

**Redescriptions of *Atrichopogon horni* KIEFFER, 1925 from Sri Lanka
and *Palpomyia schmidti* GOETGHEBUER, 1934 from Iraq
(Diptera: Ceratopogonidae)**

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ABSTRACT. *Atrichopogon horni* KIEFFER, 1925 from Sri Lanka is redescribed, illustrated and placed in the subgenus *Atrichopogon* s. str. *Palpomyia schmidti* GOETGHEBUER, 1934 from Iraq is redescribed and recognized as a new senior synonym of *Palpomyia miki* GOETGHEBUER, 1934.

KEY WORDS: Diptera, Ceratopogonidae, *Atrichopogon*, *Palpomyia*, Sri Lanka, Iraq, synonymy.

INTRODUCTION

The biting midges are a diverse group of small dipterans, which include a number of doubtful names proposed by earlier taxonomists. The types of many of these species are lost or have not been recently studied. In this paper we redescribe two species known from old descriptions in the genera *Atrichopogon* KIEFFER and *Palpomyia* KIEFFER and propose one new synonym.

MATERIALS AND METHODS

Biting midges examined are from the collection of the Senkenberg Deutsches Entomologisches Institut (SDEI) (previously Deutsches Entomologisches Institut, DEI) in Müncheberg near Eberswalde, Germany. Pinned specimens were mounted on microscope slides in a mixture of phenol and Canada balsam.

RESULTS

Atrichopogon (Atrichopogon) horni KIEFFER, 1925

(Fig. 1)

Atrichopogon horni KIEFFER, 1925: 408 (female, Sri Lanka, Ceylon); BLECH & ROHLFIEN 1987: 219 (3 syntypes in SDEI).

Diagnosis

Females have bare eyes, paratergite with 1 seta, scutellum armed with 4 bristles, wing with macrotrichia present in all marginal cells, abdomen without special armature, seminal capsule without neck.

Description

Female. Body yellow. Eyes bare, broadly fused for distance of 6 ommatidia. Antennal flagellum missing. Proboscis long and slender. Palpus 5-segmented; 3rd palpal segment slender, 0.100 mm long, PR(III) 2.8, sensory pit at midlength; 5th palp segment with rounded apex (Fig. 1a). Mandible narrow, with over 40 small teeth gradually growing distad in series. Lacinia smooth.

Paratergite bearing 1 seta. Scutellum with 4 bristles. Wing pale, 1.46 mm long, CR 0.77-0.79; second radial cell 4.0-4.2 times longer than first one; macrotrichia present in all marginal cells, basal radial cell bare (Fig. 1b). Legs without special armature; hind tibial comb with 9 spines; TR(I) 2.8-3.1, TR(II) 2.8, TR(III) 2.4-2.8; claws simple with bifid apices.

Abdomen without special armature. Seminal capsule single, ovoid, without neck, length 0.098-0.112 mm (Fig. 1c).

Male. Unknown.

Material examined

Lectotype female, here designated, originally labelled as follows: Ceylon, Horn, *Atrichopogon Horni*, KIEFFER det., Syntypus. Paralectotypes: 2 females labelled as above. In the lectotype wings and flagella while in paralectotypes heads are missing.

Discussion

The species is known only from the original description. The female characters observed in incomplete examined specimens show that the species is a member of the subgenus *Atrichopogon* s. str.

Atrichopogon horni is similar to *A. multidentis* BOSE et al., *A. quasicomatus* BOSE et al. and *A. vastus* BOSE et al. recently described from India (BOSE et al. 2003). Further females and males from Sri Lanka are necessary to complete diagnosis of the species and to explain its relations to the Indian species mentioned above.

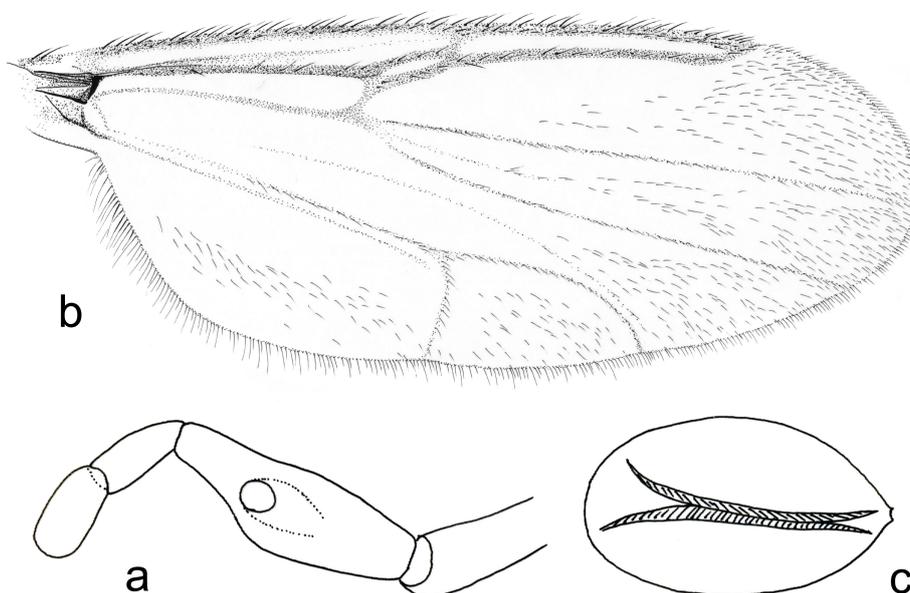


Fig. 1. *Atrichopogon horni* KIEFFER, 1925, female: a – palpus, b – wing, c – seminal capsule.

Palpomyia schmidti GOETGHEBUER, 1934

(Figs 2, 3)

Palpomyia schmidti GOETGHEBUER, 1934: 36 (Iraq, female) (5 March 1934).

Palpomyia miki GOETGHEBUER, 1934: 91 (Hungary, female, fig. total habitus) (20 April 1934); REMM 1976: 175 (Russia, female, male, figs); DELÉCOLLE et al. 1997: 342 (Spain, female, figs). **N. syn.**

Diagnosis

Females of the species are characteristic in having simple claws, femora armed with ventral spines, basitarsus of midleg with some median spines. Male genitalia with parameres separated.

Description

Female. Head yellowish. Eyes separated, vertex with strong setae (Fig. 2d). Antennal flagellum 0.90 mm long, AR 0.84-0.86. Proximal flagellomeres subcylindrical, distal cylindrical (Fig. 2a). Palpus 5-segmented, third palpal segment stout (Fig. 2b), 0.11 mm long. Mandible with 7 stout teeth (Fig. 2c). Scutum without anterior tubercle, with numerous simple setae. Scutellum bearing 9-10 bristles and numerous small setae. Scutum yellowish with brown longitudinal stripes, scutellum yellow, postscutellum dark brown. Paratergite bare. Anterior anepisternum with a group of 7-8 setae. Katepisternum dark and bare. Wing membrane without pattern, length 2.8-2.9 mm, CR 0.59-0.61. Second radial cell about twice as long as first one. Base of vein M2 proximal of vein M1 (Fig. 2e). Legs yellow with darker coxae and distal tarsomeres. Lateral surface of coxae with some setae. All femora armed with ventral spines (Fig. 3a). Fore femur enlarged and bearing 6-18 ventral spines, mid femur slender, with 1-4 spines and hind femur with 1-3 ventral spines. All tibiae armed with strong dark dorsal spines. Fore tibia with 1 anterior spine, mid tibia with 4-10 spines and hind tibia with 12-16 dark spines. First tarsal segment of foreleg armed with 1 proximal spine, midleg with 2 basal, 5-6 median and 2 apical spines, hindleg with 2 basal and 2 apical spines (one pale, one dark). Fourth tarsomere subcylindrical. Tarsal ratio of foreleg TR(I) 1.6-1.8, midleg TR(II) 1.9-2.2, hindleg TR(III) 1.8-2.0. Claws almost equal, simple, without internal basal teeth. Abdomen yellow with brownish triangles on tergites. Two pairs of apodemes of eversible sacs present. Seminal capsules ovoid, unequal, with distinct necks, length 0.08-1.1 mm, and 0.06-0.08 mm (Fig. 3b).

Male. Similar to female with usual sexual differences. Smaller, wing length 1.2-1.7 mm (REMM 1976). Genitalia as in Fig. 3c. Gonocoxite with long internal extension; gonostylus evenly bent, with pointed apical portion; parameres separate; aedeagus broad and covered with short setae.

Material examined

The holotype and paratypes were erroneously mentioned in the paper by BLECH & ROHLFIEN (1987) who stated that in the DEI collection there are female holotype and 26 female paratypes. Actually the holotype and paratypes were not mentioned in the original description. As a result the females from type series we treat as syntypes. At present we designate the lectotype female, labelled as follows: Basra 13-15.IV. 1926: SCHMIDT c., ~~Typus~~ [red], Holotypus [red], Coll. DEI Eberswalde, GOETHEBUER det. Paralectotypes: 3 females, labelled same as holotype, and with crossed type and named as paratypes.

Discussion

An examination of preserved females from the type series of *Palpomyia schmidtii* GOETGHEBUER, 1934a housed in SDEI showed that the species is synonymous with *P. miki* described by GOETGHEBUER in the same year (1934b). Dr. Art Borkent informed us that the paper by GOETGHEBUER (1934b) was published on 20 April 1934. Consequently *Palpomyia miki* is a new junior synonym of older *P. schmidtii* (5 March).

Distribution

Iraq (GOETGHEBUER, 1934a), Hungary (GOETGHEBUER, 1934b), Spain (DELÉCOLLE et al. 1997), Slovakia (TÓTHOVÁ & KNOZ 2006), Ukraine (Crimea), South Russia (Rostov), Azerbaijan, Tadjikistan, Kazakhstan, Iran, Southern Siberia, Mongolia (REMM 1976, 1988). The species represents meridional (steppe) faunal element in the Palaearctic. It was usually collected at rivers in steppes and deserts (REMM 1976). We are not able to confirm reports of the species from North China by REMM (1976, 1988). They also are not mentioned by Remm from China in his unpublished list of examined specimens of *Palpomyia*.

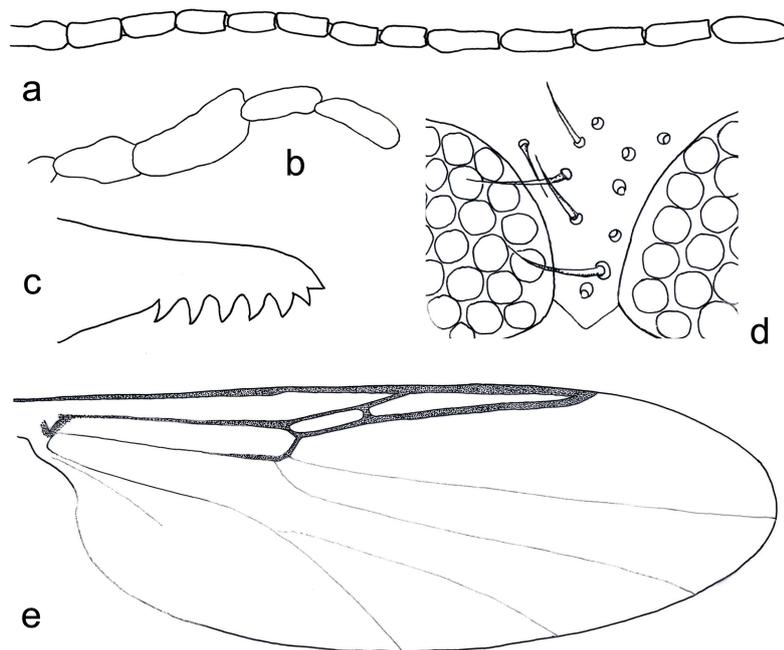


Fig. 2. *Palpomyia schmidtii* GOETGHEBUER, 1934, female: a – flagellum, b – palpus, c – mandible, d – vertex, e – wing.

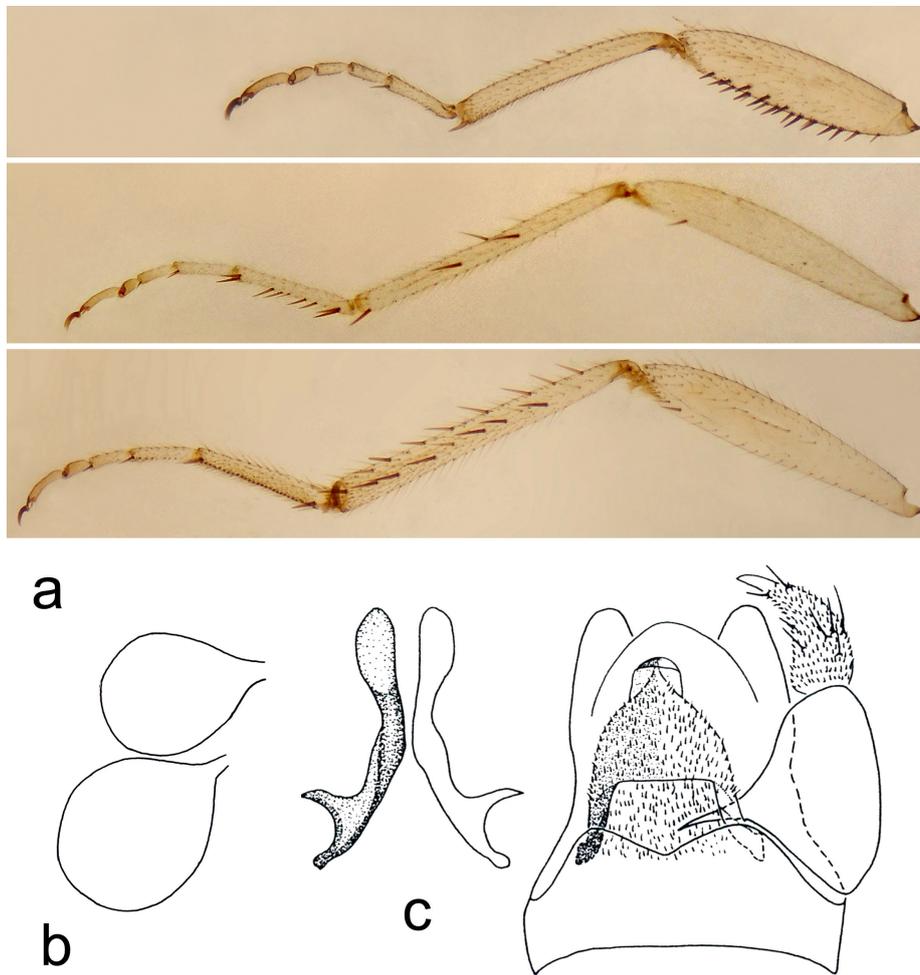


Fig. 3. *Palpomyia schmidti* GOETGHEBUER, 1934, female a-b, male c: a – fore, mid and hind legs (from top to bottom), b – seminal capsules, c – male genitalia (drawing prepared by dr. J. KRZYWIŃSKI).

Acknowledgements

We are grateful to Dr. Joachim ZIEGLER of Berlin who kindly arranged loan of the material. We also are much indebted to Dr. Wojciech GIŁKA of Gdynia for his help in prepar-

ing the photographs and Dr. Art BORKENT of Salmon ARM in Canada for information on the literature.

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Received: August 31, 2009

Accepted: September 03, 2009