

A new species of *Hypochrysops* Felder & Felder, 1860, from Waigeo Island, Indonesia (Lepidoptera, Lycaenidae)

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Abstract: *Hypochrysops akirai* **spec. nov.**, from Waigeo Island, Indonesia, is described and figured. The adult male and its genitalia are compared to those of the related *H. heros* Grose Smith, 1894, and other species in the *H. theon* Felder & Felder, 1865, species-group.

Rangkuman: *Hypochrysops akirai* **spec. nov.**, dari Pulau Waigeo, Indonesia, dipertelakan termasuk gambarnya. Jantan dewasa dan genitalianya dibandingkan dengan spesies terdekat, *H. heros* Grose Smith, 1894, dan spesies lain dari kelompok spesies *H. theon* Felder & Felder, 1865.

Keywords: *Hypochrysops akirai*, Raja Ampat, Theclinae.

Introduction

Members of the thecline genus *Hypochrysops* Felder & Felder, 1860, are among the most stunning butterflies, with most species bearing brightly coloured undersides, adorned with conspicuous metallic markings. *Hypochrysops* adults are otherwise characterised by smooth eyes and male genitalia which bear a weakly developed sclerotized juxta and an uncus which is not produced. Eliot (1973) placed the genus sister to *Philiris* Röber, 1891, in the *Hypochrysops* section of the tribe Luciini.

Hypochrysops is distributed from Thailand and Peninsula Malaysia through Sundaland to Sulawesi, Maluku, New Guinea and the Solomon Islands, as far east as the Santa Cruz group, as well as throughout coastal and sub-coastal Australia but not occurring in Tasmania (Parsons, 1998; Braby, 2000; Tennent, 2002). Only one species, *H. coelisparvus* (Butler, 1883), is known to occur west of Wallace's Line demarcating Sulawesi from Borneo, and the greatest diversity of species occurs on mainland New Guinea and its satellite islands.

Sands (1986) revised the genus, recognising 57 species, including taxa previously assigned to *Waigeum* Staudinger, 1895, which Sands synonymised with *Hypochrysops*. Since then a number of new *Hypochrysops* taxa have been described (e.g., Seki, 1994; Tennent, 2001; Cassidy, 2003; Yagishita, 2003, 2004; Lane & Edwards, 2004; Tennent & Rawlins, 2009; Brown *et al.*, 2010; Schröder, 2013; Yagishita *et al.*, 2013), and others await description (Tennent and Müller, unpublished). A new species is introduced here. It belongs to a complex species-group (the *theon* species-group of Sands, 1986) with metallic green banded undersides, which are believed to mimic polyommatine lycaenids in the genera *Danis* Fabricius, 1807, and *Perpheres* Hirowatari, 1992, with which they fly.

***Hypochrysops akirai* spec. nov.**

(figs 1-2)

Holotype: ♂ (figs 1, 2): Indonesia, Waigeo Island, April 2014 (Natural History Museum, London); **Paratypes** (2 ♂♂): 1 ♂, same data as holotype (Akira Yagishita collection, Japan); 1 ♂, same data as holotype (reference collection of C. J. Müller).

Description of holotype: Male forewing length 17 mm; antenna length 10 mm; antenna shaft subtly ringed black and white; antenna club black, apically one-third brown dorsally and two-thirds brown ventrally; head black, eye ringed with white and metallic blue-green scales; palpus white; thorax above deep grey with

central patch of metallic blue-green, beneath white, legs grey-brown; forewing with termen slightly convex, inner margin nearly straight; forewing upperside black, a large white basal to median patch extending from the base to the postmedian area, occupying spaces 1b, 2 and adjacent half of cell, remainder of cell and inner margin metallic turquoise, cilia brown-black; forewing underside white with a subtle yellow tinge, particularly at base, the costa, postmedian and apical area broadly black, black occupying half of cell and reaching from costa to vein 3, termen narrowly brown-black, widening from centre towards the inner margin but only diffuse beyond vein 1b, a broad metallic blue-green band filling much of costa and bending to form a narrow subapical band parallel to termen and reaching to vein 4, a narrow submarginal band of metallic deep blue spots, those nearest the costa partly encircling subtle black spots, cilia brown-black.

Hindwing rounded; hindwing upperside metallic turquoise, veins narrowly black, termen narrowly (1mm) black, dark brown between veins 6 and 7, white between vein 7 and costa, suffused with brown near base, cilia brown-black; hindwing underside brown-black, costa broadly white tinged yellow to edge of cell and vein 7, a basal brown-black bar reaching from inner margin to vein 8 and connected to remainder of brown-black area with metallic blue-green that fills the gap from the inner margin to the cell, a narrow slightly wavy median band of metallic blue-green connected along the inner margin and in space 6 to a postmedian band of similar colouring and width, the latter line with an indistinct hairline border of grey closest to the termen, a narrow subterminal band of metallic blue-green extending from inner margin to space 6, base with scattered blue-green scales and basal margin of costa narrowly black, cilia brown-black.

Male genitalia: Vinculum and tegumen ring approximately oval, tegumen broad anteriorly, sociuncus broad, socii with lateral margin square-shaped, dorsally rounded, socii subtly separated, saccus tapered posteriorly, brachium tapered ventrally; valvae symmetrical, broad and simple, with rounded symmetrical apex; phallus large, of even thickness but subtly angled in places, intricate cornuti in post-zonal section, vesica with long obtuse spike.

Female: not known.

Distribution: known only from Waigeo Island, Raja Ampat, Papua Barat, Indonesia.

Etymology: named for Akira Yagishita, Ibaraki, Japan, who obtained the first specimen known to us, part of the type series all taken by a local collector on Waigeo.

Discussion

Hypochrysops akirai **sp. nov.** belongs to a complex group within *Hypochrysops*, referred to as the *H. theon* species-group by Sands (1986). All members of this group resemble similarly sized but unrelated polyommatae lycaenids in the genera *Danis* and *Perpheres*, in bearing metallic green, black and white banded undersides.

H. akirai appears to most closely resemble *H. heros* and *H. polemon*, which fly together on the Birds Head Peninsula (Vogelkop), West Papua (Tennent & Müller, unpublished). *H. akirai* can be readily separated from these taxa by a number of features, including the extent of the median creamy-white patch on the forewing upperside, which does not extend beyond vein 3, whereas this patch extends well into the space above this vein in both *H. heros* and *H. polemon*. *H. akirai* has a brighter upperside than any of the described related species in the *H. theon* species-group, being a rich metallic turquoise that is more extensive on the upperside hindwing and along the inner margin of the forewing upperside than in related taxa. The hindwing costa above is broadly white in *H. akirai* yet only white in the median area of the costa in *H. heros* and *H. polemon*. The underside of *H. akirai* is highly distinctive, with very narrow bands of metallic blue-green interspersed by black bands of uniform width.

The male genitalia of *H. akirai* is also distinctive. The valva is relatively symmetrical and rounded apically, whereas in *H. heros* and *H. polemon* the valva is pointed in lateral view. The aedeagus of *H. akirai* is particularly diagnostic, lacking a 'pencil' process as present in *H. heros*, but instead bearing a formidable spike that protrudes at an obtuse angle from the vesica.

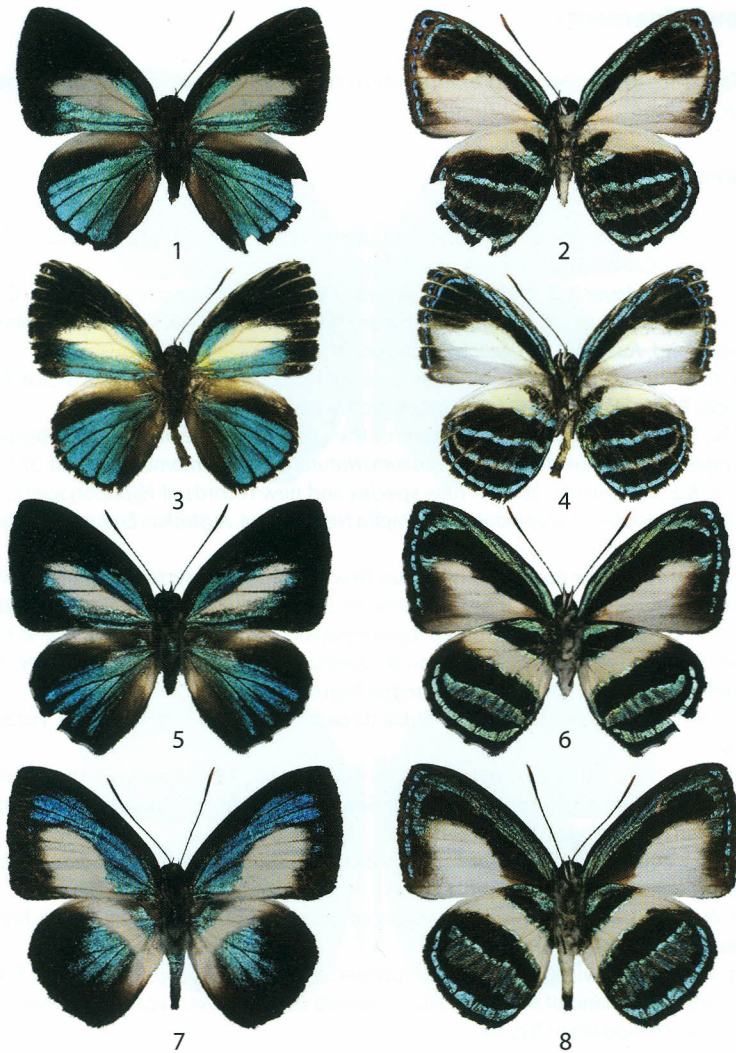
The new species shows a superficial resemblance to *H. bakeri* Joicey & Talbot, 1916, assigned to the *H. hippuris* Hewitson, 1874 species-group by Sands (1986), and only known by the type series of females taken in the Wandammen Mountains, West Papua. However, *H. bakeri* differs from *H. akirai* in having a much less extensive black apical area and a sub-apical metallic green band which is oblique to the termen; the band is parallel and blue-green in *H. akirai*. *H. bakeri* also bears a much broader black median band on the hindwing underside, which is broken by brown veins (thereby resembling *H. dinawa* (Bethune-Baker, 1908)). The hindwing underside sub-basal white band in *H. bakeri* is broad and continuous from the inner margin to the apex whereas in *H. akirai* this band is narrow and restricted to the costa and apical area.

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Figs 1-8. *Hypochrysops* adult males.

Figs 1-4. *H. akirai* **spec. nov.**: 1. Upperside holotype; 2. Underside holotype, 3. Upperside paratype, 4. Underside paratype,

Figs 5-6. *H. heros heros* (Fak Fak, West Papua): 5. Upperside 6. Underside.

Figs 7-8. *H. p. polemon* (Kiunga district, Papua New Guinea): 7. Upperside, 8. Underside. Scale bar = 10mm.



Figs 9-17. *Hypochrysops* male genitalia. Top row genitalia in ventral view, middle row genitalia in lateral view, bottom row phallus lateral view: 9, 12, 15: *H. akirai* spec. nov., 10, 13, 16: *H. h. heros* (Fak Fak, West Papua), 11, 14, 17: *H. p. polemon* (Kiunga district, Papua New Guinea). Scale bar = 0.5mm.