

TWO NEW SPECIES OF *STILBULA* SPINOLA (HYMENOPTERA: EUCHARITIDAE) FROM YEMEN

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ABSTRACT

Two new species of *Stilbula Spinola* viz., *S. tonyi* sp. nov. and *S. yemenica* sp. nov. are described from Yemen.

KEYWORDS

Hymenoptera, Eucharitidae, *Stilbula tonyi* sp. nov., *Stilbula yemenica* sp. nov., Yemen

ABBREVIATIONS

DZUC - Department of Zoology, University of Calicut; F1-F10 - Flagellar segments 1 to 10; OOL - Ocellular line; POL - Postocellar line; SMV - Submarginal vein; SSS - Scutoscuteellar sulcus.

The genus *Stilbula* was raised by Spinola in 1811 on the type species *Ichneumon cyniformis* Rossius. *Stilbula vitripennis* Masi is the only one species so far reported from the Middle east (Masi, 1934; Boucek, 1951; Noyes, 2003; Heraty, 2002). In this paper we describe two new species of *Stilbula* from Yemen. This is the first report of this genus from Yemen. The new species neither fit to the keys of Nikolskaya (1952), Trjapitzin (1987), Peck, Boucek and Hoffer (1964) and Narendran & Sheela (1996), nor does it fit to the description of any known species.

Stilbula tonyi sp. nov.

(Figs. 1 - 6)

Material examined

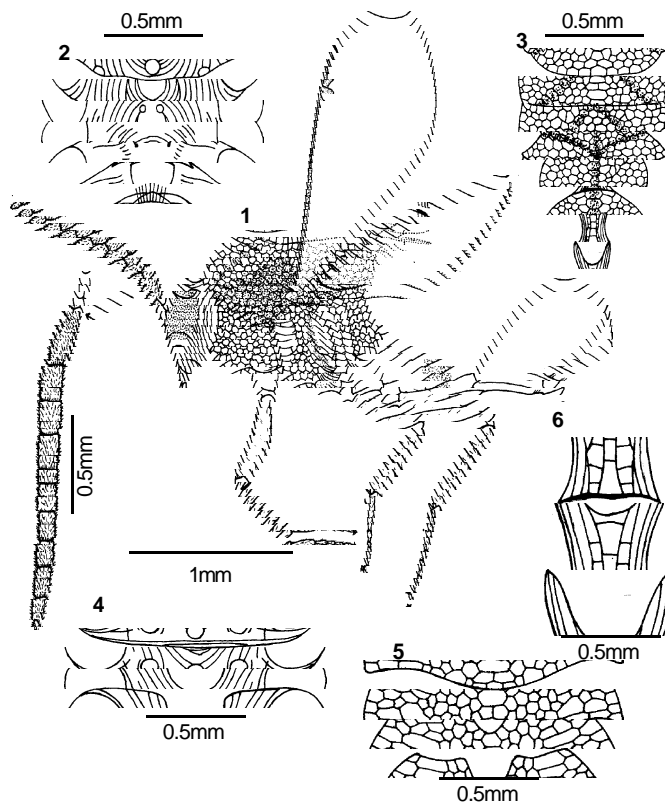
Holotype: Female, 16.x.2000 - 31.xi.2000, Al Lahima, Yemen, Coll. A. Van Harten and A.M. Hager. Holotype deposited in the Systematic Entomology Laboratory, Department of Zoology, University of Calicut (DZUC). Reg.No. GK 360.

Etymology: Named after Dr. Tony van Harten for his generous gift of chalcidoids for our studies.

Diagnostic features

Female: Length 3.72mm. Head green with metallic refrigence; upper part of mesosoma brown with metallic reflections, greenish reflections in certain lights, lower part green with metallic reflections, scutellar process brown, tegula and lateral side of lateral lobe brownish-yellow; mandibles, scape and pedicel brownish-yellow, funicular segments pale brownish-yellow, ocelli pale yellow; eye dark brown; all coxae yellowish-brown with apices paler; trochanter and femur yellow, tibia pale yellow, tarsal segments whitish, all claws brown; gastral petiole white with pale yellow band near middle; wings hyaline, stigma and SMV pale brown.

Head: Width in anterior view 1.76x its median length (excluding mandibles) (Fig. 2); POL 3.36 x OOL (Fig. 4); median ocellus separated from occipital margin by its own diameter; frons with



Figures 1-6. *Stilbula tonyi* sp. nov. (Female)
1 - Body profile; 2 - Head anterior view; 3 - Thorax dorsal view; 4 - Head dorsal view; 5 - Propodeum; 6 - Scutellar process

distinct oblique and semicircular striations (Fig. 2) extending from ocellar area to supraclypeal area; clypeal area slightly striate and shiny; epistomal sulcus faintly distinct; clypeogenal sulci and tentorial pits deep and distinct; vertex and scrobe longitudinally striate; mouth plate 9 digitate; gena obliquely striated; eyes separated in front view by 2.85x height of eye; antenna (Fig. 1) 12 segmented; relative proportions of length : width as follows: scape - 5.25 : 3; pedicel 5.5 : 3, F_1 - 17.7 : 6, F_2 - 11 : 7, F_3 - 11 : 7, F_4 - 11 : 6.5, F_5 - 8 : 6, F_6 - 8.6 : 6, F_7 - 8 : 5, F_8 - 9 : 5.5; F_9 8 : 4.5, F_{10} - 10 : 3.5.

Mesosoma: Thorax with mesoscutum and scutellum deeply and closely punctate; interstices carinate; notauli distinct and alveolate; SSS carinate; scutellum with a median longitudinal fovea; scutellum wider than distance between SSS and frenal carina; each tooth of posterior scutellar process shorter than stalk of scutellar process, 2x as long as its width (Fig. 6); width

of scutellar stalk 1.16x less than its length (excluding teeth) (Fig. 6); propodeum completely punctate, interstices carinate, without median carina, callus bare (Fig. 5); mesopleuron punctate without a patch of smooth area (Fig. 1); fore and hind coxa mostly smooth and shiny, midcoxa distinctly striated on sides; forewing (Fig. 1) 2.57x as long as its maximum width, without marginal fringe; lower margin of hind wing with marginal fringes; hamuli 4 in number.

Metasoma: (Fig. 1) excluding petiole 1.74x its height in side view; tergites smooth and polished; petiole smooth, distinctly shorter than remaining part of gaster (4:4.75), longer than hind femur (4:1.3), slightly swollen near middle.

Male: Unknown.

Host

Unknown.

Remarks

This new species differs from the only other species *S. vitripennis* Masi from Middle East in the following features: (1) each tooth of posterior scutellar process shorter than stalk of scutellar process (in *S. vitripennis* each tooth of postreior scutellar process longer than stalk of scutellar process) (2) gastral tergum pale brown (in *S. vitripennis* gastral tergum dark brown) and (3) F_1 - F_6 pale brownish-yellow (in *S. vitripennis* F_1 - F_6 dark brown).

Stilbula yemenica sp. nov.

(Figs. 7 - 12)

Material examined

Holotype: Female, 16.x.2000 - 31.xii.2000, Al Lahima, Yemen, Coll. A. Van Harten and A.M. Hager. Holotype deposited in the Systematic Entomology Laboratory, Department of Zoology, University of Calicut (DZUC). Reg. No. GK 361.

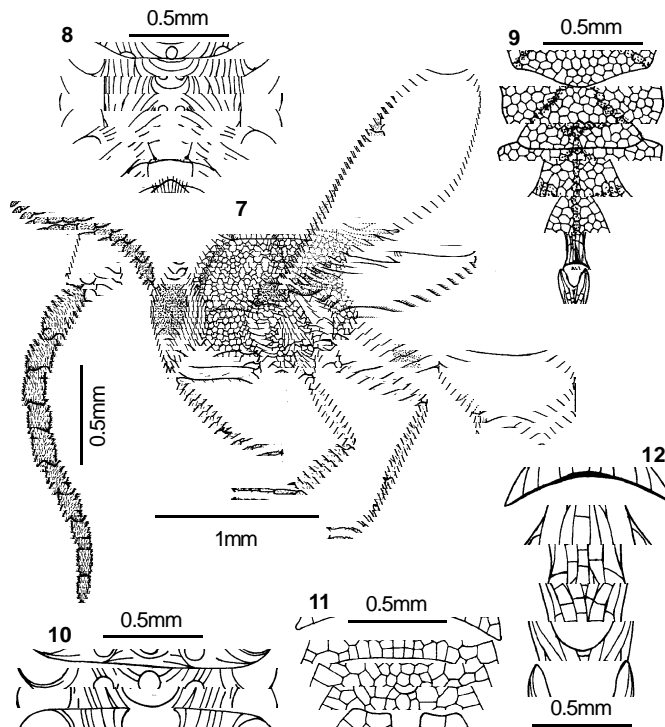
Etymology

Named after the country of origin of the specimen.

Diagnostic features

Female: Length 4.79mm. Head and thorax green with metallic refrigence; mandibles, scape and pedicel brownish-yellow; funicular segments pale brownish-yellow; ocelli pale yellow; eye dark brown; tegula pale brown; fore and mid coxae yellowish-brown with apices paler; hind coxa dark brown with apices paler; remaining parts of legs pale yellow; all claws brown; distal part of scutellar teeth dark brown; gastral petiole white with pale yellow band near middle, wings hyaline; stigma and SMV pale brown.

Head: Width in anterior view 1.67 x its median length (excluding mandibles) (Fig. 8); POL 2.26 x OOL (Fig. 10); median ocellus separated from occipital margin by less than its own diameter; frons with distinct oblique and semicircular striations (Fig. 8) extending from ocellar area to supraclypeal area; clypeal area slightly striate and shiny; supraclypeal area smooth and shiny; epistomal sulcus faintly distinct; clypeogenal sulci and tentorial



Figures 7-12. *Stilbula yemenica* sp. nov. (Female)
7 - Body profile; 8 - Head anterior view; 9 - Thorax dorsal view; 10 - Head dorsal view; 11 - Propodeum; 12 - Scutellar process

pits deep and distinct; vertex and scrobe longitudinally striate; mouth plate 10 digitate; gena obliquely striate; eyes separated in front view by 3.29x height of eye; antenna (Fig. 7) 12 segmented; relative proportions of length : width as follows: scape - 10:5.5, pedicel - 3.5:6, F_1 - 20:8.5; F_2 - 13.5:8.5; F_3 - 12.5:7.5; F_4 - 10.5:8; F_5 - 12:7.5; F_6 - 10:6; F_7 - 11:6.5; F_8 - 10.5:5.5, F_9 - 10.5:4.5; F_{10} - 10:3.5.

Mesosoma: Thorax with mesoscutum and scutellum deeply and closely punctate, interstices carinate; notauli distinct and alveolate; mesoscutum without a median fovea; SSS carinate; scutellum with a median longitudinal fovea; scutellum wider than distance between SSS and frenal carina; each tooth of posterior scutellar process shorter than stalk of scutellar process, 1.56x as long as its width; width of scutellar stalk 1.44x less than its length (excluding teeth) (Fig. 12); propodeum completely punctate, interstices carinate, without median carina, callus bare (Fig. 11); mesopleuron punctate without a patch of smooth area (Fig. 7); fore and hind coxae mostly smooth and shiny, mid coxa distinctly striated on sides; fore wing (Fig. 7), 3.47x as long as its maximum width, without marginal fringes; lower margin of hind wing with marginal fringes; hamuli 3 in number.

Metasoma: (Fig. 7) excluding petiole 1.64x its height in side view; tergites smooth and polished; petiole smooth, distinctly shorter than remaining part of gaster (35:51), longer than hind femur (35:8), slightly swollen near the middle.

This new species resembles *Stilbula tonyi* sp. nov. in general appearance but differs from *S. tonyi* sp. nov. in the following features:

<i>S. tonyi</i> sp. nov.	<i>S. yemenica</i> sp. nov.
Mouth plate 9 digitate	Mouth plate 10 digitate
Stalk of scutellar process distinctly shorter than that of <i>S. yemenica</i> sp. nov.	Stalk of scutellar process distinctly longer than that of <i>S. tonyi</i> sp. nov.
Scutellar teeth distinctly longer than that of <i>S. yemenica</i> sp. nov.	Scutellar teeth distinctly shorter than that of <i>S. tonyi</i> sp. nov.
Width of scutellar stalk 1.16x less than its length (excluding teeth)	Width of scutellar stalk 1.44x less than its length (excluding teeth)
Hamuli four in number	Hamuli three in number
Median ocellus separated from occipital margin by its own diameter	Median ocellus separated from occipital margin by less than its own diameter.
POL 3.36 x OOL	POL 2.26 x OOL
Eyes separated in front view by 2.85x height of eye	Eyes separated in front view by 3.29x height of eye.
Fore wing 2.57x as long as its maximum width	Fore wing 3.47x as long as its maximum width.
Upper part of thorax brown with metallic reflections, greenish reflections in certain lights, scutellar process brown, lower part green with metallic reflections, tegula and lateral side of lateral lobe brownish-yellow	Thorax green with metallic refrigence except tegula; tegula pale brown; distal part of scutellar teeth dark brown.

Male: Unknown.

Host

Unknown.

Remarks

This new species differs from the only other species *S. vitripennis* Masi from Middle East in the following features: (1) each tooth of posterior scutellar process shorter than stalk of scutellar process (in *S. vitripennis* each tooth of posterior scutellar process longer than stalk of scutellar process) (2) gastral tergum pale brown (in *S. vitripennis* gastral tergum dark brown) and (3) F₁-F₆ pale brownish-yellow (in *S. vitripennis* F₁-F₆ dark brown).

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