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Notes on the genus *Irianjaya* Koçak & Kemal with a new species from the Philippines (Diptera: Asilidae: Asilinae)

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Abstract

A new species of Asilidae, *Irianjaya luzonensis* sp. nov. from Zambales province in Luzon is described and illustrated. An identification key and updated distribution maps are given for all 8 species of the genus. Additional illustrations of the male genitalia of *I. sumbawaensis* Tomasovic & van Achterberg, 2011 are provided.

Keywords: robber fly, Subic Bay, Luzon, Asilidae, new species.

Introduction

A recent collecting trip to Luzon island in the Philippines by the second author in the frame of the project “Exploration of the Entomofauna of the Cordillera Central, Luzon, Philippines” sponsored by the Leopold III Funds for Exploration and Protection of Nature and the Royal Belgian Institute of Natural Sciences, allowed the collecting of a male specimen belonging to an undescribed species of the genus *Irianjaya* Koçak & Kemal, 2009. This represents the first record for the genus on Luzon and the second species of the genus recorded from the Philippines archipelago, the other one, *I. sulaensis* Tomasovic & van Achterberg, 2011 being known from Mangole Island in the Sula Archipelago and from Palawan. The Luzon specimen originates from Zambales province in the western part of the island.

The genus name *Irianjaya* was proposed by KOÇAK & KEMAL (2009) in replacement of *Amphiscolops* Hull, 1962. It was recently revised by TOMASOVIC & VAN ACHTERBERG (2011) who described 3 new species. TOMASOVIC (2013) added one species from Vietnam. The genus is recorded from southern Vietnam, several islands in Indonesia including New Guinea, and the Philippines. It currently contains eight species.

The present paper aims at describing the new species, provide an updated key including the new species and *I. aquila* Tomasovic, 2013, and provide additional illustrations for the male genitalia of *I. sumbawaensis* Tomasovic & van Achterberg, 2011. Distribution maps are also given for all species of the genus.

Material and methods

The maps were produced with the software Carto Fauna Flora 2.0 (BARBIER & RASMONT, 2000) and the photographs were taken with a Canon 600D camera equipped with a Tamron 90 mm macro lens. Several photographs were taken for the habitus illustrations and staked with CombineZ software. The illustrations were optimized with Adobe Photoshop CS3.

The male genitalia were dissected and glued on a cardboard attached to the pin of the corresponding specimen.

The holotype of the new species is deposited in the collections of the Royal Belgian Institute of Natural Sciences, Brussels, Belgium (RBINS).

Taxonomy

Subfamily Asilinae Latreille, 1802

Genus *Irianjaya* Koçak & Kemal, 2009

Type species: *Asilus mendax* Walker, 1857

Distribution

Figs 1-2.

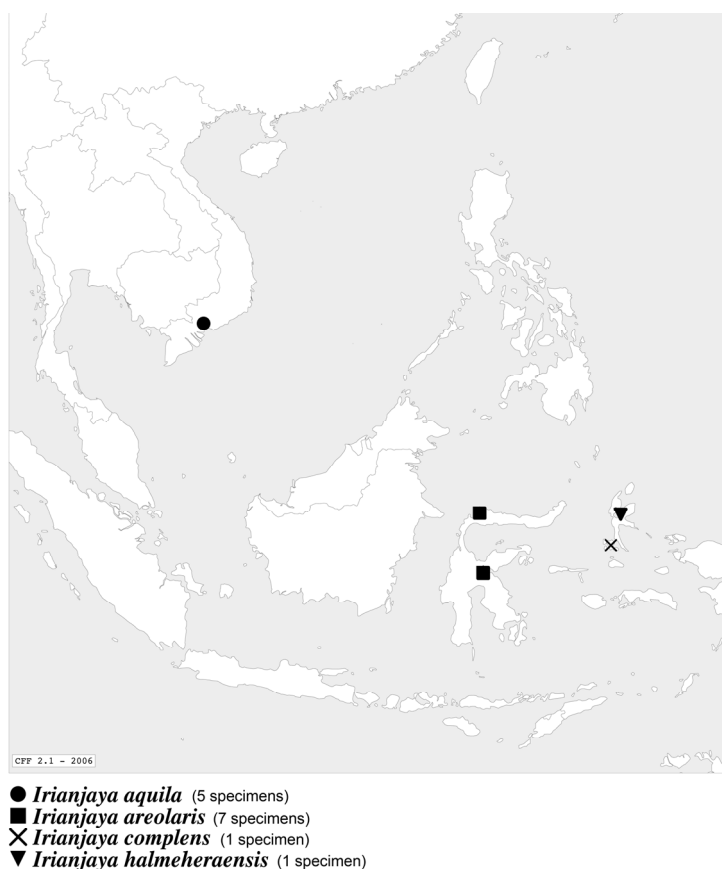


Fig. 1. Distribution map of *Irianjaya aquila*, *I. areolaris*, *I. complens* and *I. halmeheraensis*.

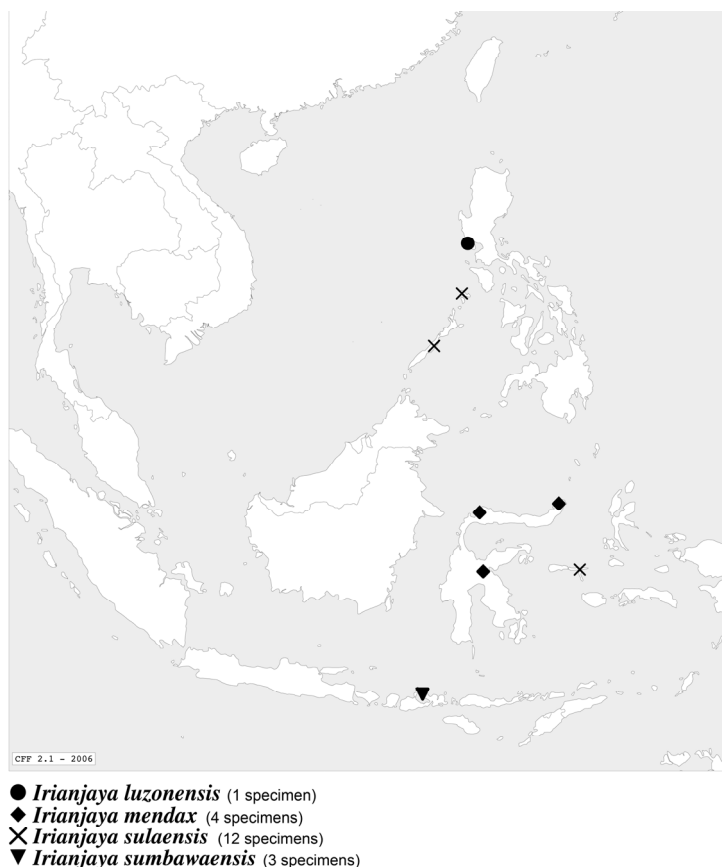


Fig. 2. Distribution map of *Irianjaya luzonensis*, *I. mendax*, *I. sulaensis* and *I. sumbawaensis*.

Species included

<i>I. aquila</i> Tomasovic, 2013	[Vietnam: Southern Vietnam]
<i>I. areolaris</i> (Walker, 1860)	[Indonesia: Sulawesi]
= <i>Eccoctopus impiger</i> van der Wulp, 1872	
<i>I. complens</i> (Walker, 1861)	[Indonesia: Bacan SE Halmahera]
<i>I. halmaheraensis</i> Tomasovic & van Achterberg, 2011	[Indonesia: Halmahera]
<i>I. luzonensis</i> sp. nov.	[Philippines: Luzon]
<i>I. mendax</i> (Walker, 1857)	[Indonesia: Sulawesi]
<i>I. sulaensis</i> Tomasovic & van Achterberg, 2011	[Indonesia: Sula islands: Mangole; Philippines: Palawan]
<i>I. sumbawaensis</i> Tomasovic & van Achterberg, 2011	[Indonesia: Sumbawa]

Identification key to the species (adapted from TOMASOVIC & VAN ACHTERBERG, 2011)

- 1. Mystax with ample majority of setae white or whitish yellow 2
- Mystax with ample majority of setae black..... 5
- 2. Wings black with lower part milky *I. areolaris* (Walker, 1860)
- Wings iridescent and darkened distally 3
- 3. Femora yellow with brown stripe..... *I. aquila* Tomasovic, 2013
- Femora and tibiae yellow or orange, without stripe 4
- 4. Sternites I-II with long and fine hairs, medium-sized species (18 mm). Femora and tibiae orange *I. sumbawaensis* Tomasovic & van Achterberg, 2011

- Sternites I-II with long bristles. Large species (23 mm). Femora and tibiae yellow.....
..... *I. luzonensis* sp. nov.
- 5. Legs black and red..... 6
- Legs entirely black 7
- 6. Lower part of wing blackish. Tergites with yellow ochre band posteriorly. Genitalia unknown. Sulawesi, New Guinea (?) *I. complens* (Walker, 1861)
- Lower part of wing milky. Tergites without yellow ochre band posteriorly. Distal part of aedeagus sheath narrow tubular and hunchbacked apically, prongs slender with median prong longer than lateral prongs, apodeme broad. Sula Islands.....
..... *I. sulaensis* Tomasovic & van Achterberg, 2011
- 7. Wings black with a broad milky band. Genitalia unknown. Sulawesi.....
..... *I. mendax* (Walker, 1857)
- Wings brownish hyaline with microtrichia on its distal third. Aedeagus with median prong markedly longer than lateral prongs (Fig. 11); Halmahera
..... *I. halmaheraensis* Tomasovic & van Achterberg, 2011

***Irianjaya sumbawaensis* Tomasovic & van Achterberg, 2011**
(Figs 2, 3 G-H)

Male genitalia. Additional illustrations are provided for the epandrium, gonocoxite and dististylus which were missing in TOMASOVIC & VAN ACHTERBERG (2011).

***Irianjaya luzonensis* sp. nov.**
(Figs 2, 3 A-F, 4)

TYPE MATERIAL. Holotype ♂ Philippines, Luzon, Zambales prov., Subic, 19-20.IV.2014, 14°45'N 180°13'E. Day collecting. I.G.: 32700. Mission Leopold III Funds. Leg Constant J., Bresseel J. & co. (RBINS).

DESCRIPTION.

Male (Fig. 3 A-C).

Length of body 23 mm. Whole body black. Tergites with posterior yellow stripe. Legs yellow. Wings hyaline with microtrichia on distal third.

Head. Face with yellow orange tomentum. Mystax with white setae and a few black setae on upper part. Frons with long, fine, white setae laterally. Ocellar tubercle with many fine black setae. Occiput with greyish tomentum, with stout black ocellar bristles and with white setae. Antenna, scape and pedicel orange with short black setae; scape twice as long as pedicel; postpedicel brown, shorter than scape; style fine and longer than scape, pedicel and postpedicel together. Proboscis shiny black with fine white setae on ventral part. Palpi black with long black setae.

Thorax. Anteprenotum with white bristles and setae. Scutum with short black setae. Bristles black: 2 notopleural, 2 supra-alar, 2 post-alar, 8 dorso-central. Scutellum yellowish with long, white, fine setae on disc; 2 stout scutellar bristles. Katatergal and metepisternal setae white.

Wings. Hyaline with microtrichia on distal third.

Legs. Yellow with black bristles and white setae. Hind tarsus completely black. Femora not swollen, with some bristles: fore femora with 3 on ventral face, mid femora with 7 on inner

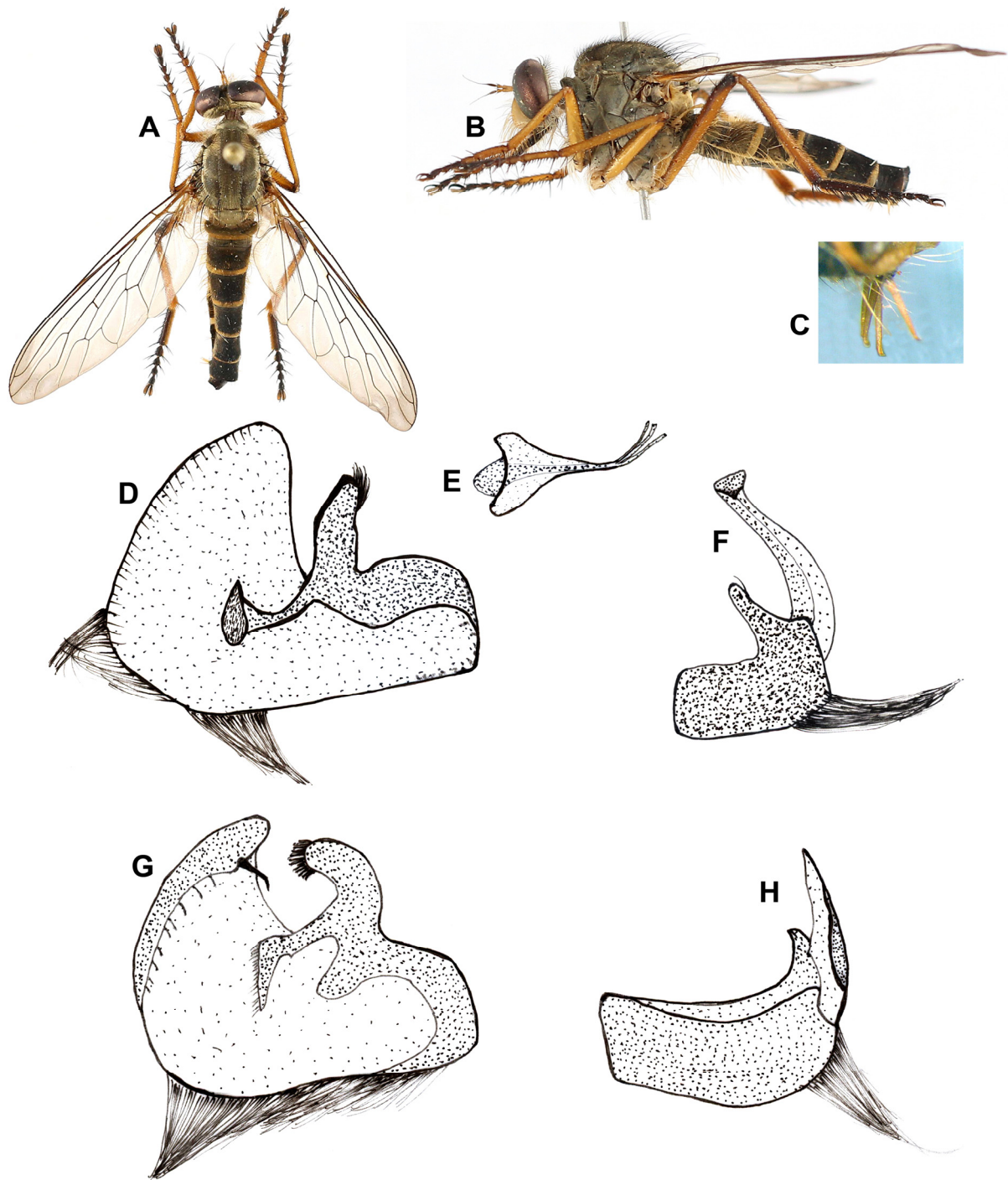


Fig. 3 A-H. A-F, *Irianjaya luzonensis* sp. nov., holotype, total length: 23 mm (photographs by P. Limbourg). A, habitus, dorsal view. B, habitus, lateral view. C, detail of ventral spurs of tergite VI. D, epandrium, internal view. E, phallus. F, gonocoxite and dististylus, external view. G-H, *Irianjaya sumbawaensis*. G, epandrium, internal view. H, gonocoxite and dististylus, external view.

face and hind femora with 2 on inner face. Fore and mid tibiae with fine long setae, hind tibiae and basal tarsomere tarsi with a short reddish brown brush.

Abdomen. Tergites and sternites dark with yellowish stripe and yellow chaetotaxy. Tergite I with long setae laterally and short ones in middle; tergite II with long lateral bristles and setae; tergite III with numerous bristles lateral; tergite VI with 4 very strong spurs. Sternites I-II with long bristles and setae.

Male genitalia (Fig. 3 D-F). Black. Epandrium and gonocoxite with broad tuft of long black setae on lower part. Epandrium with a deep concavity and an inner structure formed by a neck bearing apically a small triangular-shaped structure covered anteriorly with microsetae. Aedeagus short, wider to lower part with the three distiphallus ducts fine and short.

Female: unknown.

BIOLOGY.

The species was collected in lowland rainforest during daytime. The habitat is illustrated Fig. 4.

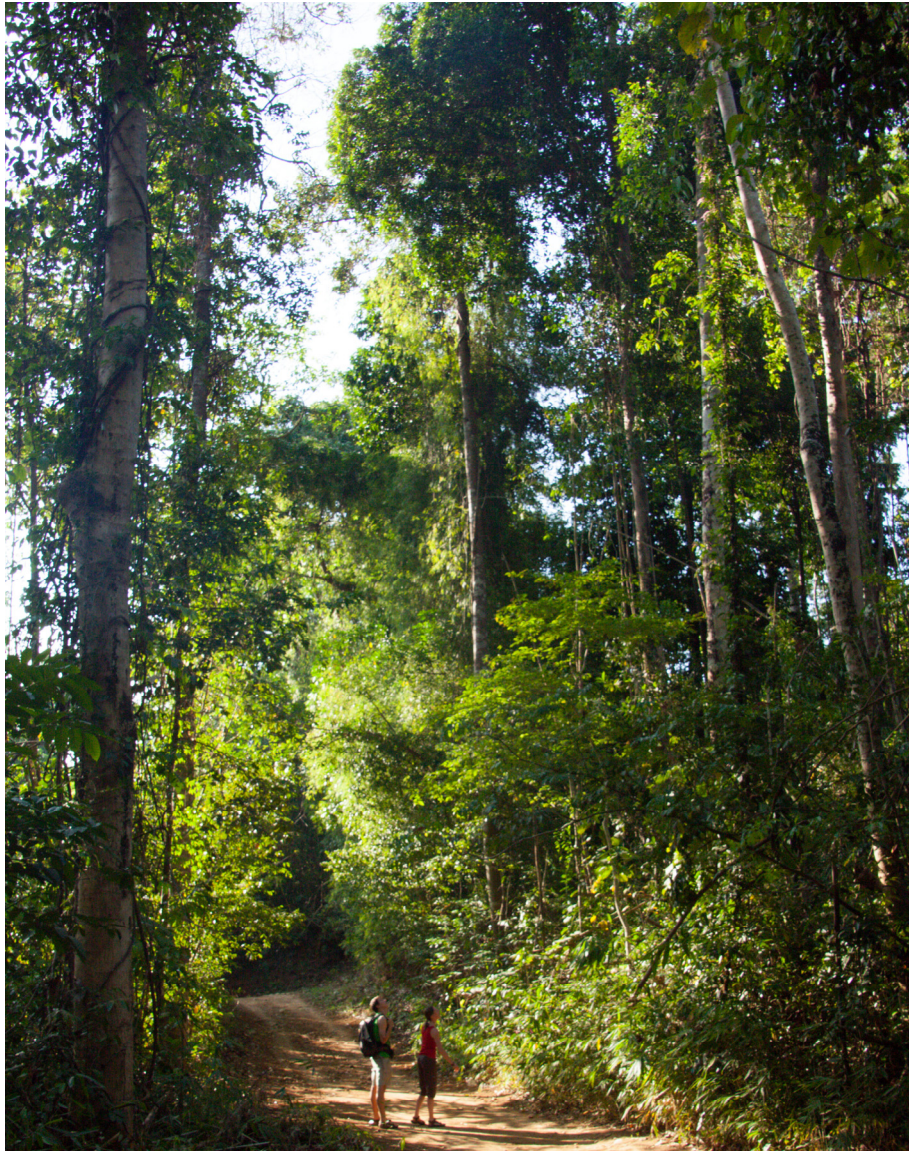


Fig. 4. Habitat of *Irianjaya luzonensis* (photograph by A. Lefèvre).

Discussion

Very few specimens of the genus *Irianjaya* Koçak & Kemal, 2009 are present in collections worldwide (TOMASOVIC & VAN ACHTERBERG, 2011): 34 in total were examined for the present study. The ratio number of species/number of specimens is high (23%) and half of the species are known from singletons. This, added to the fact that the genus has a wide distribution in SE Asia and reaches New Guinea, let us expect a much higher number of species which await discovery. More fieldwork, including the extensive use of Malaise traps, is necessary to improve our knowledge of this genus and of robber flies generally.

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