



# New records of the genus *Sericocampsomeris* Betrem from Vietnam, with the description of the female of *S. vietnamica* (Hymenoptera, Scoliidae, Campsomerini)

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**Abstract.** – The female of *Sericocampsomeris vietnamica* Pham & van Achterberg, 2023, is described for the first time while the male is redescribed. The geographical distributions of *S. degaulei* (Betrem, 1928), *S. rubromaculata* (Smith, 1855), and *S. vietnamica* in Vietnam, are reviewed using literature and specimens from the authors' collections. Additionally, *S. stygia* (Illiger, 1802) is recorded in Vietnam for the first time, in Lâm Đồng province. Therefore, the genus *Sericocampsomeris* now comprises five species in Vietnam: *S. degaulei*, *S. flavomaculata* Gupta & Jonathan, 1989, *S. rubromaculata*, *S. stygia* and *S. vietnamica*. A determination key for females of these species is provided, along with distribution maps and photographic plates. The study also includes remarks on the variation of the colour pattern observed in *S. degaulei* and *S. stygia*.

**Résumé.** – Nouveaux signalements du genre *Sericocampsomeris* Betrem du Vietnam, avec la description de la femelle de *S. vietnamica* (Hymenoptera, Scoliidae, Campsomerini). La femelle de *Sericocampsomeris vietnamica* Pham & van Achterberg, 2023, est décrite pour la première fois et le mâle est redécrit. Les distributions géographiques de *S. degaulei* (Betrem, 1928), *S. rubromaculata* (Smith, 1855) et *S. vietnamica* au Vietnam sont synthétisées sur la base de la littérature et de spécimens issus des collections des auteurs. De plus, *S. stygia* (Illiger, 1802) est signalée pour la première fois du Vietnam, dans la province de Lâm Đồng. Le genre *Sericocampsomeris* comporte donc cinq espèces au Vietnam : *S. degaulei*, *S. flavomaculata* Gupta & Jonathan, 1989, *S. rubromaculata*, *S. stygia* et *S. vietnamica*. Une clé de détermination des femelles de ces espèces est fournie, ainsi que des cartes de distribution et des planches photographiques. Des remarques sur la variabilité dans la coloration de *S. degaulei* et *S. stygia* sont données.

**Keywords.** – Distribution, hairy wasps, morphology, Southeast-Asia, taxonomy.

The genus *Sericocampsomeris* Betrem, 1941, belongs to the tribe Campsomerini (DAY *et al.*, 1981; LIU *et al.*, 2021a) and currently comprises eleven species (GUPTA & JONATHAN, 1989; 2003; OSTEN, 2005; SCHULTEN *et al.*, 2011; LIU *et al.*, 2021b; CHEN *et al.*, 2022; PHAM & VAN ACHTERBERG, 2023), mainly found in the Indomalayan ecozone and the Eastern Palearctic: *S. degaulei* (Betrem, 1928), *S. flavomaculata* (Gupta & Jonathan, 1989), *S. pseudindica* (Betrem, 1928), *S. puctata* Chen *et al.*, 2022, *S. rohweli* (Betrem, 1928), *S. rubroapicata* (Betrem, 1928), *S. rubromaculata* (Smith, 1855), *S. sarasini* (Betrem, 1928), *S. stygia* (Illiger, 1802), *S. vietnamica* Pham & van Achterberg, 2023,

and *S. weberi* (Betrem, 1928). This genus was initially established by BETREM (1941) as a subgenus of *Campsomeris* Guérin, 1839, from the species he had previously grouped together in the large catch-all genus *Campsomeris* Guérin-Méneville, 1839, subgenus *Dielis* Saussure & Sichel, 1864, group VI *Colpa* Lepeletier (BETREM, 1928). BETREM (1941) included ten species inside this subgenus and gave a short diagnosis of it. The subgenus *Sericocampsomeris* was later raised to the generic level by Betrem in BETREM & BRADLEY (1972). Afterward, GUPTA & JONATHAN (1989) described a new species, *Sericocampsomeris flavomaculata* from India, and considered nine species in the genus. Subsequently, GUPTA & JONATHAN (2003) gave a more precise diagnosis and more discriminating criteria for the genus *Sericocampsomeris* than those put forward by BETREM (1941). According to GUPTA & JONATHAN (2003), this genus is distinguished from other *Campsomerini* genera by the following main characters in females: mesopleural crest sharp like a carina; upper plate of metapleuron impunctate, the transition between its vertical and dorsal areas straight, marked by a carina below the base of hind wing; lateral carina of propodeum extended beyond the spiracle; abdominal tergites mat with silky reflections; metatibial spurs black, not spatulate. The males are distinguished by the main following characters (GUPTA & JONATHAN, 2003): head not broader than high in frontal view; anterior ocellus large placed in a broad and shallow pit; frontal spatium densely punctate; and genitalia with parameres short and slender, with fine setae on the inner side, basal part of volsellae not densely setose.

Few works have since dealt with this genus and its component species (OSTEN, 2005; LIU *et al.*, 2021c; CHEN *et al.*, 2022; PHAM & VAN ACHTERBERG, 2023). CHEN *et al.* (2022) reviewed the genus *Sericocampsomeris* based on the species known from China. More recently, in their taxonomic study of the tribe *Campsomerini* from northern Vietnam, PHAM & VAN ACHTERBERG (2023) described a new species *Sericocampsomeris vietnamica* based on two male specimens from Vietnam, and recorded *S. flavomaculata* for the first time in the country. With these two new records, the *Sericocampsomeris* fauna of Vietnam comprises four species, including *S. degaullei* and *S. rubromaculata* recorded in Vietnam by BETREM (1928). The first precise data for *S. rubromaculata* in Vietnam were provided by PHAM & VAN ACHTERBERG (2023), as data from BETREM (1928) indicated 'Vietnam' without any further precision. Concerning *S. degaullei*, the only specimens known from Vietnam are the types from the provinces of Hanoi and Tuyên Quang (BETREM, 1928). Since then, no specimens of this species have been reported from the country.

In recent years, numerous *Sericocampsomeris* specimens from Vietnam have accumulated in the authors' collections. Among these specimens, eleven females belonging to the genus *Sericocampsomeris* could not be assigned to any known females of any known species of this genus. However, these undescribed females exhibit very similar punctuation to that of the male of *Sericocampsomeris vietnamica*. Indeed, the male of *S. vietnamica* is characterized by its head and mesosoma having dense, coarse, and deep punctures, and interspaces between punctures, much smaller than the puncture diameter (PHAM & VAN ACHTERBERG, 2023). Moreover, these females display an atypical habitus, particularly in the coloration of their pilosity. Females of the genus *Sericocampsomeris* usually have an entirely black pilosity on the mesosoma and metasoma, or the apical metasomal segments bearing reddish pilosity. The mesosoma of the undescribed females bears a tawny pilosity, while the metasoma bears a yellowish pilosity on tergite 1, black and yellowish pilosity on tergite 2 to tergite 4,

and black pilosity on the two last metasomal segments. This pilosity coloration is similar to that of the male of *S. vietnamica*. For these reasons, undescribed females are assigned to *S. vietnamica*.

We therefore present a detailed description of the female of *S. vietnamica* and redescribe the male of this species. Several female specimens of *S. rubromaculata* and *S. degaullei* from Vietnam are newly reported and *S. stygia* is newly recorded from Vietnam. All females of *Sericocampsomeris* species from Vietnam are pictured and distribution maps are given. A determination key is provided to distinguish the female of *S. vietnamica* from females of other *Sericocampsomeris* species known in the country.

## MATERIALS AND METHODS

Specimens examined in this study are deposited in the personal collection of Jean-Baptiste Castagnet (JBC) and Flavien Cabon (FC).

Photographs were taken using a Sony A7R4 (Sony Co, Japan) with a Sony Macro 90 mm G master. For the details with a high magnification, a Laowa 100mm f/2.8 2× Ultra Macro APO was used. The focal plane merging was performed with a Novoflex automated micro-rail. The resulting photographs were then processed and developed in Adobe Lightroom CC 2024 (Adobe systems Inc. USA), Helicon Focus Pro 8.2.12 (Helicon Soft Ltd.), and Photoshop CC 2024 (Adobe systems Inc. USA). All the pictures presented in this study were taken by Nathanaël Maury.

Maps were generated using the QGIS v.3.16.8-Hannover software (QGIS DEVELOPMENT TEAM, 2024). Distribution records are indicated at the national and provincial levels.

Terminology follows that of GUPTA & JONATHAN (2003) and TAYLOR & BARTHÉLÉMY (2021). The following abbreviations are used in the text: tergite 1 (T1), tergite 2 (T2),...; sternite 1 (S1), sternite 2 (S2),... etc.

## RESULTS

### Order Hymenoptera Linnaeus, 1758

#### Family Scoliidae Latreille, 1802

#### Subfamily Scoliinae Latreille, 1802

#### Tribe Campsomerini Bartlett, 1912

### Genus *Sericocampsomeris* Betrem, 1941

*Campsomeris* (*Sericocampsomeris*) Betrem, 1941: 91. Type-species: *Scolia quadriguttulata* Burmeister, 1854 (by original designation) [= *Sericocampsomeris stygia* (Illiger, 1802)].

*Sericocampsomeris* Betrem; BETREM & BRADLEY, 1972: 12; GUPTA & JONATHAN, 1989: 53; GUPTA & JONATHAN, 2003: 58; TAYLOR & BARTHÉLÉMY, 2021: 20; LIU *et al.*, 2021b: 159; CHEN *et al.*, 2022: 127.

### *Sericocampsomeris degaullei* (Betrem, 1928) (fig. 1, 5–11, 30)

*Campsomeris* (*Colpa*) *degaullei* Betrem, 1928: 121;

*Campsomeris* (*Sericocampsomeris*) *degaullei* Betrem: BETREM, 1941: 92, 93.

*Sericocampsomeris degaullei* (Betrem): Betrem *in* BETREM & BRADLEY, 1972: 12; Betrem *in* BRADLEY, 1974: 425; GUPTA & JONATHAN, 1989: 55; OSTEN, 2005: 9; LIU *et al.*, 2021b: 159; LIU *et al.*, 2021c: 111; CHEN *et al.*, 2022: 127; PHAM & VAN ACHTERBERG, 2023: 380–382.

**Material examined.** – **Vietnam.** YÊN BÁI. 1 ♀, Mù Cang Chai, V.2016; 2 ♀, same place, VI.2022; 3 ♀, same place, IV.2023; 1 ♀, same place, V.2023; 1 ♀, YÊN BÁI, IV.2020; 2 ♀, same place, V.2020; 1 ♀, same place, VI.2020; 1 ♀, same place, IV.2022; 6 ♀, same place, V.2022; 1 ♀, same place, VI.2022; 1 ♀, same place, VII.2022; 1 ♀, same place, IX.2022; 2 ♀, same place, V.2023; 2 ♀,

same place, VI.2023; 1 ♀, Co phúc, VII.2023. HÀ GIANG. 1 ♀, Lũng cú, VIII. 2019. QUANG BÌNH. 1 ♀, Lam Thuy, IV. 2023; 1 ♀, same place; V.2023; 4 ♀, same place, VI.2023. CAO BANG. 1 ♀, Cao Bang, V.2023 (all *Van Dang leg.*, *in coll. JBC*).

**Distribution.** – Vietnam: Cao Bang, Hà giang, Quang Binh, Yên Bai (new records), Hanoi, Tuyên Quang (BETREM 1928; PHAM & VAN ACHTERBERG, 2023). Elsewhere: China (Guangdong, Jiangsu) (LIU *et al.*, 2021b, c; CHEN *et al.*, 2022).

**Remarks.** – Examined females of *Sericocampsomeris degaullei* show colour variation, even in the same population. The metasoma has a yellow band on T3, generally interrupted in the middle (fig. 5). Supernumerary yellow lateral spots are sometimes present on T2 (fig. 30). The dorsal area of the pronotum of females is covered with a golden tomentum. This tomentum can easily be lost in dry specimens.

### *Sericocampsomeris rubromaculata* (Smith, 1855) (fig. 2, 12–17)

*Scolia rubromaculata* Smith, 1855: 99.

*Scolia rubromaculata* Smith; DALLA-TORRE, 1897: 180.

*Elis (Dielis) rubromaculata* (Smith); SAUSSURE & SICHEL, 1864: 196; BINGHAM, 1897: 93; MEADO-WALDO *et al.*, 1915: 332.

*Scolia (Elis) rubromaculata* (Smith); TULLgren, 1904: 468.

*Campsomeris (Dielis) rubromaculata* (Smith); BETREM, 1928: 119; BETREM, 1933: 241.

*Campsomeris rubromaculata* (Smith); BETREM, 1932: 415; BETREM, 1947: 414.

*Campsomeris (Sericocampsomeris) rubromaculata* (Smith); BETREM, 1941: 94, 95; BRADLEY & BETREM, 1967: 319; JONATHAN, 1976: 113.

*Sericocampsomeris rubromaculata* (Smith); Betrem *in* BETREM & BRADLEY, 1972: 12; Betrem *in* BRADLEY, 1974: 425; GUPTA & JONATHAN, 1989: 55; GUPTA & JONATHAN, 2003: 60–63; OSTEN, 2005: 6, 21; LIU *et al.*, 2021b: 159; CHEN *et al.*, 2022: 132; PHAM & VAN ACHTERBERG, 2023: 377, 378.

Syn. *Elis (Campsomeris) bicolor* Saussure, 1858: 233 [synonymised by BETREM, 1932: 563].

**Material examined.** – Vietnam. LÀO CAI. 2 ♀, Fansipan mountain, VII.2015. HANOÏ. 1 ♀, Hanoï, VII.2015; 3 ♀, same place, X.2017; 5 ♀, same place, XI.2017. NGHỆ AN. 1 ♀, Thành pho Vinh, VIII.2023. VĨNH PHÚC. 1 ♀, Tam Đảo, V.2021 (all *Van Dang leg.*, *in coll. JBC*).

**Distribution.** – Vietnam: Lào Cai, Nghê An (new records), Hanoï, Lang Son, Nam Dinh, Thai Binh, Vĩnh Phúc (BETREM, 1928; PHAM & VAN ACHTERBERG, 2023). Elsewhere: China (Guangdong, Hainan), Indonesia (Bangka, Borneo, Java, Sangir, Sulawesi, Sumatra), India (Arunachal Pradesh, Bihar, Sikkim), Malaysia (Malacca), Myanmar (Tenasserim) (BETREM, 1928; GUPTA & JONATHAN, 2003; LIU *et al.*, 2021c; CHEN *et al.*, 2022).

### *Sericocampsomeris stygia* (Illiger, 1802) (fig. 3, 18–23, 31)

*Scolia stygia* Illiger, 1802: 15.

*Campsomeris stygia* (Illiger); BETREM, 1928: 336.

*Campsomeris (Sericocampsomeris) stygia* (Illiger); Betrem *in* BETREM & BRADLEY, 1972: 15, 16.

*Sericocampsomeris stygia* (Illiger); Betrem *in* BETREM & BRADLEY, 1972: 12; GUPTA & JONATHAN, 1989: 55; ARGAMAN, 1996: 203; GUPTA & JONATHAN, 2003: 64; OSTEN, 2005: 23; PHAM & VAN ACHTERBERG, 2023: 380.

Syn. *Scolia quadriguttulata* Burmeister, 1854: 21 [synonymised by BETREM & BRADLEY, 1972: 12].

Syn. *Scolia luctuosa* Smith, 1855: 101 [synonymised by BRADLEY & BETREM, 1967: 312].

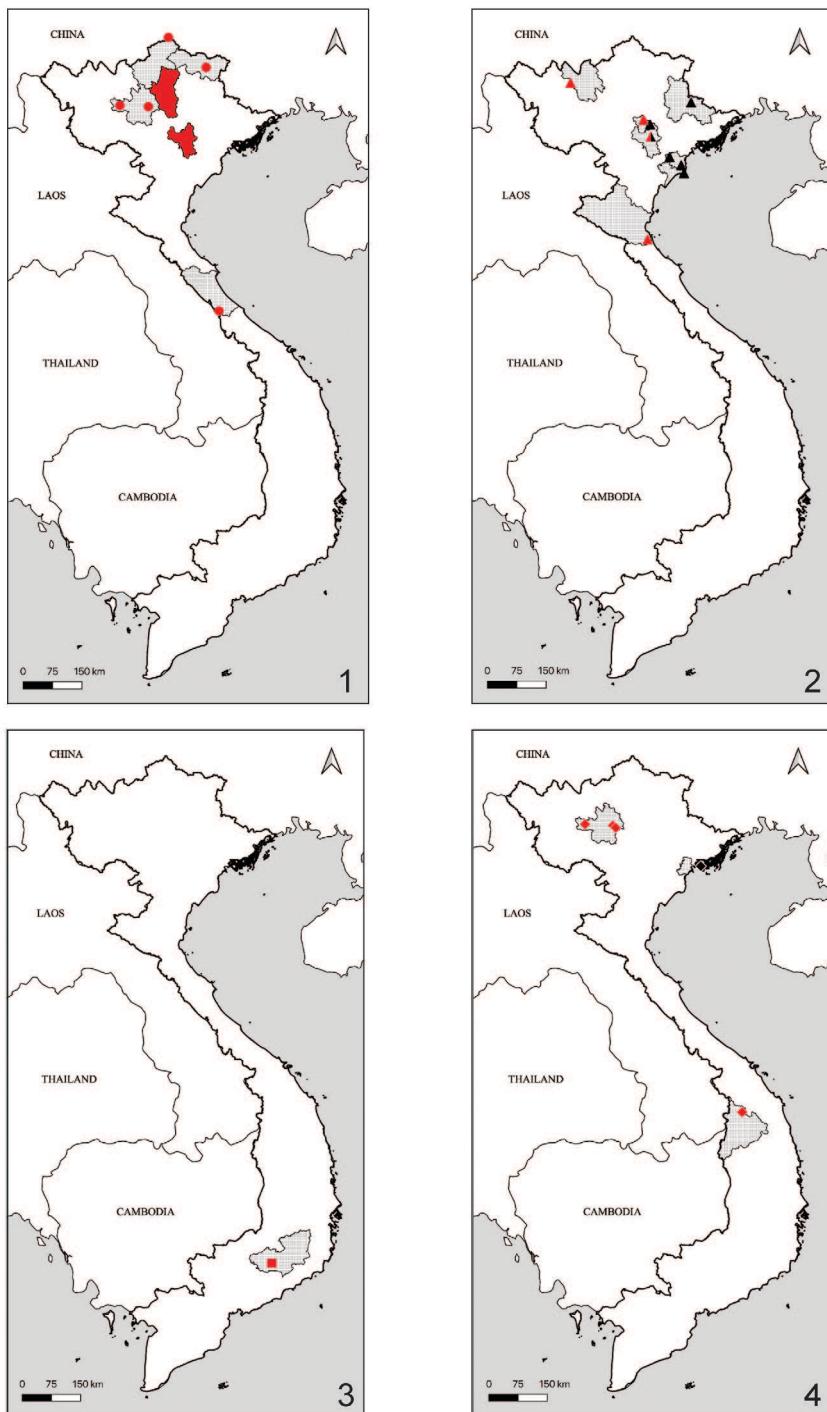
Syn. *Scolia morosa* Smith, 1862: 53 [synonymised by BRADLEY & BETREM, 1967: 314].

Syn. *Campsomeris sericeps* Cameron, 1905: 55 [synonymised by BETREM, 1928: 114].

Syn. *Campsomeris malayanus* Betrem, 1937: 95 [synonymised by BETREM, 1937: 95].

Syn. *Campsomeris (Dielis) peregrina* var. *bendorejoensis* Betrem, 1928: 115 [synonymised by GUPTA & JONATHAN, 2003: 64].

**Material examined.** – Vietnam. LÂM ĐỒNG. 1 ♀, Bao Lôc, Đam Bri, VII.2016; 1 ♀, same place, V.2021; 1 ♀, same place, IV.2023 (all *Van Dang leg.*, *in coll. JBC*). INDONESIA. WEST KALIMANTAN. 2 ♀, Mount Bawang, 13.VII.2022. EAST JAVA. 2 ♀, Mount Argopuro, IV. 2019 (all *local collector leg.*, *in coll. JBC*). MALAYSIA. PERAK. 1 ♀, Tapah hills forest reserve, IV.2014 (all *local collector leg.*, *in coll. JBC*).



**Fig. 1-4.** – Distribution maps of *Sericocampsomeris* spp. based on female specimens from Vietnam. – 1, *S. degaullei* (Betrem) [provinces from BETREM (1928) in red]. – 2, *S. rubromaculata* (Smith). – 3, *S. stygia* (Illiger). – 4, *S. vietnamica* Pham & van Achterberg. Red symbols = localities from this study. Black symbols = localities from PHAM & VAN ACHTERBERG (2023).



Fig. 5-11. – *Sericocampsomeris degauleei* (Betrem), female, from Vietnam (Yen Bai). – 5, Habitus, dorsal view. – 6, Head, frontal view. – 7, Head (vertex), dorsal view. – 8, Mesosoma, lateral view. – 9, Extremity of the metatarsus, lateral view. – 10, Propodeum, dorsal view. – 11, Propodeum with median tubercle, lateral view. Scale bars: dorsal habitus 5 mm; others 1 mm.

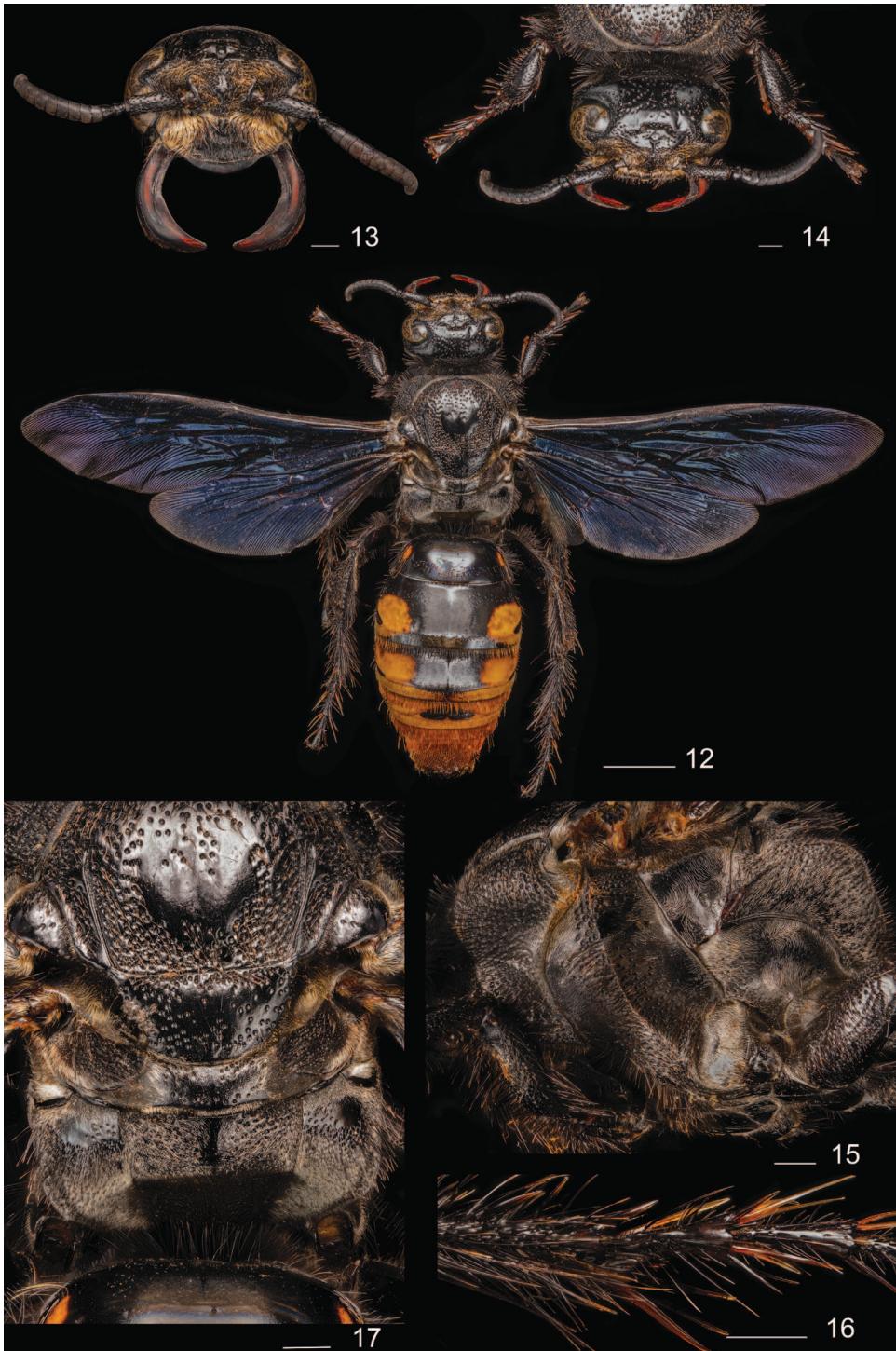


Fig. 12-17. – *Sericocampsomeris rubromaculata* (Smith), female, from Vietnam (Tam Dao). – 12, Habitus, dorsal view. – 13, Head, frontal view. – 14, Head (vertex), dorsal view. – 15, Mesosoma, lateral view. – 16, Extremity of the metatarsus, lateral view. – 17, Propodeum, dorsal view. Scale bars: dorsal habitus 5 mm; others 1 mm.



Fig. 18-23. – *Sericocampsomeris stygia* (Illiger), female, from Vietnam (Lâm Đồng). – 18, Habitus, dorsal view. – 19, Head, frontal view. – 20, Head (vertex), dorsal view. – 21, Mesosoma, lateral view. – 22, Extremity of the metatarsus, lateral view. – 23, Propodeum, dorsal view. Scale bars: dorsal habitus 5 mm; others 1 mm.

**Distribution.** – Vietnam (new record): Lâm Đồng. Elsewhere: Bangladesh (Sylhet), Bhutan, India (Assam, Sikkim, Tamil Nadu, Tripura, West Bengal), Indonesia (Borneo, Java, Sumatra), Malaysia (Malacca), Myanmar, Singapore (BETREM, 1928, 1941; GUPTA & JONATHAN, 2003).

**Remarks.** – Females of *Sericocampsomeris stygia* known from Vietnam are completely melanistic (fig. 18), as are some females examined from Indonesia and others recorded from India (GUPTA & JONATHAN, 2003). The most common coloration is characterised by two yellow spots on T2 and T3 (fig. 31) (BETREM, 1928; GUPTA & JONATHAN, 2003). However, some examined specimens from Indonesia also have supernumerary spots on T1, or have reduced spots on T2 and absent spots on T3.

*Sericocampsomeris vietnamica* Pham & van Achterberg, 2023 (fig. 4, 24-29)

*Sericocampsomeris vietnamica* Pham & van Achterberg, 2023: 378.

**Material examined.** – **Vietnam.** KON TUM. 1 ♀, Ngoc Linh mountain, VI.2016 (*in coll. JBC*); 1 ♀, same place, V.2022 (*in coll. JBC*). YÊN BÁI. 1 ♀, Cô Phúc, VIII.2021 (*in coll. JBC*); 2 ♀, Yên Bái, VI.2022 (*in coll. FC*); 2 ♀, same place, VI.2023 (*in coll. JBC*); 1 ♀, same place, VII.2022 (*in coll. JBC*); 1 ♀, Mù Cang Chai, IV.2022 (*in coll. JBC*); 1 ♂, same place, V.2022 (*in coll. JBC*); 2 ♀, same place, V.2023 (*in coll. JBC*) (all Van Dang leg.).

**Description of the female.** – Length 28-34 mm.

**Head.** Clypeus impunctate in the middle, at sides and posteriorly with coarse punctures, wrinkled anteriorly. Frontal spatium with dense and coarse punctures. Fissura frontalis weak, ending before the frons. Frons almost entirely impunctate. Vertex, behind posterior ocelli, with deep, coarse, and dense punctures; occipital carina complete. Temporal groove sharp and deep.

**Mesosoma.** Pronotum with dense, coarse and deep punctures; with an oblique groove delimiting a dorsal and a lateral area. Scutum with dense, coarse and deep punctures, in the middle with a large impunctate area. Scutellum with coarse and dense punctures at sides, sparser in the middle and posteriorly. Metanotum with dense and fine punctures. Upper plate of mesopleuron with a blunt tubercle. Lower plate of mesopleuron with a visible and sharp epicnemial carina. Upper plate of metapleuron with few coarse, scattered and deep punctures on the upper third. Lateral area of propodeum with dense and foveate punctures. Lateral carina of propodeum extended beyond the spiracle. Dorso-median area of propodeum with dense, coarse and very tight punctures, with a narrow longitudinal impunctate area in the middle. Dorso-lateral area of propodeum with a large and impunctate area (mirror); with dense, deep, coarse and almost contiguous punctures. Postero-median area of propodeum with coarse, deep and tight punctures on its upper third. Metatibial spurs black and spatulate. Metatarsus with scopula. Wings yellowish around the cells, smoky on the rest.

**Metasoma.** T1 with dense and fine punctures anteriorly, mostly impunctate in the middle, with dense and fine punctures forming a subapical band posteriorly. T2-T3 with dense and fine punctures anteriorly, impunctate in the middle, with dense and fine punctures forming a subapical band posteriorly. T4-T5 similarly punctate. S1 almost entirely impunctate, with dense and fine punctures at sides. S2 with coarse punctures anteriorly, impunctate in the middle, with fine punctures forming a subapical band posteriorly. S3-S4 similarly punctate.

**Colouration.** Head and mesosoma black with tawny pilosity. Tegulae partly reddish-brown. Metasoma black, with two yellow lateral spots on T2. T3 with a broad yellow band indented medially. Metasomal with yellowish pilosity on T1, black on the rest. T2-T4 with few yellowish setae on the basal and lateral parts.

**Diagnosis.** – *Sericocampsomeris vietnamica* is easily distinguished from other species of the genus (*S. degaullei*, *S. pseudindica*, *S. rohweli*, *S. rubromaculata*, *S. stygia*) by having head and mesosoma with dense, coarse, and deep punctures, with interspaces between punctures much smaller than puncture diameter; dorso-lateral

area of propodeum more coarsely, deeply, and densely punctate than the rest of the mesosoma, with almost contiguous punctures, interspaces between punctures mostly lamellate. In other species of the genus, the mesosoma is less coarsely punctated and the interspaces between punctures are never lamellated. Moreover, females of *S. vietnamica* display an atypical habitus, particularly in the coloration of pilosity by having head and mesosoma with tawny pilosity; metasoma with yellowish pilosity on T1, black and yellowish pilosity on T2-T4, and black pilosity on the two last metasomal segments. Females of other *Sericocampsomeris* species usually have a completely black pilosity on the mesosoma and metasoma (except *S. degaulllei*, which has a golden tomentum on the pronotum), or have apical metasomal segments with reddish pilosity.

**Redescription of the male.** – Length 23 mm.

**Head.** Clypeus impunctate in the middle, at sides and posteriorly with coarse punctures, wrinkled anteriorly. Frontal spatium with coarse and dense punctures; with a small tubercle protruding anteriorly between the lamina frontalis. Fissura frontalis weak, ending before the frons in a small and shallow pit. Frons with deep, sparse and coarse punctures. Vertex and gena with dense and fine punctures. Occipital carina complete.

**Mesosoma.** Pronotum with dense and coarse punctures, with a slightly raised and impunctate area in front of the tegula; with an oblique groove delimiting a dorsal and a lateral area. Scutum with dense, coarse and deep punctures. Scutellum with dense and coarse punctures at sides; sparser in the middle and largely impunctate posteriorly. Metanotum with dense and coarse punctures, finer and less depressed than on scutellum. Mesopleuron with dense and fine punctures. Upper plate of metapleuron with dense and coarse punctures above, with few coarser and scattered punctures in the middle. Lateral area of propodeum with dense and foveate punctures. Lateral carina of propodeum extended beyond the spiracle. Dorso-median area of propodeum with dense, coarse and tight punctures; less coarse and deep in the middle. Dorso-lateral area of propodeum with dense, coarse, deep and almost contiguous punctures; without impunctate area (mirror). Postero-median area with dense, coarse, deep and tight punctures on upper half. Metatibial spurs black. Metatarsus with scopa. Wings smoky apically, along the costal and the first submarginal cell, yellowish on the rest.

**Metasoma.** T1 with dense and fine punctures. T2-T3 with dense and fine punctures; finer, sparser and shallower in the middle. T4-T5 similarly punctate. S1 almost entirely punctate with dense, coarse and deep punctures in the middle, with a small impunctate area anteriorly and posteriorly. S2 with coarse and dense punctures, sparser in the middle. S3-S5 similarly punctate.

**Colouration.** Clypeus, head and mesosoma black with tawny pilosity. Tegulae partly reddish-brown. Metasoma black, with a fine yellow band on T1, sometimes interrupted medially. T2 with a broad yellow band, more or less emarginated in the middle. T3 with a yellow band finer than T2. Metasomal pilosity yellowish on T1-T4, partly black on T5 and black on T6-T7. S2-S3 with a broadly interrupted yellow apical band in the middle. Metasoma with bluish reflections.

**Genitalia.** See PHAM & VAN ACHTERBERG (2023).

**Diagnosis.** – Males of *Sericocampsomeris vietnamica* are similar to the males of *S. degaulllei*, *S. flavomaculata*, *S. pseudindica*, *S. punctata*, *S. rubroapicata*, *S. rubromaculata* and *S. stygia* by the presence of coloured apical tergal bands, while *S. rohweri*, *S. sarasini* and *S. weberi* are entirely melanistic. Males of *S. vietnamica* can be distinguished from all the *Sericocampsomeris* species by having head and mesosoma with dense, coarse, and deep punctures, with interspaces between punctures much smaller than puncture diameter; dorso-lateral areas of propodeum more coarsely, deeply, and densely punctate than the rest of the mesosoma, with almost contiguous punctures, interspaces between



Fig. 24-29. – *Sericocampsomeris vietnamica* (Pham & van Achterberg), female, from Vietnam (Yên Bái). – 24, Habitus, dorsal view. – 25, Head, frontal view. – 26, Head (vertex), dorsal view. – 27, Mesosoma, lateral view. – 28, Extremity of the metatarsus, lateral view. – 29, Propodeum, dorsal view. Scale bars: dorsal habitus 5 mm; others 1 mm.

punctures mostly lamellate. In other species of the genus, the mesosoma has shallower and less coarse punctures, and interspaces between punctures are never lamellate.

**Distribution.** – Vietnam. Kon Tum, Yên Bai (new records), Hai Phòng (PHAM & VAN ACHTERBERG, 2023).

**Remarks.** – Before this study, *Sericocampsomeris vietnamica* was only known from two males from its type locality (Hai Phòng) (PHAM & VAN ACHTERBERG, 2023). The geographical distribution of *S. vietnamica* has been considerably increased within Vietnam, with one specimen collected over 700 km away from the type locality (fig. 4). The capture of this specimen raises intriguing possibilities regarding the presence of *S. vietnamica* in neighbouring countries. Given the proximity and ecological similarities, it is plausible that this species is present in Cambodia, Laos, and southern China.

#### DETERMINATION KEY OF SERICOCAMPSOMERIS FEMALES FROM VIETNAM

For *Sericocampsomeris* males from Vietnam, see PHAM & VAN ACHTERBERG (2023).

1. Frons and vertex with shallow, fine and dense punctures, or frons almost impunctate and vertex punctate behind posterior ocelli with deep, coarse, dense punctures (fig. 6-7, 25-26). First row of spines on the inner part of the metatarsus very unequal in size, with at least two spines clearly longer than the others; posterior metatarsus with scopa (fig. 9, 28). Upper plate of metapleuron with more or less coarse and dense punctures (fig. 8, 27) .. 2
- Frons and vertex with deep, coarse and dense punctures (fig. 13-14, 19-20). First row of spines on the inner part of metatarsus less unequal in size, more gradual, sometimes one spine slightly longer than the others; posterior metatarsus without scopa (fig. 16, 22). Upper plate of metapleuron entirely impunctate (fig. 15, 21) ..... 3
2. Frons almost impunctate (fig. 25-26); vertex punctate behind posterior ocelli with deep, coarse and dense punctures (fig. 26). Mesosoma with very coarse and dense punctures, almost foveate on the propodeum. Mesopleuron with a sharp epicnemial carina (fig. 27). First row of spines on the inner part of the metatarsus clearly inferior in length to the next tarsus (fig. 28). Dorso-median area of propodeum without tubercle. Postero-median area of propodeum punctate on upper third (fig. 29). Wings yellowish at cell level, smoky elsewhere. T3 with a yellow band indented medially; T2 with two lateral yellow spots. Pilosity of mesosoma tawny, mostly yellowish on T1-T3 .....  
..... *S. vietnamica* Pham & van Achterberg
- Frons and vertex with shallow, fine and dense punctures (fig. 6-7). Mesosoma with finer and less depressed punctures. Mesopleuron with a blunter epicnemial carina (fig. 8). First row of spines on inner part of metatarsus with at least one very long spine, almost as long as the next tarsus (fig. 9). Postero-median area of propodeum entirely punctate (fig. 10). Dorso-median area of propodeum with a tubercle projected posteriorly (fig. 11). Wings usually entirely dark. T3 with two large yellow spots, sometimes fused. T4 black, sometimes with two lateral yellow spots. Pilosity mostly brownish-black; dorsal area of pronotum usually covered with a golden tomentose pattern, sometimes faded .....  
..... *S. degaulei* (Betrem)
3. Dorso-median area of propodeum with a large central triangular area impunctate; postero-median area of propodeum punctate on upper third (fig. 17). Metasoma usually with yellow or yellow-orange spots on T2-T5, spots sometimes very reduced. Pilosity rufous, at least on the last metasomal segments ..... *S. rubromaculata* (Smith)
- Dorso-median area of propodeum entirely punctate, at most a fine central line impunctate; postero-median area of propodeum almost entirely punctate (fig. 23). Metasomal colour variable, usually T2-T3 marked with yellow spots, sometimes also T1, or entirely melanistic. Pilosity entirely black, sometimes partly whitish on occiput, pronotum, propodeum and first metasomal segments ..... *S. stygia* (Illiger)



Fig. 30-31. – Variability of *Sericocampsomeris* females. – 30, *S. degauleei* (Betrem) from Vietnam, both specimens from Yên Bái province. – 31, *S. stygia* (Illiger) from Indonesia (left) and Vietnam (right). Scale bars: 5 mm.

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