



## Contribution to the knowledge of the robber flies from Vietnam, with description of nine new species (Diptera: Asilidae)

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**Abstract.** The study of a collection of 70 specimens of Asilidae from Vietnam, collected during the entomological expeditions organised in the period 2010-2017 by the Natural History Museum of the University of Florence and the Vietnam National Museum of Nature, revealed the presence of 24 species. Nine species are new for science and are described and illustrated: *Anacinaces lieni* sp. n.; *Cerdistus setaelongus* sp. n.; *Clephyroneura serrula* sp. n.; *Heligmonevra bambii* sp. n.; *Neoitamus laocaiensis* sp. n.; *Molobratia hoabinhensis* sp. n.; *Andrenosoma orbachi* sp. n.; *Choerades xuansonensis* sp. n.; *Merodontina vietnamensis* sp. n. Seven species are also quoted for the first time from Vietnam: *Astochia lanceolata* Scarbrough & Biglow, 2004, *Hoplopheromerus guangdongi* Tomasovic, 2006, *Pogonosoma cyanogaster* Bezzi, 1917, *Lagynogaster suenisoni* Frey, 1937, *Laloides tigris* Tomasovic & Grootaert, 2003, *Microstylum oberthurii* Wulp, 1896, and *Microstylum vulcan* Bromley, 1928.

**Riassunto.** Contributo alla conoscenza degli Asilidi del Vietnam, con descrizione di nove specie nuove (Diptera: Asilidae). Lo studio di una collezione di 70 esemplari di Asilidae, raccolti in Vietnam durante le missioni entomologiche effettuate nel periodo 2010-2017 dal Museo di Storia Naturale dell'Università di Firenze e dal Vietnam National Museum of Nature, ha rivelato la presenza di 24 specie. Vengono descritte e illustrate nove specie nuove per la scienza: *Anacinaces lieni* sp. n.; *Cerdistus setaelongus* sp. n.; *Clephyroneura serrula* sp. n.; *Heligmonevra bambii* sp. n.; *Neoitamus laocaiensis* sp. n.; *Molobratia hoabinhensis* sp. n.; *Andrenosoma orbachi* sp. n.; *Choerades xuansonensis* sp. n.; *Merodontina vietnamensis* sp. n. Sette specie vengono inoltre citate per la prima volta per il Vietnam: *Astochia lanceolata* Scarbrough & Biglow, 2004, *Hoplopheromerus guangdongi* Tomasovic, 2006, *Pogonosoma cyanogaster* Bezzi, 1917, *Lagynogaster suenisoni* Frey, 1937, *Laloides tigris* Tomasovic & Grootaert, 2003, *Microstylum oberthurii* Wulp, 1896 e *Microstylum vulcan* Bromley, 1928.

**Tóm tắt.** Một số kết quả nghiên cứu về về Ruồi ăn sâu Việt Nam với mô tả chín loài mới cho khoa học (Diptera: Asilidae). Nghiên cứu bộ sưu tập gồm 70 mẫu vật họ Ruồi ăn sâu (Asilidae) được thu thập từ Việt Nam trong các chuyến khảo sát côn trùng giai đoạn 2010-2016, do Bảo tàng Thiên nhiên Việt Nam và Bảo tàng Lịch sử Tự nhiên Đại học Florence hợp tác thực hiện, đã xác định được 24 loài. Trong đó, có 9 loài mới cho khoa học được phát hiện và mô tả, gồm: *Anacinaces lieni* sp. n.; *Cerdistus setaelongus* sp. n.; *Clephyroneura serrula* sp. n.; *Heligmonevra bambii* sp. n.; *Neoitamus laocaiensis* sp. n.; *Molobratia hoabinhensis* sp. n.; *Andrenosoma orbachi* sp. n.; *Choerades xuansonensis* sp. n.; *Merodontina vietnamensis* sp. n. Bảy loài được ghi nhận lần đầu cho Việt Nam: *Astochia lanceolata* Scarbrough & Biglow, 2004, *Hoplopheromerus guangdongi* Tomasovic, 2006, *Pogonosoma cyanogaster* Bezzi, 1917, *Lagynogaster suenisoni* Frey, 1937, *Laloides tigris* Tomasovic & Grootaert, 2003, *Microstylum oberthurii* Wulp, 1896, và *Microstylum vulcan* Bromley, 1928.

**Key words.** Asilidae, Vietnam, new species, new records.

### Introduction

The Asilidae (robber flies) are a very diverse family of predatory Diptera, with more than 7500 described species worldwide (GELLER-GRIMM, 2012; DIKOW, 2017). With their role of top insect

predators, robber flies are a group of special importance and conservation concern. Additionally, many Asilidae species have a rather large size and are very distinctive in appearance, making this family potentially useful for conservation and biodiversity research (McCRAVY, 2017).

This paper is an additional contribution by the first author to the knowledge of the Asilidae from Southeast Asia, largely investigated in the last years (TOMASOVIC, 2005a, 2005b, 2006a, 2006b, 2006c, 2007, 2008, 2013a, 2013b, 2015, 2017; TOMASOVIC & SMETS, 2007; TOMASOVIC & GROOTAERT, 2003, 2008, 2010; SCARBROUGH & TOMASOVIC, 2010; TOMASOVIC & SCARBROUGH, 2011; TOMASOVIC & CONSTANT, 2017a, 2017b). At present the knowledge on the robber flies of Indochina is far from complete, and this is further seen in the large number of new species and new records presented in this contribution.

### Material and methods

The material studied in the present paper consisted of 70 specimens collected during eight entomological expeditions in Vietnam, organised in the period 2010-2017 by the Natural History Museum of the University of Florence in collaboration with the Vietnam National Museum of Nature, in the framework of a Memorandum of Understanding signed by the two Institutions (VU *et al.*, 2014). Two specimens collected in Vietnam during other expeditions of the Royal Institute of Natural Sciences of Belgium were also added to the examined material.

Specimens were studied using a Wild M3B stereomicroscope and the drawings were made using a Wild M5 drawing tube. The male genitalia were dissected and glued on a cardboard attached to the pin of the associated specimen.

The photos of the specimens were taken with a NIKON D2Xs camera and Micro Nikkor optic 60/f. 2.8.

All the holotypes of the new species are preserved in the Vietnam National Museum of Nature in Hanoi; paratypes and other specimens are held in the collections of the Zoology Section of the Natural History Museum of the University of Florence, or in the Institution indicated in brackets.

In the description of chaetotaxy we use the following terminology: bristles = strong setae; setae = average size setae; hairs = very thin setae.

For the general distribution of the species we refer to GELLER-GRIMM (2012).

The following abbreviations are used in the text:

coll. n. = collection number;

IRSNB = Institut Royal des Sciences Naturelles, Bruxelles, Belgium;

leg. = legit/legerunt;

Mt. = Mount;

MZUF = Museo di Storia Naturale, Sezione di Zoologia, Università di Firenze, Italy;

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

### Taxonomy

#### Subfamily Apocleinae Papavero, 1973

#### Genus *Anacinaces* Enderlein, 1914

Remarks. Four species of this genus are quoted for the Oriental region, of which only one from Southeast Asia: *Anacinaces nahaeoensis* Tomasovic & Grootaert, 2003, described from Thailand (TOMASOVIC & GROOTAERT, 2003). A fifth new species is described here.

#### *Anacinaces lieni* sp. n.

(Figs 1-3)

Examined material. Holotype male: N Vietnam, Vinh Phuc Province, Tam Dao National Park, 950 m, 5-12.VI.2010, leg. L. Bartolozzi & S. Bambi (VNMN). Paratypes: 1 female, N Vietnam, Ha Noi Province, Ba Vi National Park, 800 m, 21-24.VI.2012, leg. L. Bartolozzi, S. Bambi, F. Fabiano & E. Orbach (MZUF coll. n. 86); 1 male, N Vietnam, Sa Pa, Lao Cai (Tavan), 4.X.2004, leg. X.

Mommens, IG 31508 (IRSNB); 1 female, N Vietnam, Tam Dao National Park, 21°31' N 105°33' E, 25-30.VII.2011, day collecting, leg. J. Constant & J. Bresseel, IG 31993 (IRSNB).

**Description.**

*Male*: Body length 22 mm. Body black with grey markings. Wings dark brown. Abdominal tergites with white, long and dense hair.

*Head*: Face with greyish tomentum. Facial tubercle strong. Mystax with black setae and white, long and thin setae below. Occiput with white pruinescence. Occipital setae black, hairs white. Antennae black; scape and pedicel with short black setae; scape twice as long as pedicel, postpedicel egg-shaped and short, stylus as long as the three other segments together. Frons with thin, black setae. Palpi with stout black setae and thin white hairs. Proboscis black with long, thin white hairs on the medial ventral lower part.

*Thorax*: Mesonotum black with two fine median and one lateral grey stripes. Bristles strong and black; four notopleural, two supraalar, four postalar, six dorsocentral. Scutellum with greyish tomentum with thin, black hairs on disc and six scutellar setae. Pleura with thin, long, black and white hairs. Katatergite setae very long, thin, black. Metepisternum with long, thin, black and yellowish hairs.

*Wings*: Dark brown.

*Legs*: Black with many black setae and bristles. Tibiae with a short yellowish brush.

*Abdomen*: Black with greyish tomentum. Tergites with long, thin, black hairs laterally to the tergites I-II-III-IV and with dense, long, white hairs on disc. Tergite I with three strong, black bristles laterally. Sternites greyish with long, thin, black hairs.

*Male genitalia*: Black, with black, fine hairs. Epandrium with a small concavity on the ventral apical part. Gonocoxite with short, large apical process, apically straight. Dististylus with setae and hairs. Phallus with the shape of a long isosceles triangle and distiphallus with three short and fine tubes.

**Derivatio nominis.** This species is named after our colleague Dr. Vu Van Lien (Vice Director of the Vietnam National Museum of Nature, Hanoi) who organised all the expeditions of the Natural History Museum of the University of Florence to Vietnam.

**Remarks.** The habitus of *Anacinaces lienii* is very close to that of *Anacinaces nahaeoensis* but the two taxa can be separated by the different structures of the male genitalia and by the colour of the female abdomen: *A. nahaeoensis* has a yellowish abdomen while *A. lienii* sp. n. has a blackish one.

**Genus *Philodicus* Loew, 1847**

**Remarks.** Three species of this genus are found in Southeast Asia (TOMASOVIC & CONSTANT, 2017a).

***Philodicus phiadenensis* Tomasovic & Constant, 2017**

**Examined material.** N Vietnam: 1 female, Phu Tho Province, Xuan Son National Park, 500 m, 13-17.VI.2010, leg. L. Bartolozzi & S. Bambi (MZUF coll. n. 87); 1 male, Hoa Binh Province Pa Co Hang Kia Nature Reserve, 900-1200 m, 9-12.VI.2013, leg. L. Bartolozzi, S. Bambi, F. Cianferoni, G. Mazza & E. Orbach (MZUF coll. n. 88).

**Genus *Promachus* Loew, 1848**

**Remarks.** Eight species are known from Southeast Asia, seven of which are found in Vietnam (TOMASOVIC, 2013b).

***Promachus nigribarbatus* (Becker, 1925)**

**Examined material.** N Vietnam: 1 male, 2 females, Vinh Phuc Province, Tam Dao National Park, 950 m, 5-12.VI.2010, leg. L. Bartolozzi & S. Bambi (MZUF coll. n. 89); 1 male, same locality, 1-4.V.2013, leg. L. Bartolozzi, S. Bambi, F. Cianferoni, G. Mazza & E. Orbach (MZUF coll. n. 90); 1



Fig. 1. *Anacinaces lieni* sp. n., holotypus, lateral view, total length = 22 mm. Photo by S. Bambi.



Fig. 2. *Anacinaces lieni* sp. n., holotypus, dorsal view, total length = 22 mm. Photo by S. Bambi.

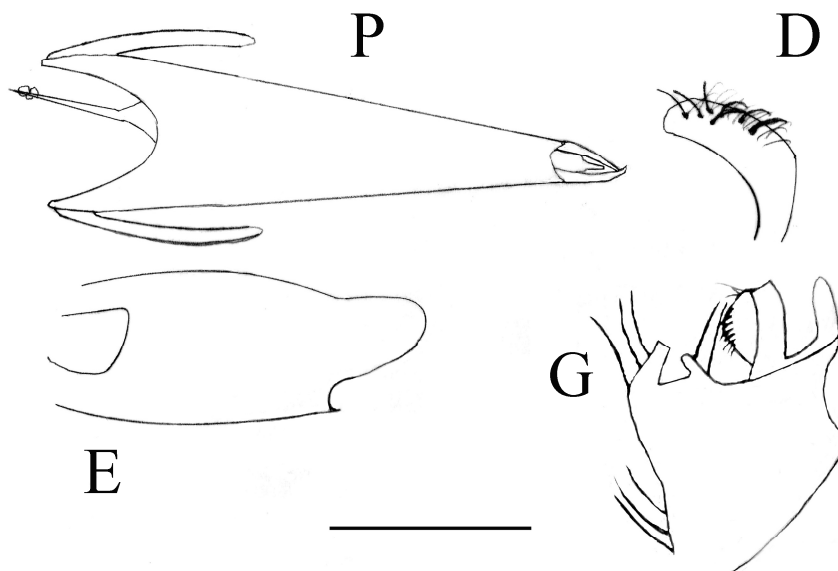


Fig. 3. *Anacinaces lieni* sp. n., holotypus, male genitalia: D = dististylus; E = epandrium; G = gonocoxite; P = phallus; scale bar = 1 mm.

male, Ha Noi Province, Ba Vi National Park, 800 m, 21-24.VI.2012, leg. L. Bartolozzi, S. Bambi, F. Fabiano & E. Orbach (MZUF coll. n. 91).

**Remarks.** The species was quoted from Vietnam by TOMASOVIC (2013b).

#### Subfamily Asilinae Latreille, 1802

#### Genus *Astochia* Becker, 1913

**Remarks.** Thirty-two species of this genus are known in the Oriental region (GELLER-GRIMM, 2012); concerning Southeast Asia five species are quoted from Thailand: *A. flava* Scarbrough & Biglow, 2004, *A. inermis* Hermann, 1917, *A. jayarami* Joseph & Parui, 1981, *A. lancealata* Scarbrough & Biglow, 2004 and *A. nigranta* Scarbrough & Biglow, 2004.

#### *Astochia lancealata* Scarbrough & Biglow, 2004

**Examined material.** S Vietnam: 1 male, 1 female, Lam Dong Province, Cat Tien District, Nam Cat Tien National Park, Headquarter area, 120 m, 11-15.VI.2015, leg. L. Bartolozzi, G. Chelazzi, S. Bambi, F. Fabiano, E. Orbach & V. Sbordoni (MZUF coll. n. 90).

**Remarks.** This species was only found from Thailand; this is the first record for Vietnam.

#### Genus *Cerdistus* Loew, 1849

**Remarks.** The genus is closely allied to *Machimus* Loew, 1849 and two species are known in the Oriental region: *C. laetus* Becker, 1925 from Taiwan and *C. bresseeli* Tomasovic & Constant, 2017 from Vietnam. It can be distinguished from *Machimus* by facial gibbosity confined to the lower half

of the face, different size of postpedicel and microsegment, anatergite with long, black hairs, tergites with lateral bristles and distiphallus without distinct tubes.

***Cerdistus setaelongus* sp. n.**

(Figs 4-6)

**Examined material.** Holotype male: N Vietnam, Phu Tho Province, Xuan Son National Park, 500 m, 13-17.VI.2010, leg. L. Bartolozzi & S. Bambi (VNMN). Paratypes: 2 males, 2 females, N Vietnam, Hao Binh Province, Pa Co Hang Kia Nature Reserve, 700-900 m, 5-7.VI.2013, leg. L. Bartolozzi, S. Bambi, F. Cianferoni, G. Mazza & E. Orbach (MZUF coll. n. 92).

**Description.**

**Male:** Body length 19 mm. Body black with grey-yellowish tomentum. Legs black. Wings brownish. Abdomen with yellow setae.

**Head:** Face with strong gibbosity; face and frons with yellowish tomentum; frons with black orbital hairs. Mystax with numerous mixed yellow and black setae. Antennae black, scape and pedicel with short, black setae, scape slightly longer than the pedicel, postpedicel as long as scape and pedicel together, the first microsegment conspicuous, style as long as the postpedicel, with a sensory element. Occiput with grey tomentum, postocular setae long, black and mixed with black hairs, occipital and lower occipital hairs yellowish. Proboscis black with long, thin, yellow hairs basally on the ventral part. Palpi long, black, with long black setae.

**Thorax:** Pronotum with grey-yellowish tomentum, anteprenotum with some thin, black setae among numerous thin and yellow hairs. Postpronotal lobe covered by relatively long and thin hairs. Scutum with short black setae and yellowish tomentum, one large medial spot and four lateral ones black. Bristles black, long: one thin posthumeral, two notopleural, three supraalar, three postalar, six-seven pairs of dorsocentral below the transverse suture. Scutellum with grey-yellowish tomentum and long, thin, black hairs on disc, eight long, thin, black scutellar setae. Pleura with yellowish tomentum. Anepisternum with thin, black hairs on the superior part, sternopleure and katepimeron with long, thin, yellow hairs. Katatergite and metepisternal setae numerous, long and yellowish. Anatergite with long black hairs. Halteres white.

**Wings:** Wings brownish with the distal third dull with black veins.

**Legs:** Black. Coxae with grey-yellow tomentum and yellow chaetotaxy. Profemora with long and thin yellow setae, meso and metafemora with some long, black and thin setae. Protibiae and mesotibiae with long yellowish setae, metatibiae with strong black setae and a short yellowish brush. Tarsi black with black setae.

**Abdomen:** Tergite black mostly with grey tomentum and a pale apical margin, relatively long lying yellow hairs on disc, and long, thin yellow setae posteriorly and laterally, tergite VIII with a posterior fringe of long black hairs. Sternites black with greyish tomentum and long yellow setae.

**Male genitalia:** Brown, shiny. Epandrium with light cleft on the tip. Gonocoxite small, thick, with remarkably long setae ventrally and basally. Gonostylus long with micro-setae. Aedeagus with broad sheath, distiphallus long and thin.

**Derivatio nominis.** From Latin, *setae* and *longus*, referring to the very long setae on the gonocoxite.

**Remarks.** *Cerdistus setaelongus* is characterized by the shape of the male genitalia and by the remarkable setae on the epandrium. *C. laetus* differs from *C. setaelongus* sp. n. by its smaller size (10-12 mm), black mystax and bright, red-yellow legs; *C. bresseeli* has the face with white tomentum, white and black mystax, black scutum with a white stripe and the abdomen with yellowish tomentum.

**Genus *Clephroneura* Becker, 1925**

**Remarks.** To date five species are known in Southeast Asia, two of which from Vietnam: *C. caligula* Tomasovic, 2013 and *C. tuba* Tomasovic, 2013.



Fig. 4. *Cerdistus setaelongus* sp. n., holotypus, lateral view, total length = 19 mm. Photo by S. Bambi.



Fig. 5. *Cerdistus setaelongus* sp. n., holotypus, dorsal view, total length = 19 mm. Photo by S. Bambi.

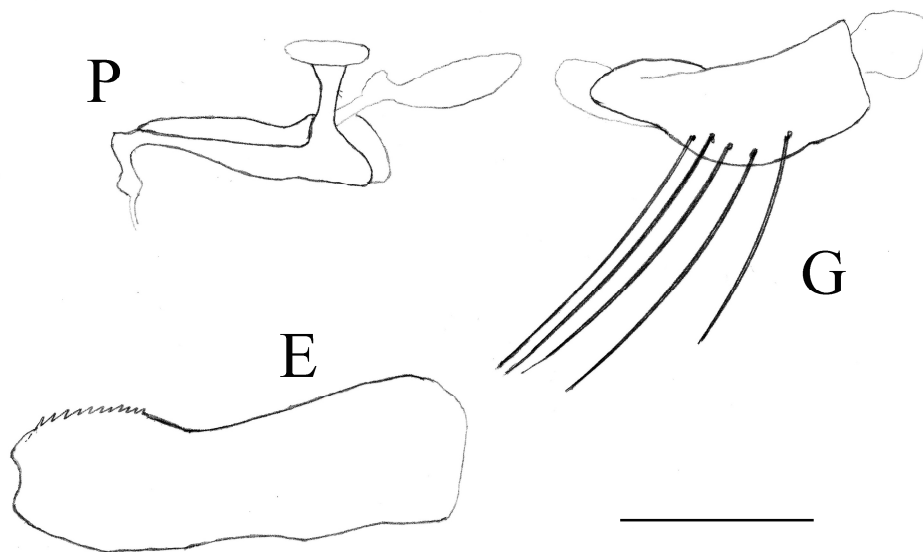


Fig. 6. *Cerdistus setaelongus* sp. n., holotypus, male genitalia: E = epandrium; G = gonocoxite; P = phallus; scale bar = 1 mm.

***Clephyroneura serrula* sp. n.**  
(Figs 7-9)

**Examined material.** Holotype male: C Vietnam, Tua Thien Hue Province, Bach Ma National Park, surroundings Hotel Morin, 1350-1400 m, 16°2' N 107°85' E, 23-28.V.2014, at light, leg. L. Bartolozzi, G. Chelazzi, A. Bandinelli, S. Bambi & F. Fabiano (VNMN).

**Description.**

**Male:** Body length 19 mm. Body yellowish with grey-yellowish tomentum. Legs yellow, not swollen. Wings transparent, hyaline, pale brown with the distal third dull.

**Head:** Face with white tomentum. Mystax with many long white setae. Antennae, scape and pedicel yellow with short, straight black setae, scape three time as long as the pedicel, postpedicel black, tapered and long as scape, style twice long than the postpedicel. Ocular callus small. Occiput with grey tomentum with white setae and hairs. Proboscis black with long, thin white hairs on the ventral part. Palpi black with white setae.

**Thorax:** Brown yellowish. Anteprenotum with white setae and hairs. Scutum covered by sparse short black setae. Bristles black: one thin posthumeral, two notopleural, two supraalar, two postalar, six pairs thin dorsocentral extending to the transverse suture. Scutellum with sparse, black, short and fine setae, without scutellar setae. Pleura yellow. Katatergite setae numerous, long, thin, white. Anatergite with short white hairs.

**Wings:** Typical of the genus, transparent, hyaline, pale brown with the distal third dull.

**Legs:** Slender, yellow and with mica black hairs and brown setae. Femora with a small black bright mark at base and tip. Fore femora with long and thin setae ventrally. Medial femora with four bristles on the inner part and four long and thin setae on the ventral part, hind femora with strong and short bristles. Tibiae with long and fine setae. Tarsi with long brown setae and short black bristles.

**Abdomen:** Yellowish with median brown patches. Tergite with long and thin setae, longer on tergites I-II-III. Sternites yellow with relatively long yellow hairs.





Fig. 7. *Clephyroneura serrula* sp. n., holotype, lateral view, total length = 19 mm. Photo by S. Bambi.



Fig. 8. *Clephyroneura serrula* sp. n., holotype, dorsal view, total length = 19 mm. Photo by S. Bambi.

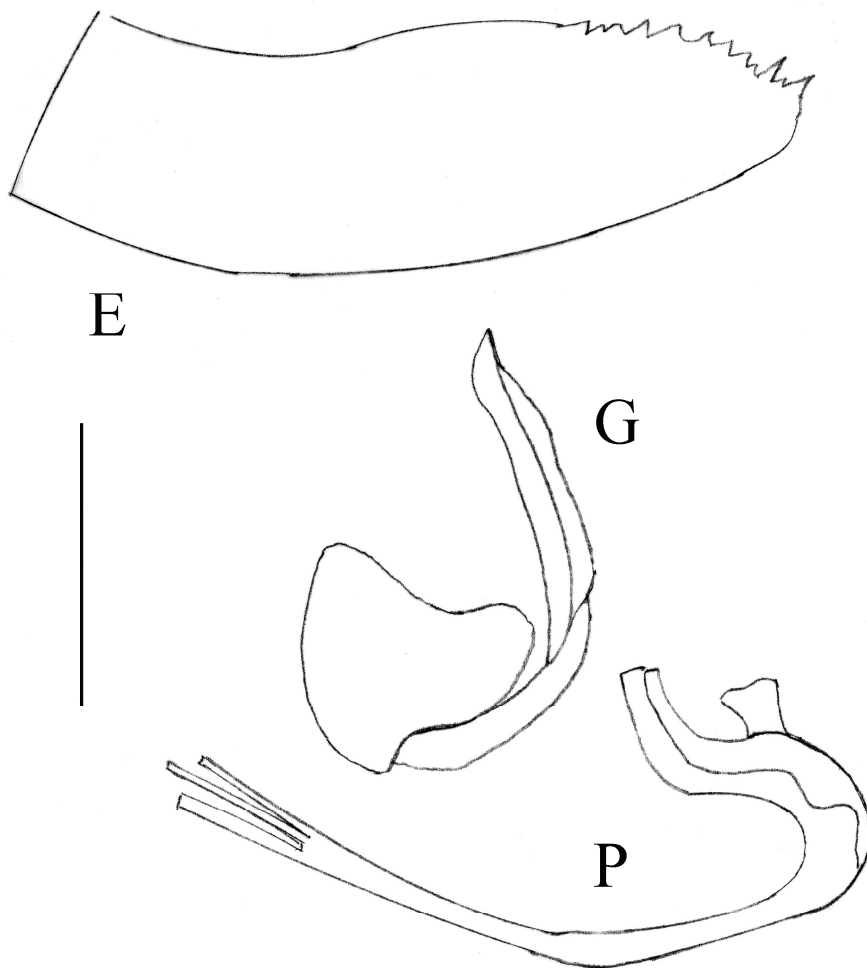


Fig. 9. *Clephyroneura serrula* sp. n., holotypus, male genitalia: E = epandrium; G = gonocoxite; P = phallus; scale bar = 1 mm.

*Male genitalia:* Epandrium black, shiny, with few very fine yellow hairs and with denticles at the dorsal margin. Gonocoxite yellow, small, thick. Gonostylus long, rectangular. Aedeagus with long bended sheath, distiphallus with three thin grooves, the medial one longer than the others.

Derivatio nominis. From Latin *serrula* (= small saw), referring to the epandrium shape.

Remarks. All the species of this genus are quite similar in external morphology and only the examination of the genitalic structures allows their identification. *Clephyroneura serrula* sp. n. is separated from the other species by the position of the denticles on the epandrium, which are located at one third of its dorsal margin.

**Genus *Eutolmus* Loew, 1848**

Remarks. Only one species of this genus is known from Vietnam (HRADSKY & GELLER-GRIMM, 1998).

***Eutolmus maximus* Hradsky & Geller-Grimm, 1998**

Examined material. N Vietnam: 1 female, Lao Cai Province, Hoang Lien National Park, surroundings Sa Pa pass, 1900 m, 27.V-2.VI.2011, leg. L. Bartolozzi, S. Bambi, F. Fabiano & E. Orbach (MZUF coll. n. 93); 1 male, 2 females, Cao Bang Province, Mt. Pia Oac, 1600-2000 m, 14-16.VI.2012, leg. L. Bartolozzi, S. Bambi, F. Fabiano & E. Orbach (MZUF coll. n. 94); 1 male, Hoa Binh Province, Pa Co Hang Kia Nature Reserve, 700-900 m, 5-7.VI.2013, leg. L. Bartolozzi, S. Bambi, F. Cianferoni, G. Mazza & E. Orbach (MZUF coll. n. 95).

**Genus *Heligmonevra* Bigot, 1858**

Remarks. No species of this genus have been reported from Vietnam to date; only four species are known from neighbouring countries: *H. sula* Oldroyd, 1972 from Cambodia, *H. calceolaria* Scarbrough & Duncan, 2004 from Thailand, *H. fuscinalonga* Tomasovic & Grootaert, 2008 and *H. singaporensis* Tomasovic & Grootaert, 2008 from Singapore.

***Heligmonevra bambii* sp. n.**

(Figs 10-12)

Examined material. Holotype male: N Vietnam, Hoa Binh Province, Pa Co Hang Kia Nature Reserve, 900 m, 5-7.VI.2013, leg. L. Bartolozzi, S. Bambi, F. Cianferoni, G. Mazza & E. Orbach (VNMN). Paratypes: 1 male, 1 female, N Vietnam, Vinh Pluc Province, Tam Dao National Park, 950 m, 5-12.VI.2010, leg. L. Bartolozzi & S. Bambi (MZUF coll. n. 96); 1 male, N Vietnam, Cao Bang Province, Mt. Pia Oac, 1600-2000 m, 14-16.VI.2012, leg. L. Bartolozzi, S. Bambi, F. Fabiano & E. Orbach (MZUF coll. n. 97).

Description.

*Male:* Body length 24 mm, wings 16 mm. Body black with grey-yellowish tomentum. Legs yellow. Wings brownish with distal third dull. Epandrium with deep excavation.

*Head:* Face moderately produced on ventral two thirds. Mystax with many stout, long white setae. Antennae yellow-brown, scape and pedicel with short, straight black setae, postpedicel tapered, four times longer than wide and as long as scape and pedicel together, stylus as long as postpedicel, microsegment distinct. Occiput with grey tomentum, postocular setae black or white, occipital and lower occipital hairs white. Proboscis black with long, thin white hairs ventrally. Palpi black with few white or black setae.

*Thorax:* Pronotum with grey tomentum and white hairs. Scutum black with a lateral stripe of grey tomentum. Bristles black and long: one thin posthumeral, two notopleural, two supraalar, three postalar, five pairs of thin dorsocentral setae extending forward to the transverse suture. Scutellum with grey tomentum and thin white hairs on disc, two long scutellar setae. Pleura with grey tomentum. Katatergite and metepisternal setae numerous, long, thin, yellowish.

*Wings:* Typical of the genus; surface brownish, apical third blackish. Crossvein (rm) beyond middle discal cell.

*Legs:* Coxae with grey yellow tomentum and white setae. Femora and tibiae yellow-brown with yellowish setae, the fore femora with long and thin setae on the ventral part. Tarsi with yellow and black setae.

*Abdomen:* Tergite black with grey tomentum and brown apical margin, appressed short white hairs on disc, and long, fine, white setae laterally. Sternites black with wide brown apical margin and sparse, relatively long, white hairs.



Fig. 10. *Heligmonevra bambii* sp. n., holotypus, lateral view, total length = 24 mm. Photo by S. Bambi.



Fig. 11. *Heligmonevra bambii* sp. n., holotypus, dorsal view, total length = 24 mm. Photo by S. Bambi.

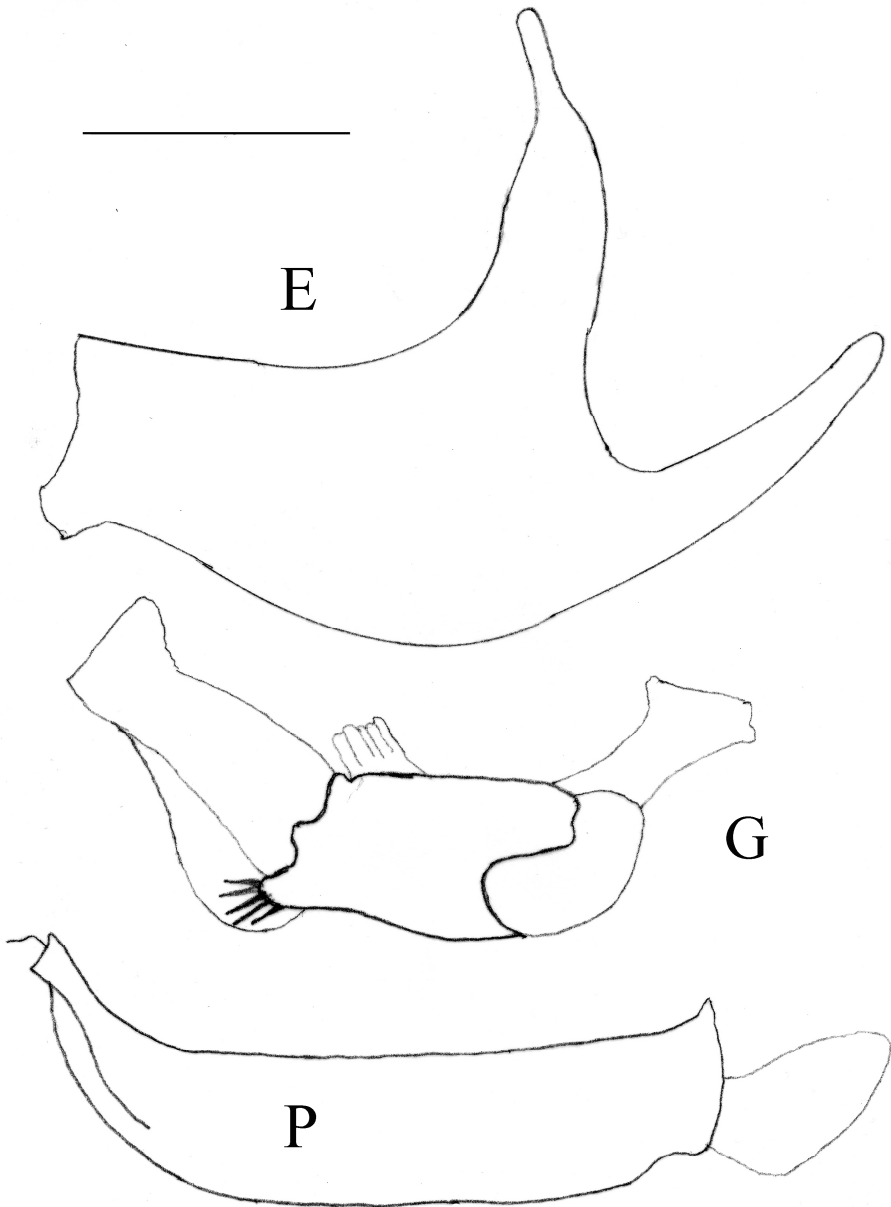


Fig. 12. *Heligmonevra bambii* sp. n., holotypus, male genitalia: E = epandrium; G = gonocoxite; P = phallus; scale bar = 1 mm.

*Male genitalia*: Blackish brown, shiny. Epandrium deeply cleft with long setae at side. Gonocoxite small, thick, gonostylus broad, larger than gonocoxite. Aedeagus with broad sheath, distiphallus very small, almost indistinct with a central filamentum relatively long.

*Female*: Habitus like in the male. Sternite 7 with yellowish bristles, terminalia typical for the genus, short, with relatively long paired cerci, covered by thin, small yellowish hairs.

Derivatio nominis. This species is named after one of its collectors, Mr. Saulo Bambi (photographer at the Natural History Museum of the University of Florence), member of all the expeditions to Vietnam from 2010 to 2017.

Remarks. Sometimes some of the bristles on the scutum could be yellowish. The species of *Heligmonevra* are often difficult to distinguish by the use of a dichotomic key only. They are anyway easier to separate by comparing the shape of the inner structures of the male genitalia and this is particularly true for the species of Vietnam (cfr. TOMASOVIC & GROOTAERT, 2008: 72-74, Figs 6-15).

### **Genus *Hoplopheromerus* Becker, 1925**

Remarks. Three species are known in the Oriental region; only *H. brunripes* Tsacas & Oldroyd, 1967 is known from Vietnam (TOMASOVIC, 2006b).

### ***Hoplopheromerus guangdongi* Tomasovic, 2006**

Examined material. C Vietnam: 6 males, 3 females, Tua Thien Hue Province, Bach Ma National Park, surroundings Hotel Morin, 1350-1400 m, 16°2' N 107°85' E, 23-28.V.2014, at light, leg. L. Bartolozzi, G. Chelazzi, A. Bandinelli, S. Bambi & F. Fabiano (MZUF coll. n. 98).

Remarks. This is the first record of the species for Vietnam.

### **Genus *Neoitamus* Osten Sacken, 1878**

Remarks. Twenty species are cited from the Oriental region (GELLER-GRIMM, 2012), but none from Southeast Asia. This is the first record of the genus for Indochina. The species of this genus are characterized by the acute, long, proclinate occipital setae.

### ***Neoitamus laocaiensis* sp. n.**

(Figs 13-15)

Examined material. Holotype: 1 male, N Vietnam, Lao Cai Province, Van Ban District, Van Ban Nature Reserve, 1000 m, 23-26.V.2011, at light, leg. L. Bartolozzi, S. Bambi, F. Fabiano & E. Orbach (VNMN).

#### Description

*Male*: Body length 14 mm, wings 8 mm. Black, small, thin species. Wings brownish. Legs with black femora and yellow tibiae.

*Head*: Face narrow with small gibbosity. Mystax with numerous, long, white setae which become sparser and thinner on top. Antennae black, scape and pedicel with short, straight, black setae, scape slightly longer than pedicel, postpedicel narrow, two times longer than scape and pedicel together, style shorter than postpedicel. Frons black with fine, black orbital setae. Occiput with grey tomentum, postocular setae black and bent, occipital and lower occipital hairs white. Proboscis black with long, thin, white hairs on the ventral part. Palpi black with black setae.

*Thorax*: Black with greyish tomentum. Scutum covered by black, sparse, short, thin hairs. Setae long, thin, black: two notopleural, three supraalar, three postalar, seven pairs of dorsocentral extending forward to the transverse suture. Scutellum with relatively long, pale, thin hairs on disc, two long and thin scutellar setae. Anepisternum with black, thin hairs, sternopleura with pale, long, thin hairs, anepimeron with a black, long seta, katatergal and metepisternal setae numerous, long and white.

*Wings*: Hyaline, brownish, halteres pale, yellowish.

*Legs*: Coxae with grey tomentum and long, white setae. Femora bright black, profemora with white, long setae on the ventral part; mesofemora with three black bristles on the inner part and one on apex,



Fig. 13. *Neoitamus laocaiensis* sp. n., holotypus, lateral view, total length = 14 mm. Photo by S. Bambi.



Fig. 14. *Neoitamus laocaiensis* sp. n., holotypus, dorsal view, total length = 14 mm. Photo by S. Bambi.

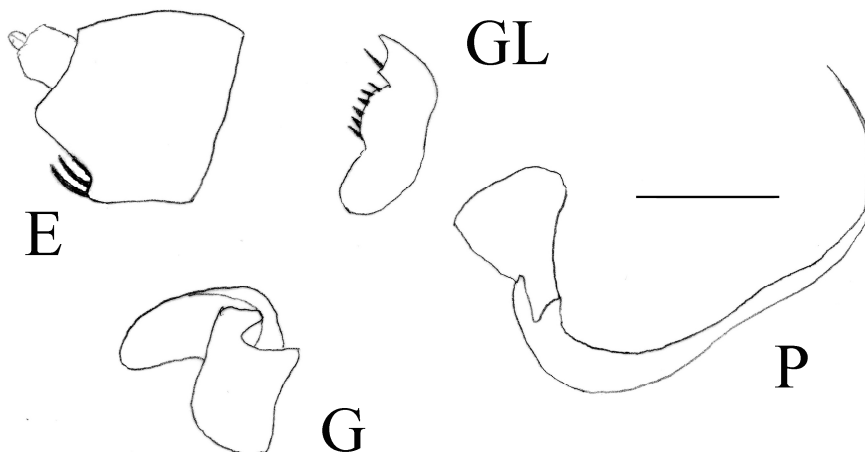


Fig. 15. *Neoitamus laocaiensis* sp. n., holotypus, male genitalia: E = epandrium; G = gonocoxite; GL = gonocoxite, lateral; P = phallus; scale bar = 0.5 mm.

white, long setae on the ventral part; metafemora with white, long setae and white hairs, a long, black bristle externally on apex. Tibiae yellow with long, black setae. Tarsi brown with black bristles.

*Abdomen:* Tergite black with grey tomentum and apical margin brown, appressed short, white hairs on disc, and long, thin, white setae laterally. Sternites black with wide brown apical margin and sparse, relatively long, white hairs.

*Male genitalia:* Black, shiny. Epandrium with two strong bristles on the basal and posterior part. Gonocoxite small, thick, dististylus large, broadly rounded posteriorly. Aedeagus bent, with long and slender sheath and with a long filamentum at apex.

Derivatio nominis. The species name refers to the Vietnamese Province of Lao Cai, where the type specimen was collected.

Remarks. *Neoitamus laocaiensis* sp. n. is easy to recognize thanks to its bright black femora and yellow tibiae. It also differs from the other species of the genus by the anepimeron with a black, long seta, the epandrium with two strong bristles on the basal and posterior parts and by the shape of male genitalia.

### Subfamily *Dasygogoninae* Macquart, 1838

#### Genus *Molobratia* Hull, 1958

Remarks. The genus *Molobratia* is restricted to the eastern parts of the Palaearctic and Oriental regions. NAGATOMI *et al.* (1989) published a revision of the genus for the eastern part of the Palaearctic region, and later HAUPT & AZUMA (1998) described another species from Japan. Only two of the 13 known species of the genus *Molobratia* are distributed in the western part of the Palaearctic region; four species are recorded from the Oriental region (GELLER-GRIMM, 2004) and two of these are known to occur in Southeast Asia: *M. inopinatus* (Walker, 1860) and *M. inopportunos* (Walker, 1860), both from Myanmar (WALKER, 1860; NAGATOMI *et al.*, 1989).

#### *Molobratia hoabinhensis* sp. n.

(Figs 16-17)

Examined material. Holotype female: N Vietnam, Hoa Binh Province, Pa Co Hang Kia Nature Reserve, 900-1200 m, 9-12.VI.2013, leg. L. Bartolozzi, S. Bambi, F. Cianferoni, G. Mazza & E. Orbach (VNMN).





Fig. 16. *Molobratia hoabinhensis* sp. n., holotypus, lateral view, total length = 17 mm. Photo by S. Bambi.



Fig. 17. *Molobratia hoabinhensis* sp. n., holotypus, dorsal view, total length = 17 mm. Photo by S. Bambi.

Description.

*Female:* Body length 17 mm. Antennae, pleura and femora yellow, abdomen yellow and black, wings brown.

*Head:* Face, frons, and occiput with yellowish tomentum. Mystax white. Antennae yellowish, scape and pedicel with short, black setae, scape twice as long as pedicel, postpedicel distinctly longer than the scape and pedicel together, with a row of 5-6 black setae, microsegment with a sensory element. Vertex with a shining, black triangular area. Occiput with black chaetotaxy. Palpi with black setae. Proboscis black.

*Thorax:* Anterior part of anteprototum with black setae. Scutum black with lateral and posterior yellow stripe. Setae black; one notopleural, one postalar. Scutellum and mediotergite with yellowish tomentum. Pleura black with yellowish tomentum. Katatergite setae thin and yellow.

*Wings:* Brown. Typical for the genus.

*Legs:* Long and slender. Coxae with yellow tomentum. Femora yellow with very short black setae. Pro- and mesotibiae black, metatibiae yellow on the basal third. Protibiae with a black sigmoid terminal spine. Tarsi black with black setae. Protarsi with the first tarsomere longer than the other tarsomeres together and with a small tubercle at the base. Claw black, reddish at base.

*Abdomen:* Tergites and sternites I-II-III-IV yellow, V-VI black, VII black and yellow, VIII yellow.

*Male genitalia:* Typical for the genus.

Derivatio nominis. The species is named after the Vietnamese Province of Hoa Binh, where the type specimen of the new taxon was collected.

Remarks. *Molobatria hoabinhensis* is immediately distinguishable from the two species from Myanmar by its yellow and black abdomen, yellow femora and by the black terminal spine of the protibiae, which is bicolour in the two other species.

**Genus *Saropogon* Loew, 1847**

Remarks. Eleven species are known from the Oriental region, three of which from Southeast Asia: *S. trispiculum* Tomasovic, 2005, *S. angkorensis* Tomasovic & Constant, 2017 from Cambodia and *S. bachmaensis* Tomasovic & Constant, 2017 from Vietnam (TOMASOVIC & CONSTANT, 2017b).

***Saropogon bachmaensis* Tomasovic & Constant, 2017**

Examined material. C Vietnam: 1 female (paratype), Tua Thien Hua Province, Bach Ma National Park, surroundings Hotel Morin, 1350-1400 m, 16°2' N 107°85' E, 23-28.V.2014, leg. L. Bartolozzi, G. Chelazzi, A. Bandinelli, S. Bambi & F. Fabiano (MZUF coll. n. 114).

Remarks. This species has been recently described and this specimen was included in the type series (TOMASOVIC & CONSTANT, 2017b).

**Subfamily Laphriinae Macquart, 1838**

**Genus *Andrenosoma* Rondani, 1856**

Remarks. At present two species are known to occur in the Oriental region: *A. choprai* Bromley, 1935 from India and *A. irigensis* Oldroyd, 1972 from the Philippines.

***Andrenosoma orbachi* sp. n.**  
(Figs 18-20)

Examined material. Holotype male: S Vietnam, Lam Dong Province, Cat Tien District, Nam Cat Tien National Park, Headquarter area, 1200 m, 11-15.VII.2015, leg. L. Bartolozzi, G. Chelazzi, A. Bandinelli, S. Bambi, E. Orbach, V. Sbordoni & F. Fabiano (VNMN).



Fig. 18. *Andrenosoma orbachi* sp. n., holotypus, lateral view, total length = 8 mm. Photo by S. Bambi.



Fig. 19. *Andrenosoma orbachi* sp. n., holotypus, dorsal view, total length = 8 mm. Photo by S. Bambi.

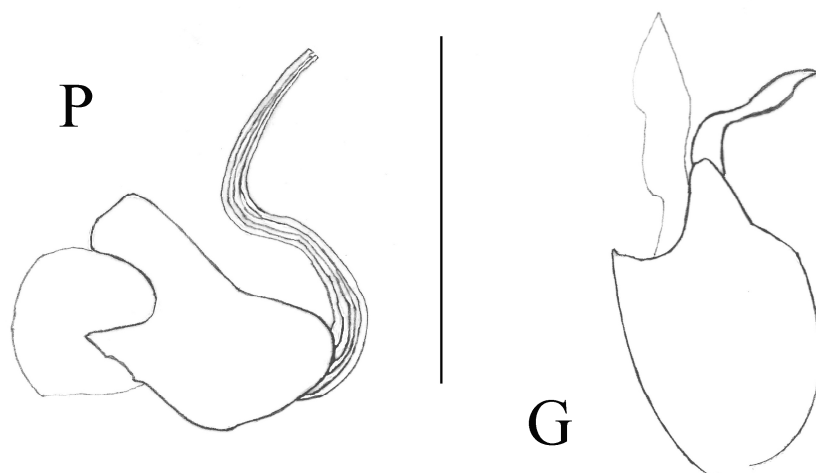


Fig. 20. *Andrenosoma orbachi* sp. n., holotypus, male genitalia: G = gonocoxite; P = phallus; scale bar = 1 mm.

#### Description.

*Male:* Body length 8 mm. Small black species. Antennae black with yellow pedicel, thorax with greyish tomentum and short white hairs, legs yellowish with black tarsi, wings slightly infusate with black veins.

*Head:* Face, frons and occiput with greyish tomentum. Mystax with dense, thin, white setae. Frons with relatively long, white setae. Antennae black, scape and pedicel short and of the same length, scape black with white setae, pedicel yellow with black setae, postpedicel oval with yellow base, longer than scape and pedicel together and with a conspicuous sensory element apically. Ocellar tubercle protuberant and strong with two black, long setae. Long, strong, black occipital setae, occipital and lower occipital chaetotaxy white. Proboscis black, long, rectangular, rounded at tip with white hairs ventrally at base. Palpi black with black setae.

*Thorax:* Covered by greyish tomentum and white hairs. Setae long, black: two posthumeral, two notopleural, two supraalar, three postalar, eight scutellar. Pleurae, anepisternum and proepimeron with white and thin hairs, posteriorly two anepisternal and katatergite setae thin, white.

*Wings:* Slightly brownish; typical for the genus.

*Legs:* Coxae with greyish tomentum, trochanter brown, the posterior ones clearly longer than the others. Femora and tibiae yellow with long, thin, white and yellow chaetotaxy, femora lightly swollen. Tarsi black with numerous thin, long, white setae. Claw, empodium and pulvillus long. Wings slightly brownish, veins brown.

*Abdomen:* Tergites and sternites shining black with short, thin, white hairs.

*Male genitalia:* Small, brown; distiphallus with three long and thin grooves.

Derivatio nominis. This species is named in honour of one of its collectors, Dr. Eylon Orbach (Qyriat Tivon, Israel), who generously sponsored the expeditions of the Natural History Museum of the University of Florence to Vietnam.

Remarks. *Andrenosoma orbachi* sp. n. differs from the other species of the genus by its small size, by the wholly yellow legs and by the shape of the male genitalia.

#### **Genus *Choerades* Walker, 1851**

Remarks. At present no species of this genus has been recorded from Vietnam; three species are known from E Asia: *C. comptissima* (Walker, 1857) from Borneo and Sumatra, *C. unifascia* (Walker, 1857) from Borneo, and *C. vulcanus* (Wiedeman, 1828) from Malaysia (TOMASOVIC, 2013a).

***Choerades xuansonensis* sp. n.**

(Figs 21-23)

Examined material. Holotype male: N Vietnam, Phu Tho Province, Xuan Son National Park, 500 m, 13-17.VI.2010, leg. L. Bartolozzi & S. Bambi (VNMN). Paratypes: 1 female, same data of the holotype (MZUF coll. n. 99); 1 male, Cao Bang Province, Mt. Pia Oac, 1600-2000 m, 14-16.VI.2012, leg. L. Bartolozzi, S. Bambi, F. Fabiano & E. Orbach (MZUF coll. n. 100).

Description.

*Male:* Body length 22 mm. Body black, wings dark brown. Legs black with long hairs. Abdomen punctuated, shining black. Sternites with long, thin, white hairs.

*Head:* Face black with greyish tomentum and brown yellowish scale on each side of the facial gibbosity. Mystax with thin, long, black hairs mixed with some smaller setae. Antennal tubercle stout, shining, ocellar tubercle small with two long, black setae. Occiput with greyish tomentum, occipital setae thin and mixed with black hairs, occipital and lower occipital hairs white. Antennae black, scape and pedicel with short black chaetotaxy. Scape two times longer than pedicel, postpedicel nearly twice as long as scape and pedicel together. Proboscis black, long, rectangular, rounded at tip, with white hairs ventrally at base. Palpi black with black setae.

*Thorax:* Black. Scutum and scutellum shining, covered by very short black hairs. Setae black: one notopleural, two supraalar, three postalar, two long and thin scutellar. Pleura with greyish tomentum and thin black and white hairs, two stout and long anepisternal setae. Katatergite setae numerous, thin, black.

*Wings:* Wings darkish, veins black; shape typical for of the genus.

*Legs:* Black with long, black and white hairs. Pro- and metafemora strongly swollen, mesofemora lightly swollen. Metafemora with two stout black setae at the tip. Posterior tibiae slightly bent. Tarsi with black setae and a short brown brush.

*Abdomen:* Tergites shining black, punctuated, with very thin, white hairs laterally and the posterior lateral angle with a triangle of white tomentum. Sternites with greyish tomentum and long, thin, white hairs.

*Male genitalia:* Shining black. Phallus with a relatively long sheath and distyphallus with three short grooves. Proctiger with a black tuft at tip.

Derivatio nominis. The species name refers to Xuan Son National Park, where the type specimen was collected.

Remarks. *Choerades xuansonensis* sp. n. differs from the more closely related species by the brown yellowish scales on each side of the facial gibbosity, the shining black, punctuated tergites, the proctiger with a black apical tuft, and by the shape of the male genitalia.

**Genus *Laloides* Oldroyd, 1972**

Remarks. Six species of this genus are known to occur in the Oriental region (TOMASOVIC & GROOTAERT, 2003).

***Laloides tigris* Tomasovic & Grootaert, 2003**

Examined material. N Vietnam: 1 male, 1 female, Phu Tho Province, Xuan Son National Park, 500 m, 18-20.VI.2012, leg. L. Bartolozzi, S. Bambi, F. Fabiano & E. Orbach (MZUF coll. n. 101).

Remarks. The species was described from Thailand (TOMASOVIC & GROOTAERT, 2003); this is the first record for Vietnam.



Fig. 21. *Choerades xuansonensis* sp. n., holotypus, lateral view, total length = 22 mm. Photo by S. Bambi.



Fig. 22. *Choerades xuansonensis* sp. n., holotypus, dorsal view, total length = 22 mm. Photo by S. Bambi.

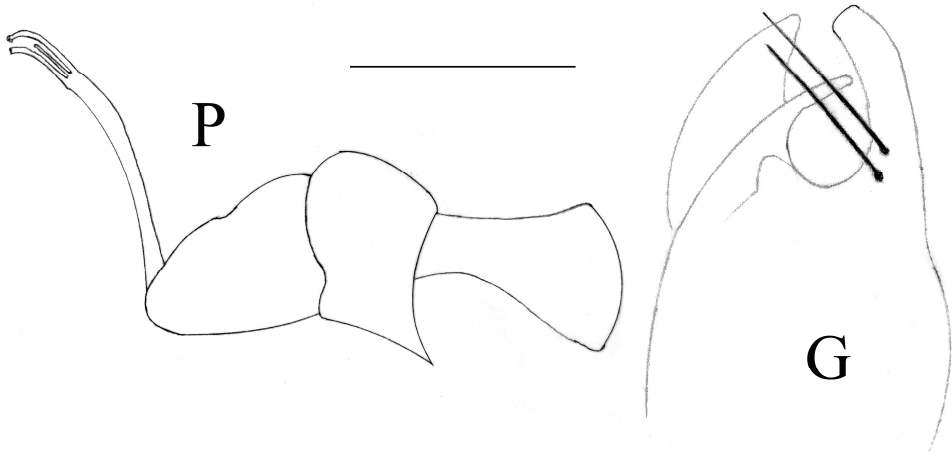


Fig. 23. *Choerades xuansonensis* sp. n., holotypus, male genitalia: G = gonocoxite; P = phallus; scale bar = 1 mm.

**Genus *Laphria* Meigen, 1803**

**Remarks.** The identification of the Oriental species of this genus can be done using the good key proposed by HUA (1989). Only one species, *Laphria chrysohiza* Hermann, 1914, was known from Vietnam (OLDROYD, 1975; JOSEPH & PARUI, 1983; GELLER-GRIMM, 2012); a second one was recently described (TOMASOVIC, 2017).

***Laphria brevirostra* Tomasovic, 2017**

**Examined material.** N. Vietnam: 1 male (holotype), Lao Cai Province, Van Ban district, Van Ban Nature Reserve, 1000 m, 23-26.V.2011, leg. L. Bartolozzi, S. Bambi, F. Fabiano & E. Orbach (VNMN).

**Genus *Pogonosoma* Rondani, 1856**

**Remarks.** To date six species are known from the Oriental Region; none of them from Southeast Asia.

***Pogonosoma cyanogaster* Bezzi, 1917**

**Examined material.** N Vietnam: 1 male, Lao Cai Province, Van Ban District, Van Ban Nature Reserve, 1000 m, 23-26.V.2011, leg. L. Bartolozzi, S. Bambi, F. Fabiano & E. Orbach, (MZUF coll. n. 102); 1 male, 1 female, Ninh Binh Province, Cuc Phuong National Park, 20°19' N 105°37' E, 200 m, 3-5.V.2014, leg. L. Bartolozzi, G. Chelazzi, A. Bandinelli, S. Bambi & F. Fabiano (MZUF coll. n. 103).

**Remarks.** The species was redescribed and illustrated by OLDROYD (1972). It was until now known only from the Philippines; this is the first record for Vietnam.

**Subfamily Leptogastrinae Schiner, 1862**

**Genus *Lagynogaster* Hermann, 1917**

**Remarks.** At present only the species *Lagynogaster vitalisiana* Frey, 1937 from Laos is quoted from Southeast Asia.

***Lagynogaster suenisoni* Frey, 1937**

Examined material. C Vietnam: 1 male, Tua Thien Hue Province, Bach Ma National Park, surroundings Hotel Morin, 1350-1400 m, 16°2' N 107°85' E, 23-28.V.2014, at light, leg. L. Bartolozzi, G. Chelazzi, A. Bandinelli, S. Bambi & F. Fabiano (MZUF coll. n. 104).

Remarks. The species was described from a male specimen from China (Fukien); this is the first record for Vietnam.

**Subfamily *Ommatiinae* Hardy, 1927**

**Genus *Merodontina* Enderlein, 1914**

Remarks. SCARBROUGH & HILL (2000) and SCARBROUGH & CONSTANTINO (2005) revised this genus. Only the species *M. bellicosa* Scarbrough & Constantino, 2005 was known from Vietnam.

***Merodontina bellicosa* Scarbrough & Constantino, 2005**

Examined material. C Vietnam: 1 female, Tua Thien Hue Province, Bach Ma National Park, surroundings Hotel Morin, 1350-1400 m, 16°2' N 107°85' E., 23-28.V.2014, leg. L. Bartolozzi, G. Chelazzi, A. Bandinelli, S. Bambi & F. Fabiano (MZUF coll. n. 105).

***Merodontina vietnamensis* sp. n.**

(Figs 24-26)

Examined material. Holotype male: N Vietnam, Phu Tho Province, Xuan Son National Park, 500 m, 13-17.VI.2010, leg. L. Bartolozzi & S. Bambi (VNMN).

Description.

*Male:* Body length 18 mm, wings 15 mm. Body black, wings brownish. Legs yellow, tarsi black. Abdomen black. Sternites with long, thin, white hair.

*Head:* Face narrow, slightly convex with greyish tomentum. Mystax covering almost the whole face with long, stout, white setae. Antennae black, scape, pedicel and postpedicel small with some short black setae. Scape of the same length of pedicel, postpedicel slightly longer than pedicel, style twice longer than scape, pedicel and postpedicel together. Ocellar tubercle small, black with two long, thin, black setae. Occiput with greyish tomentum, occipital setae very thin, black, occipital and lower occipital hairs white. Proboscis black, white hairs at the base ventrally. Palpi black with black setae.

*Thorax:* Black. Antepnotum with two strong long, yellow setae and many thin, white hairs. Scutum with lateral stripe of yellowish tomentum. Bristles strong, long, black: two notopleural, three supraalar, two postalar, one pair of thin and long dorsocentral. Scutellum with yellowish tomentum, two long, thin scutellar setae laterally and three long, black scutellar setae medially. Pleura with yellowish tomentum, one long, yellow anepimeral seta. Katatergite and metepisternal setae numerous, white.

*Wings:* Brownish, strongly dilated, cell r1 particularly dark. Halteres white.

*Legs:* Coxae with yellowish tomentum and white chaetotaxy. Trochanter shining black, hind trochanter with black bristles. Femora yellow with a black ring at the tip. Profemora with a yellow bristle and long yellow setae and hairs. Mesofemora with two black bristles, long, yellow or black setae. Metafemora with ten black bristles before basal ventral tubercle, tubercle strong with rounded apex, after the tubercle one black bristle outside and one long yellow seta ventrally. Tibiae yellow with short, yellow hairs. Protibiae with long, thin, yellow setae, apex with black bristles. Mesotibiae with long, yellow setae and long, black bristles. Metatibiae shorter than other tibiae, dark brown below, and with some very thin, yellow setae. Tarsi black with black chaetotaxy. Pro- and mesotarsi with the first tarsomere yellow. Metatarsi with the first tarsomere longer than all other tarsomeres, black.

*Abdomen:* Tergites black. Tergite I with numerous setae and yellowish hairs, tergites II-III with sparse, long, thin, pale hairs. Sternites with long, thin, white hairs.





Fig. 24. *Merodontina vietnamensis* sp. n., holotypus, lateral view, total length = 18 mm. Photo by S. Bambi.



Fig. 25. *Merodontina vietnamensis* sp. n., holotypus, dorsal view, total length = 18 mm. Photo by S. Bambi.

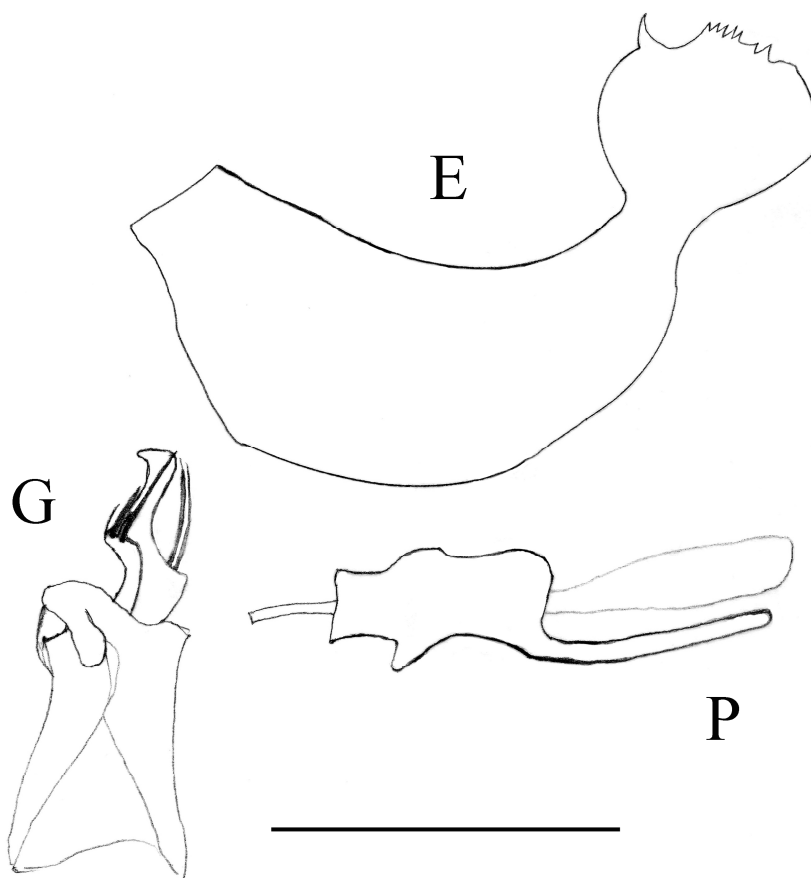


Fig. 26. *Merodontina vietnamensis* sp. n., holotypus, male genitalia: E = epandrium; G = gonocoxite; P = phallus; scale bar = 1 mm.

**Male genitalia:** Shining black. Phallus with a relatively long and thick sheath, distyphallus with a single relatively long canal, apodeme long, rectangular. Dististylus with broad basal part with long bristles, apical part narrow, with curved, pointed apex.

**Derivatio nominis.** The specific epithet refers to the country of Vietnam, where the species lives.

**Remarks.** The femora of *M. vietnamensis* sp. n. are wholly yellow while *M. bellicosa* Scarbrough & Constantino, 2005 has the hind femora dark brown on apical two-thirds. The male of *M. vietnamensis* is quite similar to the one of *M. thaiensis* Scarbrough & Hill, 2000 but differs by the rounded basal ventral tubercle of the metafemora, the coxae with white chaetotaxy and the morphology of terminalia.

#### **Subfamily *Stenopogoninae* Hull, 1962**

#### **Genus *Microstylum* Macquart, 1838**

**Remarks.** TOMASOVIC & MIGNON (*in press*) recently revised this genus. ENDERLEIN (1914) created the genus *Mimoscolia* Enderlein, 1914 separating from *Microstylum* the species with an apical protuberance on the mesotibiae. HULL (1962) considered valid this genus, but OLDROYD (1970) was doubtful on its validity. TOMASOVIC & MIGNON (*in press*) believe anyway that in the future the genus

*Mimoscolia*, inhabiting both Afrotropical and Oriental regions and easy to recognize, should be revalidated.

***Microstylum dux* Wiedemann, 1828**

Examined material. N Vietnam: 2 males, 1 female, Phu Tho Province, Xuan Son National Park, 500 m, 13-17.VI.2010, leg. L. Bartolozzi & S. Bambi (MZUF coll. n. 106); 1 male, Vinh Phuc Province, 10 km downwards Tam Dao, 150 m, 7.VI.2010, leg. L. Bartolozzi & S. Bambi (MZUF coll. n. 107); 2 females, Vinh Phuc Province, Tam Dao National Park, 950 m, 18-20.VI.2012, leg. L. Bartolozzi, S. Bambi, F. Fabiano & E. Orbach (MZUF coll. n. 108). C Vietnam: 1 female, Ha Tinh Province, Vu Quang Nature Reserve, 50 m, 18°20' N 105°27' E, 2.VI.2014, leg. L. Bartolozzi, G. Chelazzi, S. Bambi & A. Bandinelli (MZUF coll. n. 109).

***Microstylum oberthurii* Wulp, 1896**

Examined material. C Vietnam: 1 female, Kon Tum Province, W border of Ngoc Linh National Park, 20 Km N of Dak Glei, 900 m, 15°14' N 107°44' E, 30.V.2014, leg. L. Bartolozzi, G. Chelazzi, A. Bandinelli, S. Bambi & F. Fabiano (MZUF coll. n. 110). C Vietnam: 1 male, 1 female, Thua Thien-Hue Province, Bach Ma National Park, 1250 m, 16°19' N 107°85' E, 28.V-1.VI.2017, leg. L. Bartolozzi, E. Orbach, V. Sbordoni, S. Bambi & A. Bandinelli (MZUF coll. n. 115).

Remarks. The species is known from China, Taiwan, and Japan; this is the first record for Vietnam.

***Microstylum vulcan* Bromley, 1928**

Examined material. C Vietnam: 1 female, Kon Tum Province, surroundings of Kon Plong, 660 m, 8.V.2016, leg. A. Bandinelli, L. Bartolozzi & S. Bambi (MZUF coll. n. 116).

Remarks. The identification of this specimen is based on the original description of BROMLEY (1928); the body length of this specimen is 42 mm, at the top of the species size range (33 to 42 mm). It is a very large and impressive robber fly, with deep black body and dark brown wings showing a greenish metallic lustre. The species was known from China; this is the first record from Vietnam.

**Subfamily *Trigonominae* Enderlein, 1914**

**Tribe *Xenomyzini* Hardy, 1948**

**Genus *Damalis* Fabricius, 1805**

Remarks. SCARBROUGH (2005) revised this genus; TOMASOVIC & CONSTANT (2017a) added one more species. At present eleven species are known from Southeast Asia: *D. albatus* Scarbrough, 2005, Thailand; *D. basalis* Scarbrough, 2005, Cambodia; *D. brevis* Scarbrough, 2005, Cambodia; *D. flaventis* Scarbrough, 2005, Thailand and Cambodia; *D. fulvus* Scarbrough, 2005, Thailand; *D. londti* Scarbrough, 2005, Laos; *D. macula* Scarbrough, 2005, Cambodia and Thailand; *D. politus* Scarbrough, 2005, Thailand; *D. saigonensis* Bigot, 1878, Vietnam, Cambodia and Thailand; *D. signata* Walker, 1860, Myanmar; *D. tamdaoensis* Tomasovic & Constant, 2017, Vietnam.

***Damalis saigonensis* Bigot, 1878**

Examined material. N Vietnam: 1 male, Ha Noi Province, Ba Vi National Park, 800 m, 21-24.VI.2011, at light, leg. L. Bartolozzi, S. Bambi, F. Fabiano & E. Orbach (MZUF coll. n. 111). C Vietnam: 6 males, Tua Thien Hue Province, Bach Ma National Park, surroundings Hotel Morin, 1350-1400 m, 16°2' N 107°85' E, 23-28.V.2014, at light, leg. L. Bartolozzi, G. Chelazzi, A. Bandinelli, S. Bambi & F. Fabiano (MZUF coll. n. 112). S Vietnam: 2 females, Lam Dong Province, Lac Duong District, Bidoup Nuiba National Park, surroundings Giang Ly Ranger Station, 1420-1460 m, 16-21.VI.2015, at light, leg. L. Bartolozzi, G. Chelazzi, S. Bambi, F. Fabiano, E. Orbach & V. Sbordoni (MZUF coll. n. 113).

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Anacinaces lieni</i> <b>sp. n.</b>	◆				◆						◆			
<i>Philodicus phiadenensis</i> Tomasovic & Constant, 2017									x					x
<i>Promachus nigribarbatus</i> (Becker, 1925)	x										x			
<i>Astochia lanceolata</i> Scarborough & Biglow, 2004							◆							
<i>Cerdistus setaelongus</i> <b>sp. n.</b>									◆					◆
<i>Clephroneura serrula</i> <b>sp. n.</b>		◆												
<i>Eutolmus maximus</i> Hradsky & Geller-Grimm, 1998					x				x	x				
<i>Heligmonevra bambii</i> <b>sp. n.</b>									◆	◆	◆			
<i>Hoplophomerus guangdongi</i> Tomasovic, 2006		◆												
<i>Neoitamus laocaiensis</i> <b>sp. n.</b>												◆		
<i>Molobratia hoabinhensis</i> <b>sp. n.</b>									◆					
<i>Saropogon bachmaensis</i> Tomasovic & Constant, 2017		x												
<i>Andrenosoma orbachi</i> <b>sp. n.</b>							◆							
<i>Choerades xuansonensis</i> <b>sp. n.</b>										◆				◆
<i>Laloides tigris</i> Tomasovic & Grootaert, 2003														◆
<i>Laphria brevirostra</i> Tomasovic, 2017												x		
<i>Pogonosoma cyanogaster</i> Bezzi, 1917				◆								◆		
<i>Lagynogaster suenoni</i> Frey, 1937		◆												
<i>Merodontina bellicosa</i> Scarborough & Constantino, 2005		x												
<i>Merodontina vietnamensis</i> <b>sp. n.</b>														◆
<i>Microstylum dux</i> Wiedemann, 1828											x		x	x
<i>Microstylum oberthurii</i> Wulp, 1896								◆						
<i>Microstylum vulcan</i> Bromley, 1928						◆								
<i>Damalis saigonensis</i> Bigot, 1878	x	x	x											

Tab. 1. Species of Asilidae quoted in the present paper, with the indication of the protected areas (in alphabetical order) where they were collected: 1 = Ba Vi National Park; 2 = Bach Ma National Park; 3 = Bidoup NuiBa National Park; 4 = Cuc Phuong National Park; 5 = Hoang Lien National Park; 6 = Kon Plong Forest Complex; 7 = Nam Cat Tien National Park; 8 = Ngoc Linh National Park; 9 = Pa Co Hang Kia Nature Reserve; 10 = Pia Oac Mount; 11 = Tam Dao National Park; 12 = Van Ban Nature Reserve; 13 = Vu Quang Nature Reserve; 14 = Xuan Son National Park (x = record; ◆ = new record for Vietnam).

## Conclusions

The nine new species here described and the new country records demonstrate how rich is the entomological fauna of Vietnam and how many new taxa still remain to be discovered by scientists. The robber flies can be important bio indicators for the conservation of the ecosystems (MCCRAVY, 2017), and because all the material studied here is from protected areas of Vietnam, we believe useful to summarise in Tab. 1 the distribution of the species listed in this paper in the various National Parks and Nature Reserves that have been investigated during our research.

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