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A new species of *Stilpon* from Cyprus (Diptera: Hybotidae)Elias DE BREE¹ & Patrick GROOTAERT²¹ Amsterdam, the Netherlands, (corresponding author: ectemnius@gmail.com)² Royal Belgian Institute of Natural Sciences, O.D. Taxonomy and Phylogeny, Entomology, Vautierstreet 29, B-1000 Brussels, Belgium. (e-mail: pgrootaert@yahoo.co.uk)

Abstract

Stilpon vanecki sp. nov. is described from Cyprus. It is characterized by the black apical half of the fore tibia and a broadly forked tip of the right epandrial lamella.

Keywords: Hybotidae, *Stilpon*, Cyprus, new species

Samenvatting

Stilpon vanecki sp. nov. wordt beschreven van Cyprus. Kenmerkend voor de soort is de zwarte apicale helft van de voorschenen en een breed gevorkte top van de rechter epandriale lamel.

Résumé

Stilpon vanecki sp. nov. est décrite de Chypre. Elle est caractérisée par la moitié apicale noire du tibia antérieur et une extrémité largement fourchue de la lamelle épandriale droite.

Introduction

Stilpon Loew, 1859 is a genus of very small predatory flies from the family Hybotidae, usually measuring 1.0 to 1.5 mm. Adults inhabit various biotopes but most often occur on the surface of the soil or in low vegetation. Larvae develop in soil and in litter (PRZHIBORO & SHAMSHEV, 2007). Twelve species are known from the West Palaearctic Region (GROOTAERT & SHAMSHEV, 2003; SHAMSHEV & GROOTAERT, 2005; GROOTAERT *et al.*, 2021). In addition, CHVÁLA (1988) mentions two undescribed species, remarkably both from Islands, i.e., Malta and Rhodes. In the present paper, a new species is described, found in four localities in Cyprus.

Material and methods

All specimens were collected with Malaise traps by André van Eck and stored in 70% ethanol. The holotype and paratypes from Saittas are deposited in the Royal Belgian Institute of Natural Sciences, Brussels, Belgium (RBINS). The two male paratypes from Pafos are deposited in the collections of Naturalis Biodiversity Center, Leiden, the Netherlands (RMNH).

Results

Taxonomy

Family **Hybotidae** Macquart, 1823
 Subfamily **Tachydromiinae**
 Tribe **Drapetini** Collin, 1961
 Genus *Stilpon* Loew, 1859

Type species : *Tachydromia graminum* Fallén, 1815

Stilpon vanecki sp. nov.

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Figs 1-2

TYPE MATERIAL

Holotype: ♂ CYPRUS, Limassol, Amiantos, Lournata river, Mal. Trap in *Alnus* forest, 34.91452°N - 32.94254°E, 24.III - 1.IV.2018, +900 m, leg. A. v. Eck, coll. RBINS.

Paratypes: 1 ♂, 4 ♀, CYPRUS, Limassol, Saittas, stream in forest, 34.87564°N - 32.91204°E, 7-14.V.2017, +720 m, Mal Trap, leg. A. v. Eck, coll. RBINS; 1 ♂ CYPRUS, Pafos, Prastio, Diarizos river, Mal. Trap next to wheat, 34.78767°N - 32.69301°E, 23-31.III.2018, +225 m, leg. A. v. Eck, coll. RMNH; 1 ♂ CYPRUS, Pafos, Kakopetria, Mal. Trap near river, 34.97477°N - 32.91311°E, 24.III - 1.IV.2018, +740 m, leg. A. v. Eck, coll. RMNH.

DIAGNOSIS

Very small species (1.26-1.6 mm), wing membrane brownish at base, more darkened around vein R_{2+3} and basal 2/3 of vein M_1 , wing tip pale. Vein R_{2+3} complete. Haltere white. Metatarsi pale. Fore tibia on apical half black and a long preapical ventral bristle present. Apical tarsomere of fore leg black. Antennae orange. Abdominal terga dorsally pale, laterally with brown markings. Right epandrial lamella with broadly furcate apex.

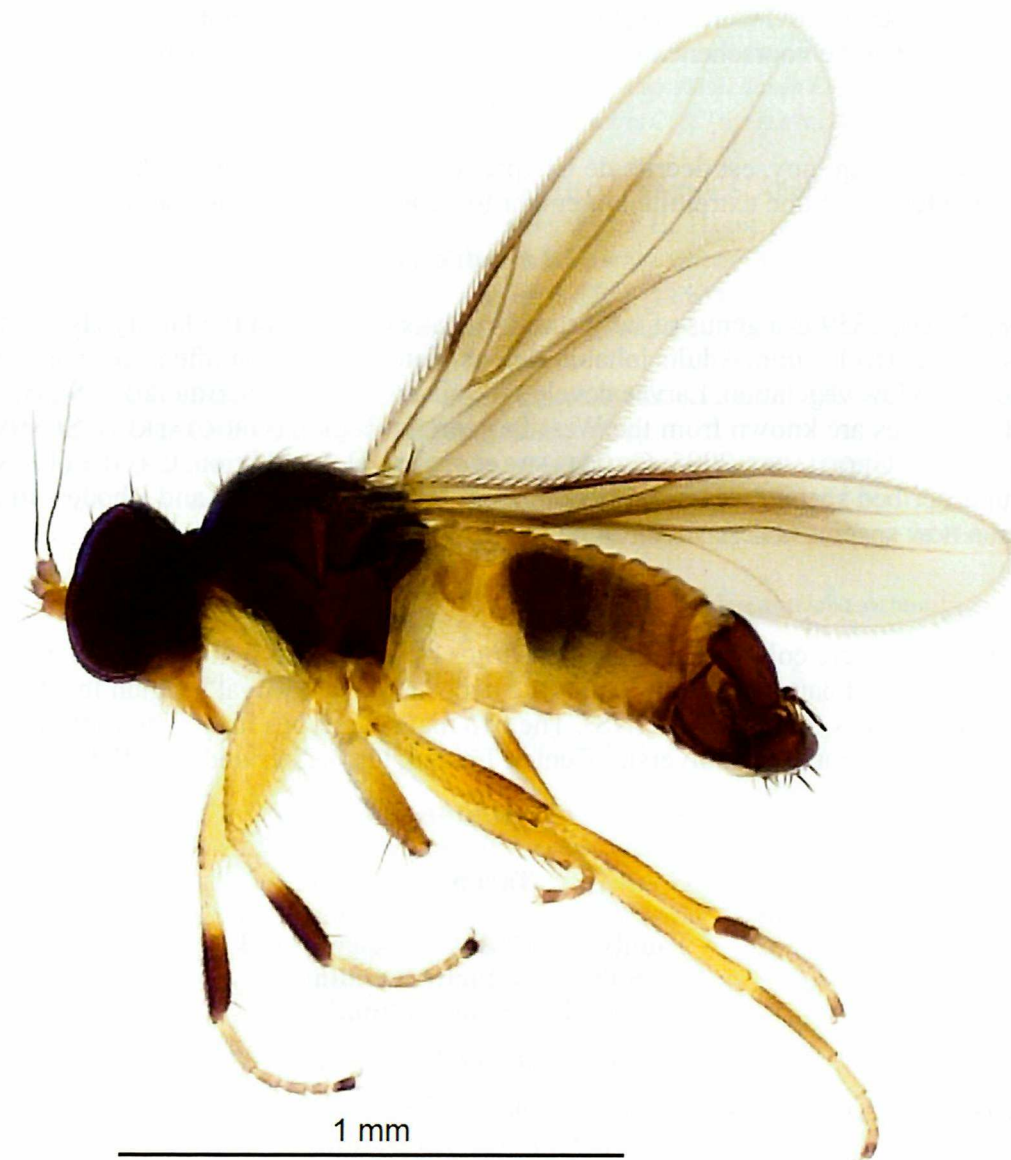


Fig. 1. *Stilpon vanecki* sp. nov. Holotype ♂ (Amiantos, Cyprus, leg. A. van Eck, coll. RBINS). © I. Van de Velde.

DESCRIPTION

Male (length body: 1.5 mm; wing: 1.34 mm).

Head. Black in ground colour. Occiput and vertex with grey dusting. Eyes touching on face, but widely separated on frons for a distance as wide as a pedicel. Ocellar bristles minute. A pair of long black convergent verticals present. Antennae entirely orange, including stylus and postpedicel orange haired in apical half. Pedicel with two black apical ventral bristles, longer than pedicel. Postpedicel ovoid with stylus inserted halfway dorsal margin. Occiput with two rows of pale setae. Palpus elongate, pale yellowish with a black apical bristle as long as palpus. Proboscis orange brown.

Thorax. Black with scutum slightly grey dusted. Acrostichals in two rows, the anterior pair twice the length of the rest. Dorsocentrals longer than acrostichal bristles. A single long postpronotal, two strong notopleural and a single postalar bristle. Scutellar apical bristles cruciate, with a small bristle at each side.

Wing. (Fig. 1) Apically pale. Membrane between costa and vein R_{2+3} , basal 2/3 of vein R_{4+5} and basal part of veins M_1 and Cu brownish. Costa darkened between vein R_1 and R_{2+3} . Veins R_{4+5} and M_1 diverging. Haltere white.

Legs. Pale yellowish except for mid and hind coxae that are more orange brown. Fore femur slightly paler than posterior two pairs that are dorsally in the apical third a little brownish. Anterior tibia on apical half black. Apical tarsomere of fore leg black, but paler at base. Apical

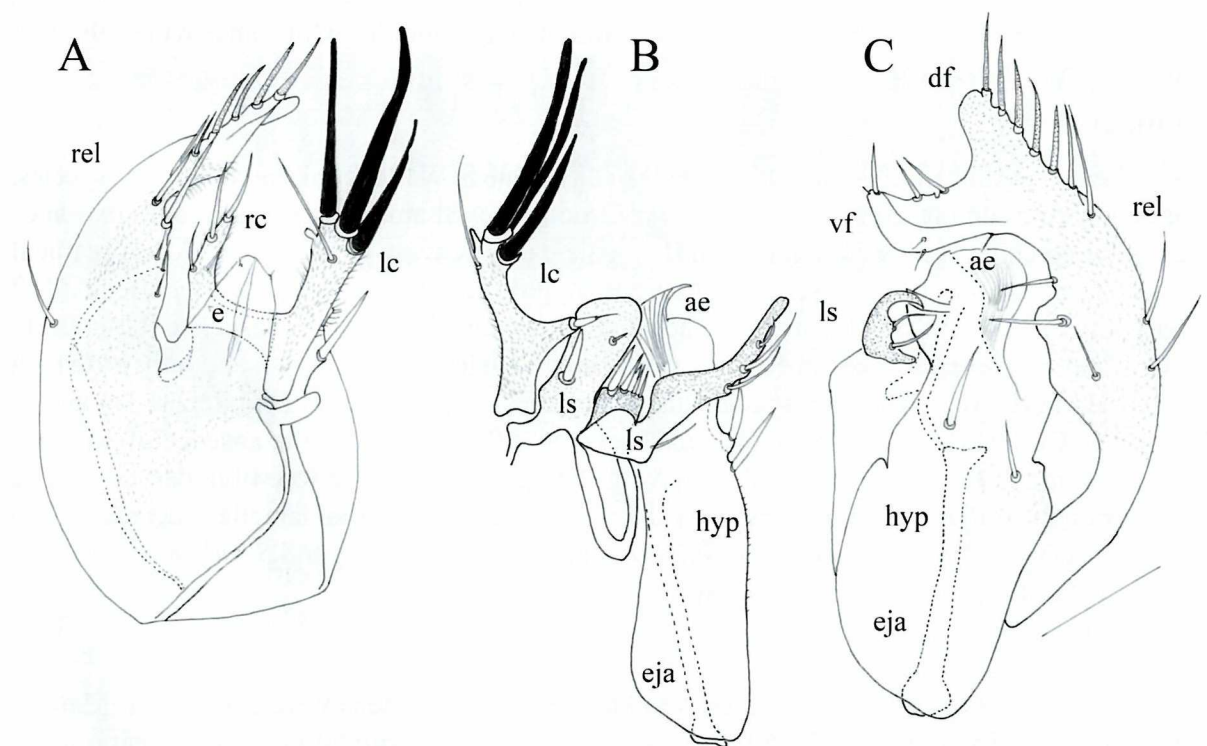


Fig. 2. *Stilpon vanecki* sp. nov. Paratype ♂, terminalia (Saittas, Cyprus, leg. A. van Eck, coll. RBINS): A. Dorsal view cerci and right epandrial lamella; B. Left cercus lateral, left surstyli and hypandrium; C. Ventral view hypandrium and right epandrial lamella. Abbreviations: ae: aedeagus; df: dorsal fork right epandrial lamella; e: epiproct; eja: ejaculatory apodeme; hyp: hypandrium; lc: left cercus; rc: right cercus; rel: right epandrial lamella; vf: ventral fork right epandrial lamella. Scale: 0.1 mm. © P. Grootaert.

tarsomere of mid and hind leg darkened in apical half. A black, ventral preapical bristle on fore tibia present, nearly as wide as tibia. Fore femur twice the width of mid femur and with a row of pale ventral bristles, half as long as width femur. Mid femur with a long anterior bristle on apical fifth and a distinct preapical (Fig. 1), ventrally in basal half with three pale bristles as long as femur is wide. Hind femur with a row of 3-4 anteroventral setae on apical quarter. Mid tibia on apical $\frac{3}{4}$ with a row of black anteroventral spine-like bristles at least half as long as tibia is wide, near middle a few longer bristles; ventrally a row of short spine-like bristles.

Abdomen. Tergites and sternites weakly sclerotised. Terga centrally pale, with lateral brown markings. Both terga and sterna with short pale hairs. The last two segments with longer hairs on posterior margin.

Terminalia. Left cercus apically with three strong, black bristles. Right cercus apically without strong setae, but a long pale apical and a preapical seta (Fig. 2A, B). Left surstylus composed of three sclerites: a rectangular plate with a strong spine at the base, a smaller plate with an apical comb of spine-like bristles and a long thinner sclerite that is bent over the apex of the hypandrium and as long as left cercus. Right epandrial lamella widely bifurcate at apex (Fig. 2C). Dorsal arm of the fork brownish and with a row of seven brownish flattened bristles (Fig. 2C). Ventral arm of the fork pale, with three bristles on inside of the fork. Fig. 2C illustrates the shape and bristling of the right epandrial lamella in posterior view. Hypandrium with two rather strong bristles (Fig. 2B, C)

Female (length body: 1.5-1.6 mm; wing: 1.26 -1.34 mm)

Identical to male including the colouration of the legs, but abdomen paler and ovipositor contrastingly brown. Mid femur with three long pale bristles in basal half, a little longer than femur is wide. Mid tibia ventrally with a row of minute dark spinules while anteroventrally with a row of longer bristles.

COMMENTS

The darkened apical half of the fore tibia seems to be unique in Western Palearctic *Stilpon* species. The new species comes close to *S. corsicanus* Grootaert & Shamshev, 2003 by combination of the following characters: a complete vein R_{2+3} , pale halteres, wing clouded in middle, preapical ventral bristle on fore tibia present, right cercus of male lacking a strong black bristle and left cercus with three strong bristles at apex. The wing has the area between the costa and R_{4+5} entirely brownish in *S. corsicanus*, but in *S. vanecki* this area is pale along the costa and only brownish seamed along the R_{4+5} . The new species also resembles *Stilpon lunatus* (Walker, 1851) and *S. sublunatus* Collin, 1961. However, *S. vanecki* can be differentiated by the absence of an ovate pale patch in cell R_3 in the wing and by having the apical half of the fore tibia darkened. The male terminalia differ as well, most notably the tip of the right epandrial lamella is deeply forked in *S. vanecki* while broadly rounded in *Stilpon lunatus* (Walker, 1851) and *S. sublunatus* Collin, 1961 (see COLLIN, 1961: Fig. 25 and 26).

ECOLOGY

The biology and ecology of the species is unknown. Our specimens were found with Malaise traps in the vicinity of water. The holotype from Amiantos was caught underneath some Alder (*Alnus sp.*) next to a small river. The Malaise trap was situated in grass with several herbs (Fig. 3). The paratypes from Saittas were caught in a dense forest with dense undergrowth of ferns and bushes, also in the vicinity of a small stream (Fig. 4). The male paratype from Prastio was caught in a meadow below a large tree (Fig. 5). The male paratype from Kakopetria was caught with a small Malaise trap situated on a rocky slope with sparse vegetation (Fig. 6). In both latter cases water was about 50 meters away from the trap.



Fig. 3. Location of Malaise trap at Amiantos, Cyprus. © A. van Eck.



Fig. 4. Location of Malaise trap at Saittas, Cyprus. © A. van Eck.



Fig. 5. Location of Malaise trap at Prastio, Cyprus. © A. van Eck.



Fig. 6. Location of Malaise trap at Kakopetria, Cyprus. © A. van Eck.

ETYMOLOGY

The species is named after Andre van Eck, a friend and colleague of the first author, for his contributions to science in general, and specifically to dipterology (Syrphidae).

Discussion

In total, thirteen species are now described in the western Palaearctic. However, CHVÁLA (1988) mentions two undescribed species from Malta and Rhodes. These two undescribed species have similarities with *S. appendiculatus* Frey, 1936 (Canary Islands) and *S. machadoi* Smith, 1965 (Portugal); namely a simple left cercus, whereas the right cercus bears three or two very long black terminal spines (CHVÁLA, 1988). This demonstrates these undescribed species are different from the new species described here.

Acknowledgements

We thank Ruud van der Weele and Paul Beuk for their help in obtaining some literature. Isabella Van de Velde made the habitus picture and did a critical reading of the text. We thank also A. Van Eck for providing the pictures.

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