

Two new species of Asilidae Diptera with a remarkable proboscis from Vietnam

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One new species of the genus *Curvirostris* Tomasovic 2015 is described: *Curvirostris cimiterrus* **sp. nov.** and one new species of the genus *Laphria* Meigen 1803: *Laphria brevirostra* **sp. nov.**, both from Vietnam. The male genitalia are illustrated. A commentary is given on the species of *Laphria chrysorhiza* Hermann 1914.

Keywords: Diptera, Robber fly, *Curvirostris*, *Laphria*, Vietnam, new species.

Une nouvelle espèce du genre *Curvirostris* Tomasovic 2015 est décrite: *Curvirostris cimiterrus* **sp. nov.** ainsi qu'une nouvelle espèce du genre *Laphria* Meigen 1803: *Laphria brevirostra* **sp. nov.**, toutes deux du Vietnam. Les génitalia du mâle sont illustrés. Un commentaire est fait sur l'espèce *Laphria chrysorhiza* Hermann 1914.

Mots-clés: Diptera, Asilidae, *Curvirostris*, *Laphria*, Vietnam, nouvelle espèce.

INTRODUCTION

This paper is in the continuity of the study by the author on the Asilidae from Southeast Asia (Tomasovic, 2003, 2005a, 2005b, 2006a, 2006b, 2006c, 2007, 2008, 2013, 2015; Tomasovic & Constant, 2017; Tomasovic & Grootaert, 2008; Tomasovic & Scarbrough, 2011; Tomasovic & Smets, 2007; Scarbrough & Tomasovic, 2010).

MATERIAL AND METHODS

The first specimen is taken out of the collections of RBINS and collected in the framework of the Global Taxonomic Initiative project "A step further in the entomodiversity of Vietnam". The second comes from a group of over 110 specimens of Asilidae from Vietnam preserved at the MZUF. Male genitalia have been dissected and glued on a cardboard attached to the pin of the specimens. The holotype of *Curvirostris cimiterrus* **sp. nov.** is deposited in the collections of RBINS and the holotype of *Laphria brevirostra* **sp. nov.** in the collections of the VNMN in Vietnam. The map has been produced using Carto Flora 2.0 software (Barbier & Rasmont, 2000).

Acronyms

GxABT: Gembloux Agro-Bio Tech, Gembloux, Belgium.

MZUF: Museo di Storia Naturale, La Specola, Firenze, Italy.

RBINS: Royal Belgian Institute of Natural Sciences, Brussels, Belgium.

VNMN: Vietnam National Museum of Nature, Hanoi, Vietnam.

ZSM: Zoologische Staatssammlung, München, Germany.

Taxonomy

Family Asilidae Latreille 1802

Subfamily Asilinae Latreille 1802

The genus *Curvirostris* Tomasovic 2015 has been described, like monotypic, from the National park of Tai in Ivory Coast and the holotype has been deposited in GxABT. This species has the particularity to have a sharply angled dorsally proboscis (Tomasovic, 2015).

Curvirostris cimiterrus **sp. nov.** (Figures 1-6)

Diagnosis: Proboscis sharply angled dorsally. Face yellow, antennae yellow with a black long style. Abdomen black and yellow. Legs yellowish, metafemora with numerous short black setae.



Figure 1: Head of *Curvirostris cimiterrus* sp. nov.



Figure 2: Legs of *Curvirostris cimiterrus* sp. nov.



Figure 3: Wings of *Curvirostris cimiterrus* sp. nov.

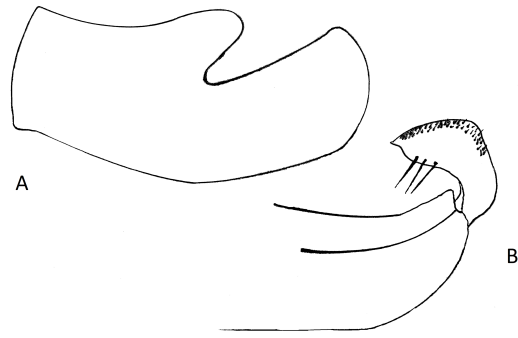


Figure 4: Male genitalia of *Curvirostris cimiterrus* sp. nov. (A = epandrium; B = gonocoxite and dististylus).

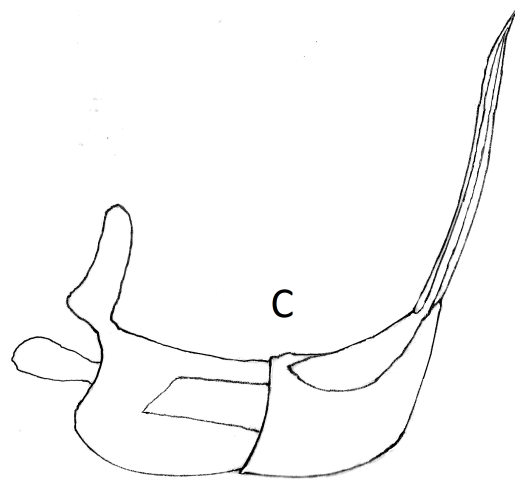


Figure 5: Male genitalia of *Curvirostris cimiterrus* sp. nov. (C = phallus).

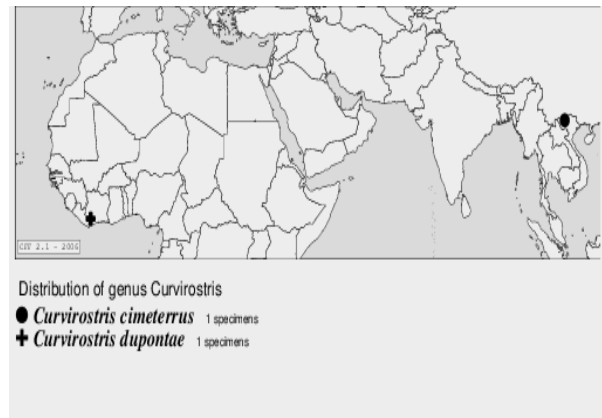


Figure 6: Distribution map of the genus *Curvirostris* Tomasovic 2015.

Etymology: The species epithet refers to the French term ‘cimenterre’, a scimitar, a blacksword or sabre with a curved blade, with reference to the form of the proboscis.

Type material: Holotype ♂ (**Figures 1-3**). Vietnam, Houg Lien NP, 22°21'N 103°46'E, 1-5.VII.2013. Leg J. Constant & J. Bresseel. Deposited in RBINS.

Description: Length ♂, body 19 mm, wings 18 mm.

Head: (**Figure 1**) face covered with yellow tomentum; frons and vertex black. Face tubercle stout, mystax with long yellow setae. Occiput with greyish tomentum and yellowish chaetotaxy. Antennae scape, pedicel and postpedicel yellow, scape and pedicel with black setae, scape twice longer than pedicel, postpedicel small, arista longer than the three-basal segment combined. Palpi black with yellowish setae. Proboscis black sharply angled dorsally with long, fine and white setae on the ventral base.

Thorax: anteprepronotum with black setae. Scutum black with greyish stripes of tomentum on sides and central disc and with sparse, short black hairs, these longer on the posterior part. Bristles long and black: 2 notopleural, 1 supra-alar, 6 post-alar, 6 dorsocentral. Scutellum with grey tomentum, small black hairs on disc and 2 long and stout scutellar bristles. Pleura with brownish tomentum and long, fine black hairs. Katatergal setae numerous, long, fine and black. Metepisternum with a long and stout black seta.

Legs: (**Figure 2**) yellowish, profemora not swollen with long and relatively stout black setae on the ventral part, mesofemora lightly swollen with numerous black and stout bristles, metafemora not swollen with only 1 black seta. Protibia with very long, fine black setae and short hairs and a short brush yellowish, mesotibia numerous stout and black bristles, metatibia with 3 black bristles and entirely covered of short yellowish hairs. Tarsi yellow with black bristle.

Wings: (**Figure 3**) brownish and infuscated on the distal part.

Abdomen: tergites and sternites 1-4 black with a dense and black chaetotaxy, tergites and sternites 5-8 yellow with a dense and yellow chaetotaxy.

Male genitalia: (**Figures 4-5**) yellow with sparse yellow, long and fine setae. Epandrium nearly rectangular with deep concavity on the upper face. Gonocoxite trapezoid, dististylus wide with 3 long and fine setae lateral and strong, yellow

minute spine at the top. Proctiger not peculiar. Phallus, apodeme small, sheath short and large, distiphallus with three long and fine tubes.

Comment

The species of genus *Curvirostris* have a large geographic breakdown. We don't have any hypothesis on it yet (**Figure 6**).

Subfamily of Laphriinae Macquart 1838

The species of this subfamily is frequently found in clearings of pine and hardwood forests and the females oviposit in decaying wood. To differentiate the genus of Laphriinae from the one in the Oriental region, we have the efficient Hua (1989) key.

Genus *Laphria* Meigen 1803

= *Bombomima* Enderlein 1914 – as a subgenus of *Laphria* Meigen 1803 (Geller-Grimm, 2003).

Today any species of *Laphria* sensu stricto has been cited from Southeast Asia.

Laphria chrysohiza Hermann 1914 (**Figure 7**)

The type of *Laphria chrysohiza* Hermann 1914, is conserved to ZSM. Type-locality: Tonkin, Viet Nam (Oldroyd, 1975; Joseph & Parui, 1983; Geller-Gimm, 2012). Unfortunately, we did not have the possibility to see this type. But the Dr Dieter Doczkal (ZSM) sent us pictures of the type. According to the description of Hermann (1914) and these pictures, we think it is not a *Laphria* but more certainly a *Choerades* Walker 1851.

Laphria brevirostra sp. nov (**Figures 8-12**)

Diagnosis: Medium to large, black and yellow. Bumblebee like in appearance. Proboscis laterally flattened, strong, short and rectangular. Wings brownish. Legs with the femora black and tibia reddish-brown.

Etymology: In reference of the proboscis, from Latin: brevis= court and rostra= rostre.

Type material: Holotype ♂ (**Figure 8**). N. Vietnam, Lao Cai Prov. Van Ban district, Van Ban Nature Reserve, 1000 m, 23-26.V.2011. Leg. L. Bartolozzi, S. Bambi, F. Fabiano & E. Orbach. Num magazzino 2909. VNMN.

Description: Length ♂, body 20 mm, wings 19 mm.



Figure 7: *Laphria chrysorhiza* Hermann 1914.



Figure 8: Male habitus of *Laphria brevirostra* sp. nov.



Figure 9: Head of *Laphria brevirostra* sp. nov.

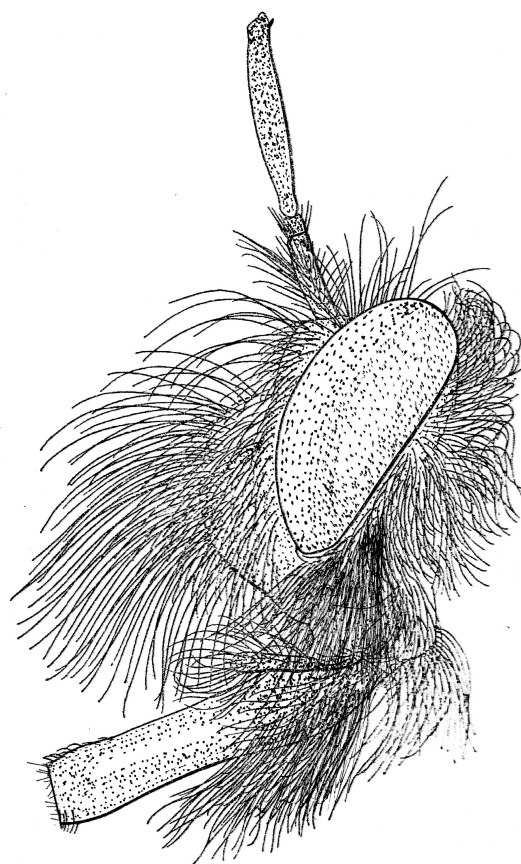


Figure 10: Proboscis of *Laphria brevirostra* sp. nov.

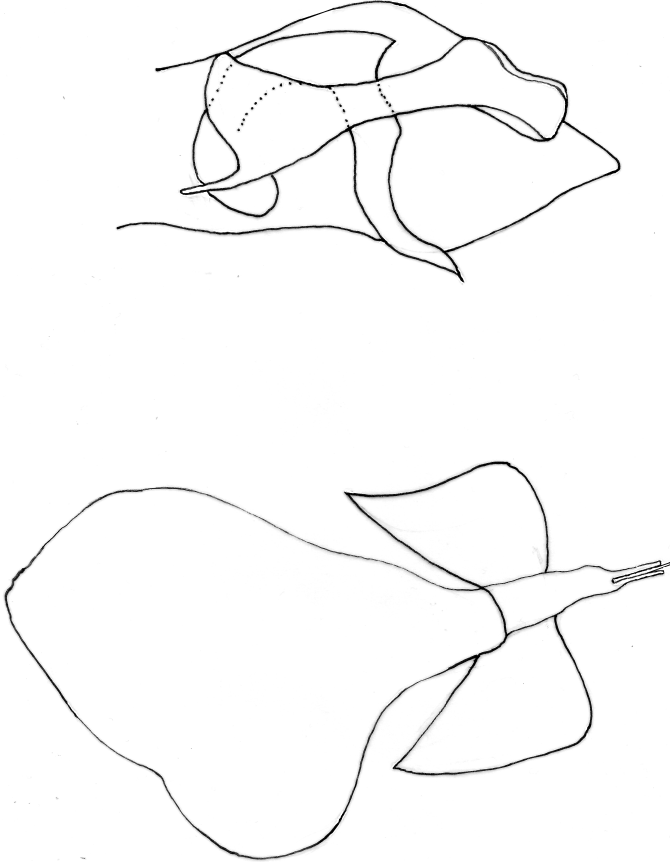


Figure 11: Male genitalia of *Laphria brevirostra* sp. nov.

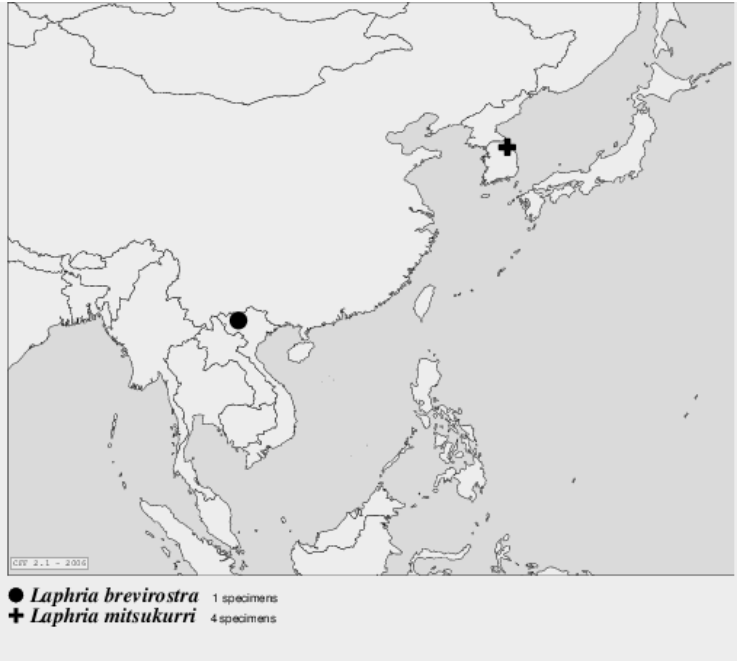


Figure 12: Distribution map of *Laphria brevirostra* sp. nov. and *Laphria mitsukurri* Coquillet 1898.

Head: (Figure 9) black. Mystax dense with long fine, black and yellowish setae. Frons, vertex, ocellar tubercle and occiput with fines, long black hairs, lower occipital hairs yellowish. Antennae black; scape and pedicel with black and yellowish setae, scape four times as long as pedicel; postpedicel longer than scape and pedicel together. Proboscis laterally flattened, shiny black, short, large rectangular and apex in straight line. (Figure 10) Palpi with long black, fine setae.

Thorax: black. Antepronotum with numerous black and fine hairs. Scutum without setae, covered with relatively long black hairs, on the posterior part they are longer and mixed with orange hairs. Scutellum with black, fine hairs on disc, scutellar setae numerous, long, fine and orange. Pleura, proepimeron and anepisternum with long, fine black hairs, katatergite and metepisternum with long, fine and black hairs.

Legs: femora black with long, fine and black hairs, tibia covered by long, fine reddish hairs, tarsi reddish with reddish setae and hairs.

Wings: brownish, slightly infuscate on the distal part with brownish veins.

Abdomen: black. Tergite I with long, fine and black hairs laterally, tergites II-III-IV with laterally black hairs and yellow hairs on the disc, the next tergites shiny black with black hairs.

Male genitalia: (Figure 11) Shiny black with sparse fine, long, reddish setae.

Comment

Laphria brevirostra sp. nov. has habitus like *Laphria thoracica* Fabricius 1805 = *Bombomima fulvithorax* Fabricius 1805 and the subgenus *Bombomima* Enderlein 1914 was restricted to Neotropical species (Hull, 1962). The male genitalia are like those of *Laphria mitsukurri* Coquillett 1898 species from South Korea and illustrated by Young (2007 p. 12 fig. 31).

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