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## New records of Diaphorinae (Diptera, Dolichopodidae) from Turkey, with the description of a new species of *Diaphorus*

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Faunistic data from Turkey is given for 13 species of the subfamily Diaphorinae. The following species are recorded for the first time from Turkey: *Argyra vestita* (Wiedemann, 1817), *Asyndetus connexus* (Becker, 1902), *Chrysotus dorli* Negrobov, 1980, *Chrysotus femoratus* Zetterstedt, 1843, *Chrysotus glebi* Negrobov & Maslova, 1995, *Chrysotus gramineus* (Fallén, 1823), *Chrysotus laesus* (Wiedemann, 1817), *Diaphorus gredleri* Mik, 1881, *Diaphorus vitripennis* Loew, 1859. *Diaphorus baechlii* sp. n. is described as new including a differential diagnosis and a supplement to the Palearctic key.

Keywords: Dolichopodidae, Diaphorinae, new records, new species, Turkey.

### INTRODUCTION

This is the second part of a contribution to the knowledge of the dolichopodid fauna of Turkey, containing the subfamily Diaphorinae. In the first part (Naglis 2009) the subfamily Sympycninae was treated.

The dolichopodid fauna of Turkey is poorly known so far. The most recent list of Turkish Dolichopodidae was published by Grichanov *et al.* (2007) mentioning 69 species. Grichanov *et al.* did not consider the publication of Pârvu & Popescu-Mirceni (2006) which reported 26 species, 10 of them recorded for the first time from Turkey. Tonguç *et al.* (2009, 2010) listed 13, and Naglis (2009) 12 additional species to the fauna of Turkey.

In this paper faunistic data is given for 13 species of the subfamily Diaphorinae, whereof the following species are recorded for the first time from Turkey: *Argyra vestita* (Wiedemann, 1817), *Asyndetus connexus* (Becker, 1902), *Chrysotus dorli* Negrobov, 1980, *Chrysotus femoratus* Zetterstedt, 1843, *Chrysotus glebi* Negrobov & Maslova, 1995, *Chrysotus gramineus* (Fallén, 1823), *Chrysotus laesus* (Wiedemann, 1817), *Diaphorus gredleri* Mik, 1881, *Diaphorus vitripennis* Loew, 1859. *Diaphorus baechlii* sp. n. is described as new.

Thus, the fauna of Turkey comprises now 114 species.

### MATERIAL AND METHODS

The study is mainly based on material collected by Wolfgang Schacht (Munich) in the Eastern Part of Turkey in the years 1983 and 1985. Other collectors are mentioned under the collecting data. All specimens were originally stored in 70 % alcohol, but mounted on pin for the examination and for further conservation. The material is deposited in Zoologische Staatssammlung München (ZSM).

Nomenclature and distribution data follow Yang *et al.* (2006) and Pollet (2004).

The morphological terminology for adult structures mainly follows McAlpine (1981) and Merz & Haenni (2000). Terms for the structures of the male genitalia follow Cumming *et al.* (1995) and Sinclair (2000). The following abbreviations are used: ad = anterodorsal; av = anteroventral; pd = posterodorsal; pv = posteroventral; CuAx ratio = length of dM-Cu to length of distal portion of CuA.

#### DESCRIPTION OF NEW SPECIES

### *Diaphorus baechlii* sp. n.

(Fig. 1)

*Diagnosis:* Small species, body length 2.7 mm; eyes contiguous on frons; post-ocular setae yellow; all legs yellow; mid and hind tarsi with claws; haltere yellow; calypter with yellowish-brown setae; abdominal segments 2 and 3 with yellow spot.

*Material.* Holotype: male: Turkey, Vargös, 4.–8.VIII.1983, leg. W. Schacht. Deposited: ZSM.

#### *Description.*

Body length: 2.7 mm, wing length 3 mm.

Head: Eyes contiguous on frons; face with greyish pruinosity; setae black, lower postoculars yellow; palp yellow with a strong black apical seta; antenna yellow, scape and pedicel darkened, first flagellomere higher than long, arista sub-apical, almost bare.

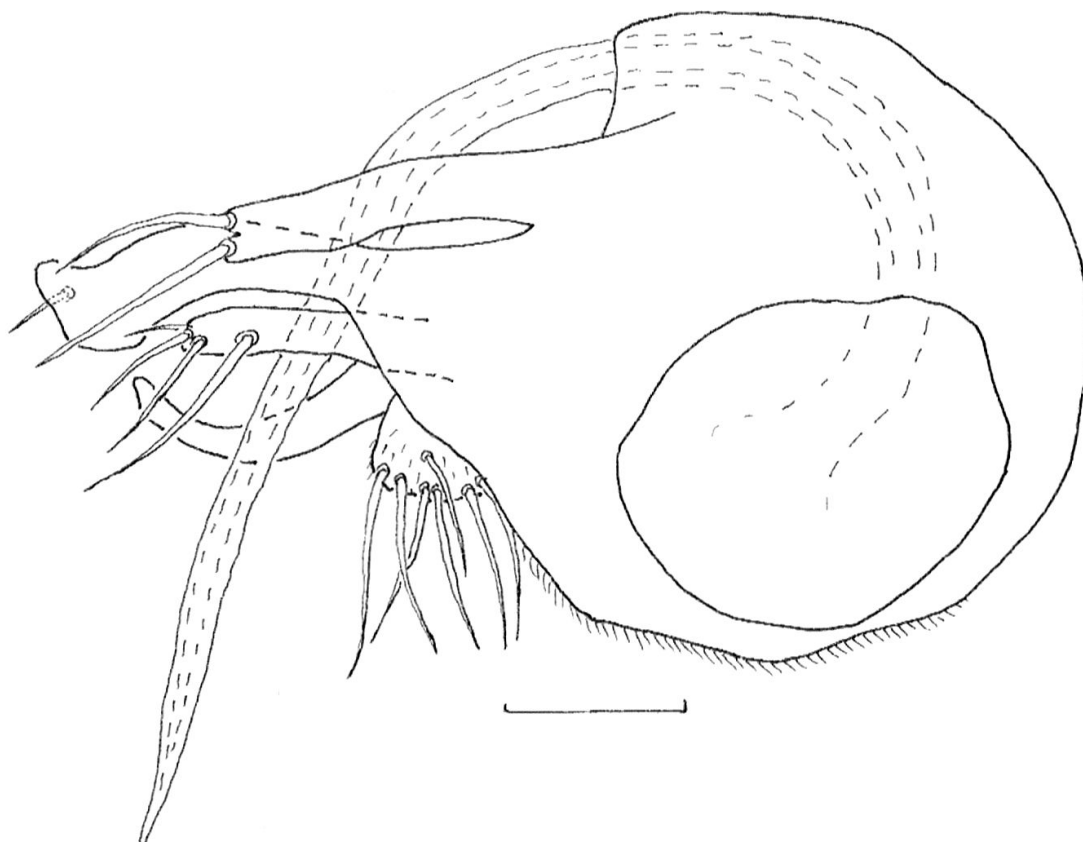


Fig. 1: *Diaphorus baechlii* sp. n., hypopygium, left lateral view (scale bar = 0.1 mm)

Thorax: Mesonotum dark metallic green, with grey pruinosity and with violet reflections; all setae black; 5 pairs of strong dorsocentrals; acrostichals in two rows; scutellum with 2 strong scutellars and 2 small setae on outer side; pleura dark green metallic shining, with grey pruinosity.

Legs: Yellow, coxae slightly infuscated. Hairs and setae black except as noted. Fore leg: coxa with strong setae; femur with a row of strong pv setae which are partly longer than diameter of femur; tibia without strong setae; tarsi without claws, pulvilli well developed, as long as tarsomere 5; relative length of tibia and tarsomeres: 75:42:17:12:9:7. Mid leg: coxa with black hairs and setae; femur without strong setae; tibia with 1 ad seta at 1/5; tarsi with 1 claw on inner side; pulvilli as long as tarsomere 5; relative length of tibia and tarsomeres: 82:48:21:14:9:7. Hind leg: coxa with a strong lateral seta; femur with a row of long pv setae, and a row of long av setae in apical third; tibia with 1 ad seta at 1/5, and with pd setae at 1/5, 1/3 and 2/3, tibia slightly swollen in apical third; tarsi with 1 claw on inner side, pulvilli as long as tarsomere 5; relative length of tibia and tarsomeres: 100:34:26:16:11:8.

Wing: Hyaline, veins yellowish;  $R_{4+5}$  and M parallel; M slightly curved in apical part; CuAx ratio: 0.37; lower calypter pale yellow with dark yellow setae; haltere stem yellow and knob whitish.

Abdomen: Dark metallic green with bluish reflections, segments 2 and 3 partially yellow; hairs and setae dark, some setae on venter yellow; segment 8 with 4 strong apical "macro setae". Male genitalia (fig. 1): epandrial lobe straight, with 2 strong apical setae; dorsal surstylar lobe curved and broadened apically, with 1 small apical seta; ventral surstylar lobe slender and straight, with 1 strong and 3 smaller apical setae; postgonite narrow and curved; cercus very short, with long setae.

Female: unknown.

*Etymology*: The species is named after the Swiss dipterist Gerhard Bächli, who has given friendly support to me over the years.

*Remarks*. The new species can be distinguished from similar species by the characters given in the key below. The structure of the hypopygium is similar to *D. lautus* Loew, 1869 as figured in Negrobov *et al.* (2007, Fig. 9), but, according to Becker (1918) who examined the type specimen, this species differs by the following characters: lower calypter with black setae, abdominal segments without yellow patches, hind femur without ventral setae.

The key to Palaearctic *Diaphorus* males (Negrobov *et al.* 2007) can be completed as follows. (Remarks: In couplet 7 of the key a decision must be taken regarding the coloration of the setae on the calypter: white or dark; since in *D. baechlii* this coloration is dark yellow, both couplets of the key are given below.)

- 9 Legs almost entirely yellow; abdominal segments II and III partly yellow ..... 9a  
 — Femora mostly dark ..... *D. vitripennis* Loew  
 9a Cercus more than twice as long as hypopygium .....  
 — ..... *D. dolichocercus* Stackelberg  
 — Cercus shorter than hypopygium ..... *D. baechlii* sp. n.
- 16 Fore femur ventrally with long hairs ..... 16a  
 — Fore femur without long hairs ..... *D. basiniger* Yang et Grootaert  
 16a Fore tibia ventrally with long hairs; lower postocular setae black; body length more than 4mm ..... *D. hoffmannseggii* Meigen

- Fore tibia without long hairs; lower postocular setae yellow; body length less than 4 mm ..... *D. baechlii* sp. n.

## LIST OF SPECIES

***Argyra vestita* (Wiedemann, 1817)**

*Material examined:* 5 ♂♂: Turkey, Pr. Van, Van Gölü, b. Ercis, 1.VII.1985.  
1 ♂: Turkey, Pr. Kara, Aras-Tal, W Karakurt, 1300 m, 4.VII.1985.

*Remarks:* First record for Turkey.

***Asyndetus connexus* (Becker, 1902)**

*Material examined:* 1 ♀: Turkey, Ercis, 3.VIII.1983.

*Remarks:* First record for Turkey.

***Chrysotus angulicornis* Kowarz, 1874**

*Material examined:* 5 ♂♂: Turkey, Pr. Erzurum, Pass W. Oltu, 2200 m, 6.VII.1985. 11 ♂♂: Turkey, Pr. Kars, Bahnstat. Soganli, W. Sarikanis, 2100 m, 5.VII.1985. 4 ♂♂: Turkey, Pr. Kars, Aras-Tal, W Karakurt, 1300 m, 4.VII.1985. 2 ♂♂: Turkey, Pr. Hakkari, S. Yüksekova, 28.VI.1985.

*Remarks:* Recorded from Turkey by Tonguç *et al.* (2009). The structure of the aedeagus of the examined specimens matches fig. 4 in Negrobov & Chandler (2006).

***Chrysotus dorli* Negrobov, 1980**

*Material examined:* 3 ♂♂: Turkey, Pr. Adiyaman, Celik Gölü, 900 m, Göl-basi, 21.VI.1985. 1 ♂: Turkey, Beysehir-Gölü, 6.X.1991, leg. F. Reiss.

*Remarks:* First record for Turkey. The species is known from Tajikistan so far. In addition to the genitalia characters in the Palaearctic key (Negrobov *et al.* 2000) I give here additional characters for the separation of *Ch. suavis* and *Ch. dorli*.

- 19 Gonopods (surstylus) widened at base; lower postocular setae partially compressed; tibiae yellow with yellow hairs ..... *Ch. suavis* Loew  
— Gonopods (surstylus) not widened at base; lower postocular setae not compressed; tibiae infuscated, with dark hairs ..... *Ch. dorli* Negrobov

***Chrysotus femoratus* Zetterstedt, 1843**

*Material examined:* 10 ♂♂: Turkey, Pr. Hakkari, S Yüksekova, 28.VI.1985.  
4 ♂♂: Turkey, Pr. Erzurum, Pass W Oltu, 2200 m, 6.VII.1985

*Remarks:* First record for Turkey.

***Chrysotus glebi* Negrobov & Maslova, 1995**

*Material examined:* 6 ♂♂: Turkey, Pr. Rize, Ovit-Pass, 1500 m, S. İkizdere, 11.VII.1985.

*Remarks:* First record for Turkey. The species is only known from Russia so far.

***Chrysotus gramineus* (Fallén, 1823)**

*Material examined:* 2 ♂♂: Turkey, Pr. Hakkari, S. Yüksekova, 28.VI.1985. 4 ♂♂: Turkey, Pr. Erzurum, Pass W. Oltu, 2200 m, 6.VII.1985. 2 ♂♂: Turkey, Pr. Kars, Aras-Tal, W Karakurt, 1300 m, 4.VII.1985.

"*Chrysotus microcerus*" Kowarz, 1874: 10 ♂♂: Turkey, Pr. Erzurum, Pass W. Oltu, 2200 m, 6.VII.1985.

*Remarks:* First record for Turkey. The examined material includes 10 specimens which agree with Parent's (1938) description of *Ch. microcerus* Kowarz, 1874, a species which was synonymized with *Ch. gramineus*. In contrast to Parent's description the setae on the lower calypters are yellow, and the acrostichal setae are lacking, but the structure of the aedeagus is identical with *Ch. gramineus* as figured in Negrobov & Chandler (2006).

***Chrysotus laesus* (Wiedemann, 1817)**

*Material examined:* 7 ♂♂: Turkey, Pr. Erzurum, Pass W. Oltu, 2200 m, 6.VII.1985. 1 ♂♂: Turkey, Pr. Kars, Aras-Tal, W Karakurt, 1300 m, 4.VII.1985.

*Remarks:* First record for Turkey.

***Chrysotus obscuripes* Zetterstedt, 1838**

= *Chrysotus kowarzi* Lundbeck, 1912

*Material examined:* 6 ♂♂: Turkey, Pr. Erzurum, Pass W. Oltu, 2200 m, 6.VII.1985. 4 ♂♂: Turkey, Pr. Kars, Bahnstat. Soganli, W. Sarikanis, 2100 m, 5.VII.1985. 1 ♂♂: Turkey, Pr. Kars, Aras-Tal, W Karakurt, 1300 m, 4.VII.1985.

*Remarks:* Recorded from Turkey by Grichanov *et al.* (2007). In the Palaearctic key (Negrobov *et al.* 2000) the species is listed as *Ch. kowarzi* Lundbeck.

***Chrysotus suavis* Loew, 1857**

*Material examined:* 7 ♂♂: Turkey, Pr. Adiyaman, Celik Gölü, 900 m, Göl-basi, 21.VI.1985.

*Remarks:* Recorded from Turkey by Pârveu & Popescu-Mirceni (2006) and Grichanov *et al.* (2007).

***Diaphorus baechlii* sp. n.**

*Material examined:* 1 ♂: Turkey, Vargös, 4.–8.VIII.1983.

*Remarks:* First record for Turkey.

***Diaphorus gredleri* Mik, 1881**

*Material examined:* 1 ♂: Turkey, Pr. Kars, Aras-Tal, W Karakurt, 1300 m, 4.VII.1985.

*Remarks:* First record for Turkey.

***Diaphorus vitripennis* Loew, 1859**

*Material examined:* 1 ♂: Turkey, Pr. Kars, Aras-Tal, W Karakurt, 1300 m, 4.VII.1985.

*Remarks:* First record for Turkey.

*Addendum to the first part of this work (Naglis 2009)*

The holotype of *Teuchophorus quadrisetosus* Naglis, 2009 is deposited in the Zoologische Staatssammlung München (ZSM).

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