end of vein M<sub>1</sub>, and to the thorax, so that blue scales are also missing in basal parts of interspace M<sub>1</sub>-M<sub>2</sub> and the upper part of the discal cell; black border approximately 1 mm wide at the veins, but broadened by triangular black spots in cells 2 to 5.



Underside of forewing light brown, with a broad white median patch and a series of ill-defined white submarginal spots. Hindwing with basal and median areas white, and a wide brown margin; submarginal series of black spots in cells CuA<sub>2</sub> to M<sub>1</sub> (occasionally edged distally with some whitish scales), bearing proximally large orange crescents. Genitalia similar to *E. inops* (see discussion).

Female: basal and median areas of both wings white, suffused with blue basally, this extending on hindwing along cell 1A+2A-CuA<sub>2</sub> to the submarginal area, where it enters the brown margin. Female underside as male.

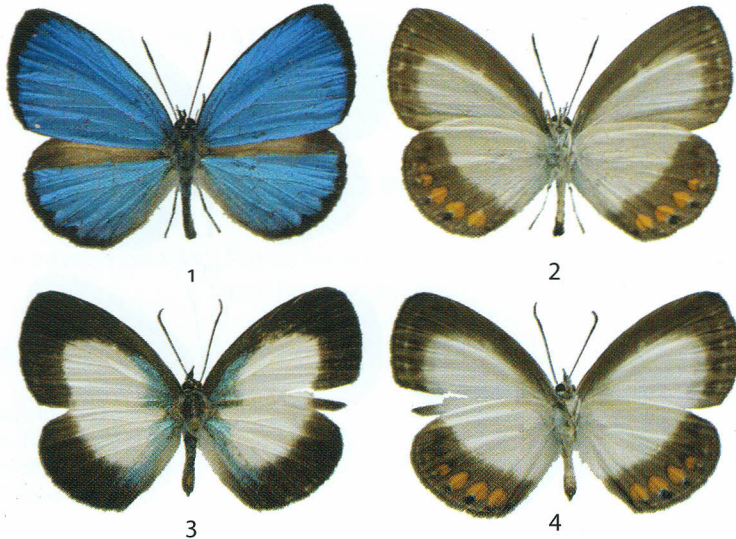
Length of forewing: (16) 18-19 mm (average: 18.3 mm).

Etymology: 'yiwikana' is an adjective in apposition, derived from Yiwika, the name of the villages where most of the type material was collected.

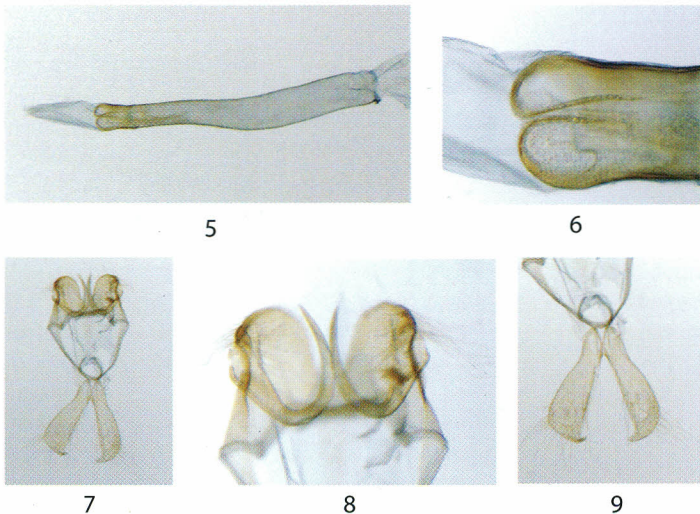
**Discussion:** *E. yiwikana* is easily recognized by the row of unusual black submarginal spots on the hindwing underside, which are *proximally connected* with by a large orange coloured area. This differs strongly from both *E. inops* and *E. arienis*, which do not show any traces of orange colour at all. *E. inops* shows a typical *Jamides*-pattern with large black submarginal lunules on the hindwing and an interrupted (chevron like) submarginal line on the forewing. Additionally, the male of the close related *E. inops* differs in having a deeper blue colour on the upperside without any greenish tinge. In *E. inops* the blue scaling on the hindwing enters space Rs at the termen, which remains black in *E. yiwikana*. The extension of the submarginal black triangular spots on the upperside of the hindwing is much stronger than in *E. inops*. The female of *E. inops* superficially resembles *E. yiwikana*, but its white areas are much more reduced and the blue scaling is restricted to the basal wing areas. Male genitalia are similar to those of *E. inops* (Hirowatari, 1992: 87, figs 23 J-K), but the valvae are narrower in their basal part, giving them a spoon-like shape. In comparison with *E. inops*, the apex of the aedeagus is more rounded in *E. yiwikana*.

## Acknowledgements

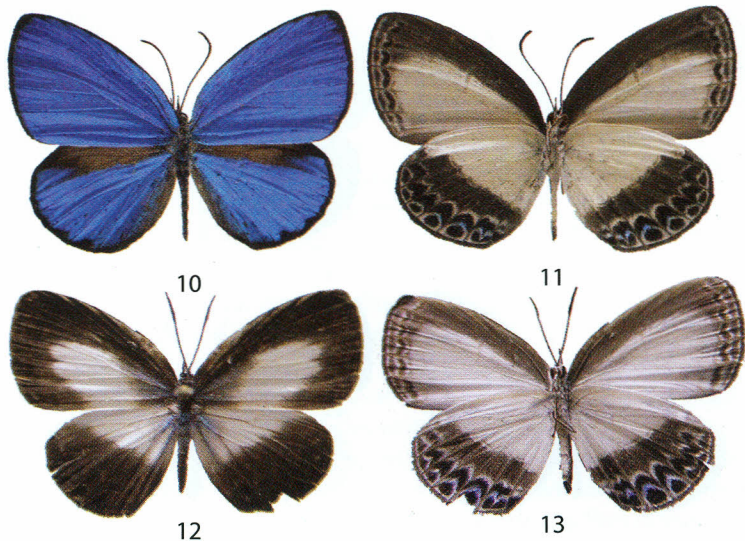
I am grateful to Henk van Mastrigt (KSP, Jayapura) for allowing me to describe the new species based on material he collected. Drs. Rob de Vos (Leiden) and Willem N. Ellis (Amsterdam) kindly helped with dissection and taking digital photographs of the genitalia. Thanks also to Chris Muller (PNG) and W. John Tennent (London) for discussions on *Epimastidia*.



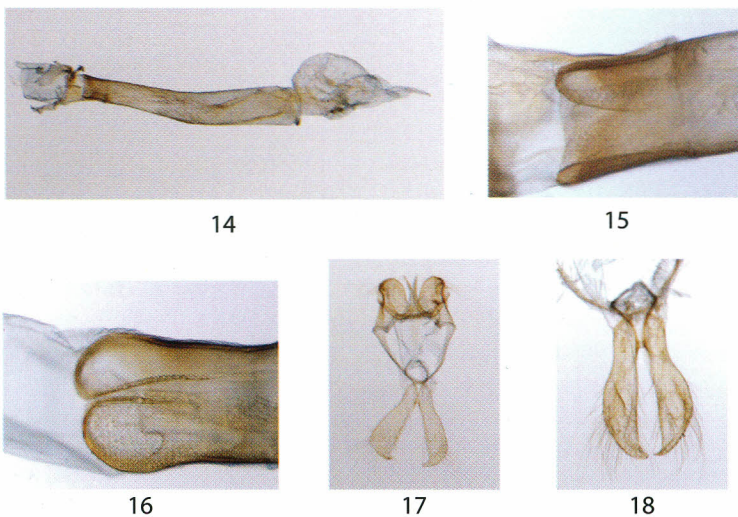
**Figs 1-4.** *Epimastidia yiwikana* **spec. nov.**: 1. holotype ♂ upperside (KSP 12901); 2. idem underside; 3; paratype ♀ upperside (KSP 12904); 4. idem, underside



**Figs 5-9.** *Epimastidia yiwikana* **spec. nov.**, male genitalia: 5. aedeagus; 6. apex of aedeagus; 7. habitus; 8. uncus; 9. valvae. (KSP 12901)



**Figs 10-13.** *Epimastidia inops*: 10. ♂ upperside (KSP 12912 – from Dabra, Mamberamo area); 11. idem, underside; 12. ♀ upperside; (KSP 12917 – from Marina Valen, Mamberamo area); 13. idem, underside.



**Figs 14-18.** *Epimastidia inops*, male genitalia: 14. aedeagus; 15. apex of aedeagus; 16. habitus; 17. uncus; 18. valvae.



## Literature

- Eliot, J.N. (1973): The higher classification of the Lycaenidae (Lepidoptera): a tentative arrangement. – Bulletin of the British Museum, nat. hist. (Ent.), **28**: 375-505; London.
- Hirowatari, T. (1992): A generic classification of the tribe Polyommataini of the Oriental and Australian regions (Lepidoptera, Lycaenidae, Polyommatainae). – University of Osaka Prefecture, Bulletin B **44**: 102 S., 38 figs.; Osaka.
- Parsons, M.J. (1999): The butterflies of Papua New Guinea: Their systematics and biology. Academic Press, London, 763 pp., xxvi + 104pls.
- Tennent, W.J. (2001): Twenty new butterflies from the Solomon Islands (Lepidoptera: Hersperidae; Lycaenidae; Nymphalidae, Satyrinae; Danainae). – British Journal of Entomology and Natural History, **14**: 1-27, 77 figs., 3 maps; Reading.
- Tennent, W.J. (2006): A checklist of the butterflies of Melanesia, Micronesia, Polynesia and some adjacent areas. Zootaxa, **1178**: 1-209; Auckland.

## Students' Corner

At December 23<sup>rd</sup>, 2009 Flora Gratiana Adeodata, student of Program Studi Ilmu Kehutanan, Sekolah Pasca Sarjana (Forestry Program of the Post Graduate Department), Jurusan Konservasi Sumber Daya Hutan, Universitas Gajah Mada, Yogyakarta, finished her studies with a thesis (in Indonesian language), titled: **Keanekaragaman dan Penyebaran Spesies Kupu-kupu Famili Nymphalidae (Subfamili Charaxinae, Apaturinae, Nymphalinae dan Heliconinae) di Papua.** *The Diversity and Distribution of Nymphalid Butterflies (Subfamilies: Charaxinae, Apaturinae, Nymphalinae and Heliconinae) in Papua.*

The results of this study is presented in this issue of SUGAPA.