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## **A new species and a new record of *Neavella* OLDROYD, 1954 from Egypt (Diptera, Tabanidae)**

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and Gawhara M.M. ABU EL-HASSAN**

### **Abstract**

A new species of horse fly (Diptera, Tabanidae), *Neavella silvioides* **sp. nov.**, is described and illustrated from one female specimen collected in the South Eastern Desert of Egypt near Mersa Halaib. The new species is characterized by a broad median callus on frons occupying two fifth of the breadth of frons. A male specimen of *Neavella albipectus* (BIGOT, 1859), also collected in the South Eastern Desert, in Wadi El-Gemal, is recorded. The material is considered the first record of the genus *Neavella* for the Egyptian fauna and therefore also for the Palearctic Region.

Key words: *Neavella*, new species, new genus record, Palearctic Region, Egypt, South Eastern Desert.

### **Zusammenfassung**

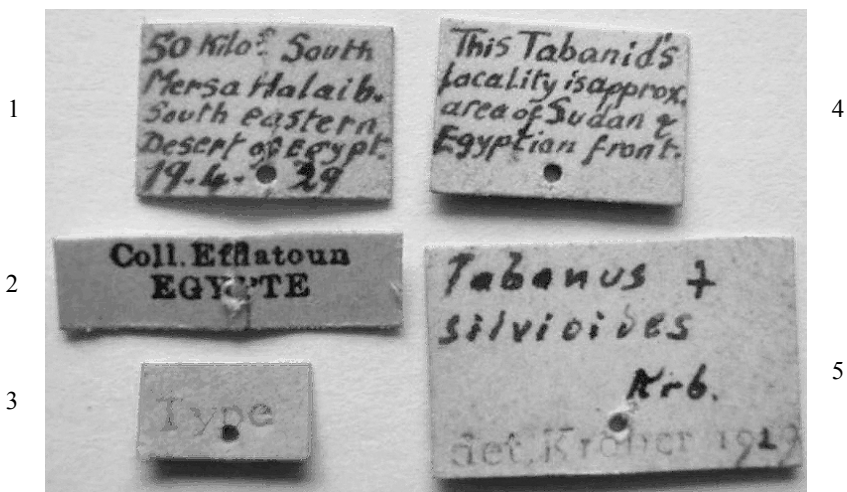
Eine neue Art der Gattung *Neavella silvioides* **sp. nov.**, wird anhand eines Weibchens aus dem Süden der Östlichen Wüste Ägyptens beschrieben und illustriert. Die neue Art ist charakterisiert durch den sehr breiten Mittelcallus der Stirn, der zwei Fünftel der Stirnbreite einnimmt. Ein Männchen von *Neavella albipectus* (BIGOT, 1859) wird ebenfalls aus dem Süden der Östlichen Wüste Ägyptens nachgewiesen. Die beiden Funde sind die ersten Nachweise der Gattung *Neavella* für Ägypten und damit auch für die paläarktische Region.

## Introduction

The family Tabanidae constitutes one of the largest brachyceran families of the order Diptera, comprising about 4400 species world-wide within 144 genera (EVENHUIS et al. 2008). The females of Tabanidae are blood feeding and important vectors of diseases to human and livestock, such as Surra, Anthrax and Loa loa (MULLENS 2009).

Earlier, KRÖBER (1925) studied the family Tabanidae in Egypt revising 22 tabanid species within 3 genera and 3 subgenera. In nearly the same year, KRÖBER (1926) added one new species, *Atylotus aegyptiacus*, from King MARIOUT. After that (1929), he added another new species, *Chrysozona siwayensis*, from Siwa Oasis. EFFLATOUN BEY (1930) published a monograph of the Egyptian Tabanidae, and STEYSKAL & EL-BIALY SAAD (1967) provided a list of the Egyptian Diptera.

During a study of this history, the authors discovered a strange female in the Collection of the Entomological Society of Egypt, Cairo (ESEC), determined by KRÖBER 1929. Together with the specimen they found five labels.



Figs 1-5 Labels found with the female det. KRÖBER 1929: 1, 4 locality labels; 2 collection label; 3, 5 determination labels (type selection and name are unpublished and invalid).

In 1929, KRÖBER found out that the specimen represents an unknown species and prepared it for publication and furnished it with a type label and a determination label. For reasons we do not know, Kröber never published a description of it, and his type selection and the name remained invalid (Moucha 1976).

Examining the specimen, it was found out that it still belongs to an unknown species of the Afrotropical genus *Neavella* OLDROYD, 1954, which contains 4 species and 1 subspecies with a hitherto known distribution along the eastern coastlines of the Ethiopian Region only (CHAINEY & TIMMER 1986, LECLEQC 1981, OLDROYD 1954).

This genus is distinguished within the Diachlorini by the elongated antennae (Fig. 9), scape cylindrical, the basal flagellomere narrow with a small dorsal angle, the terminal 4 flagellomeres are greatly lengthened, and the length of the style is equal to the length of the pedicel plus the basal flagellomere, broad frons with large lower callus and wings with an appendix to vein R4 (OLDROYD 1954, CHAINEY AND TIMMER 1986).

An interesting male specimen, also belonging to the genus *Neavella*, was found in the Collection of Ain Shams University, Faculty of Science, Entomology Department, Cairo (ASUC). It was also collected in the South Eastern Desert of Egypt and determined with Literature and by comparison with determined males as *Neavella albipectus* (BIGOT, 1859).

***Neavella silvioides* sp. nov.**

(Figs 1-9)

Holotype female: "50 Kilo-m South Mersa Halaib. South Eastern Desert of Egypt. 19-4-29" (Fig. 1) is the area of Gebel Elba, about 22°15'N / 36°24'E, 19th April 1929; "This Tabanid's locality is approx. [?] Egyptian front." (Fig. 4) means an area south of the administration border but north of the political border of Egypt; "Coll. Efflatoun EGYPTE" (Fig. 2) is the collection label of Hassan EFFLATOUN, who is probably the collector of the specimen; red label "Type" (Fig. 3) and "*Tabanus silvioides* Krb. ♀ det. Kröber 1929" (Fig. 5) are invalid labels; red label "Holotype ♀ *Neavella silvioides* sp. nov. det. Mohammad, Badrawy & Abu El-Hassan 2010" is added by the authors. The Holotype specimen is preserved in the ESEC.

Description. Length: body 11.5 mm, wing 9.4 mm. The animal appears to be somewhat whitened since it was collected. Tomentum is whitish grey. Flagellum of the left antenna and tarsi of right hind leg are missing.

Head blackish brown; eyes bare (Figs 7, 8); frons more or less parallel sided, slightly broader in middle, frontal index 2, lower callus shining brown much broader than long, narrowly but completely separated from eye margin, middle callus as broad as two fifth of frons and heart shaped, connected with lower callus by a narrow median extension, no upper callus present (Figs 7, 8); face and parafacials greyish yellow with white hairs; palpi white with mixed white and few black hairs; antennae pale reddish yellow becoming darker towards apex, basal two segments with black hairs, length of pedicel equal to half length of scape, third segment with basal flagellum showing traces of segmentation as usual in *Neavella* (Fig. 9).

Thorax yellowish brown with whitish hairs; mesonotum including scutellum with large patches of black ground colour which are somewhat divided by three yellowish brown stripes (Fig. 6), lateral and ventral sides of thorax and hind margin of scutellum yellowish brown with yellowish hairs; legs reddish yellow with darker tibiae; wings hyaline with brown veins and a long appendix to R4, M-Cu cross vein absent (Fig. 10); halteres pale brown with whitish yellow knob.

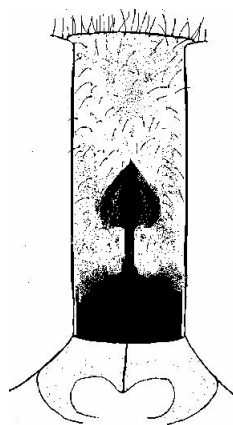
Abdomen with the first three tergites greyish yellow, following four tergites greyish to blackish brown with hind border of segments greyish tomentum, all terga covered with golden yellow and few brown hairs (Fig. 6), venter greyish yellow.

Affinities: *Neavella silvioides* is most related to *N. madagaskariensis* CHAINEY & TIMMER, 1986 with the parallel sided frons and the absence of the upper frontal callus, but

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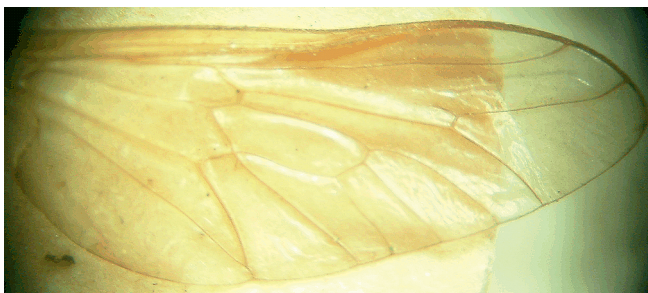
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Figs 6-10 *Neavella sivioides* sp. nov.: 6 habitus, 7, 8 frons (with and without some dust on it), 9 antenna, 10 wing.

distinguished from it by the broad middle callus and the rectangular basal callus which is completely separated from eyes. *Neavella producticornis* AUSTEN, 1912 and *N. notopleuralis* OLDROYD, 1954 are different and characterized by their large upper frontal callus. *Neavella albipectus* (BIGOT, 1859) with the subspecies *verstraeteni* LECLERCQ, 1981 is different from the new species by the absence of the middle callus and the shape of frons which is broadest at base. If the absence of the cross vein M-Cu, equal on both wings, is a distinct character of *silvioides* or just a single aberration must be answered in future with more material.

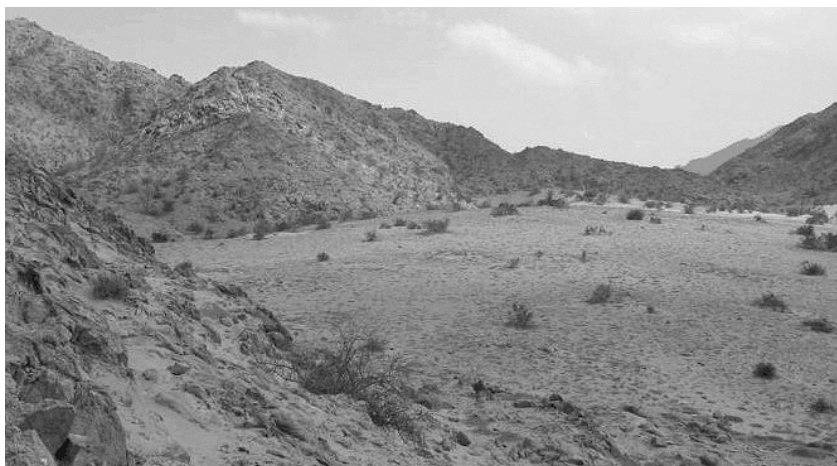
Etymology: We decided to follow KRÖBER giving the species his favoured name *silvioides* for he might have had the same impression as we had at first sight, that the specimen looks similar to a west-palaeartic *Silvius* species.



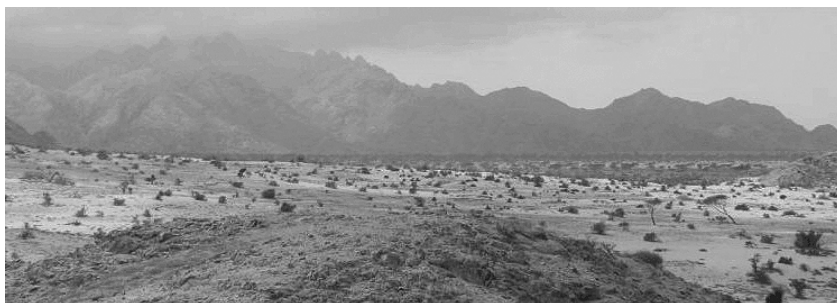
Fig. 11: Coastal zone of the Red Sea in south eastern Egypt with Halaib (Halayb) and Marsa Alam, the locality areas of *Neavella silvioides* sp. nov. and *N. albipectus* BIGOT.



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Figs 12-14: Impressions from the South of the Eastern Desert of Egypt (Wadi Edeib) during the last trip in February 2010 with Fig. 14 showing the second author in front.

### *Neavella albipectus* (BIGOT, 1859)

Specimen examined: One male from Wadi El-Gemal, South Eastern Desert of Egypt, 60 km south of Marsa Alam, about 24°34'N / 35°19'E, det. G. ABU EL-HASSAN, deposited in ASUC.

This species is known to be widely distributed in the Eastern Ethiopian Region, described from Madagascar and recorded from the Seychelles, Malagasy Islands and Kenya. The male from Wadi El-Gemal is the first distinct record of the genus *Neavella* from the Palaearctic Region and also a notable new record for the Egyptian tabanid fauna.

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