

**A PECULIAR NEW SPECIES OF *ENTEDON* DALMAN, 1820
(HYMENOPTERA: EULOPHIDAE) FROM ŞANLIURFA
PROVINCE, TURKEY**

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ABSTRACT: A peculiar new species, *Entedon bakacakicus* Doğanlar of the *sparetus*-group of *Entedon* Dalman (Hymenoptera: Eulophidae) was described from Şanlıurfa Province, Turkey. Some diagnostic characters of the new species were illustrated, and its taxonomic position was discussed.

KEY WORDS: Hymenoptera, *Entedon*, morphology, new species, Şanlıurfa, Turkey.

Entedon Dalman, 1820 (Eulophidae, Entedoninae) comprises small to middle-sized (1.8–8.8mm long) parasitoid wasps, which are endoparasitoid koinobionts of beetles, chiefly Curculionidae (Dalman, 1820; Boucek & Askew, 1968; Graham, 1971; Schauf, 1988; Rasplus, 1990; Noyes, 2012).

The *E. sparetus* species group was initially formalized as the subgenus *Megalentedon* by Erdős (1944). Then it was treated as a group of species related to *E. sparetus* Walker by Graham (1963, 1971), which was accepted thereafter (Askew, 1992; Gumovsky, 1997a). Gumovsky and Boyadzhiev (2003) studied Bulgarian species of *Entedon*, including the *sparetus*-group, and Gumovsky (2007) made a taxonomic revision of the *Entedon sparetus* species group of Palearctic region.

The aim of this work is describe an interesting peculiar new species in Entedoninae, as a part of forthcoming works on the revision of *Entedon* species of Turkey.

This study is based upon examination and identification of the specimens collected from Bakacak, Akçakale, Şanlıurfa (Turkey). The examined specimens were deposited in Insect Museum of Plant Protection Department, Agriculture Faculty, Mustafa Kemal University, Antakya, Hatay, Turkey (MKUI). Specimens were collected by sweeping and putting the whole contents of the swept materials directly in 96 % ethanol. After sorting the materials, individuals were stuck on card for morphological studies. Wings and antennae of male paratype were slide-mounted in Canada balsam. Morphological terminology follows Gibson (1997) and Gumovsky & Boyadzhiev (2003). Abbreviations used in the key and descriptions are OOL=distance between ocello-ocular line, POL= distance between posterior ocelli, MDO= distance between median and dorsal ocelli, OCL= distance between dorsal ocellus and occipital carina.

***Entedon bakacakicus* sp. nov.**

(Figs. 1- 3)

Diagnosis. Mesoscutum and scutellum with unusual broad, coarse reticulations medially, meshes are about 3 times wider than meshes on side part, side lobes finely reticulated. Head with frons having coarse reticulations. Fore tibia with

dorsal pale longitudinal stripe along entire tibia. Metasoma as long as head plus mesosoma. female antenna with 3 funicle, 2 club segments, male antenna with 4 funicles, one club segment. Breadth of mouth opening twice as long as malar space. Clypeus reticulate, its anterior margin weakly produced. Apical margin of forewing of female almost bare, without fringe, but that of male very short fringe on posterior margin apically.

Description.

Female. (Fig. 1a,b). Length 2.4 mm. Body metallic blue, with bronze tint. Entire antennae dark. Legs dark, except knees, extreme distal ends of tibiae and first two tarsomere of mid and hind legs, pale, apical ones dark; fore leg with tarsi pale brown. Dorsal pale longitudinal stripe on fore tibia discernible along entire tibia. Fore wing hyaline, veins dark brown.

Head (Fig. 1c,d) in dorsal view 2.85 times as broad as long; POL: OOL: MDO: OCL= 27 : 11 : 15 : 3 in holotype. Occipital margin distinctly sharp. Eye with short sparse setae, eye height 2.9 times as long as malar space. Head in facial view 1.5 times as broad as long. Interocular distance 1.9 times as long as eye breadth. Malar sulcus fine, genae with fine reticulation. Breadth of mouth opening twice as long as malar space. Clypeus reticulate, its anterior margin weakly produced. Frons with coarse reticulations as (Fig. 1d).

Antennae (Fig. 2c) inserted slightly above the level of ventral eye margins. Antennal scape of female 7.0 times as long as broad; pedicel about 3.0 times as long as broad; F1 about 2.3, F2 1.6, F3 1.5 times as long as broad, clava two-segmented, about 2.25 times as long as broad, slightly more than 1.5 times longer than the preceding segment, with terminal spine almost null.

Mesosoma (Fig. 1b) as long as broad. Pronotal collar not carinated, postero-lateral corners of pronotum evenly rounded, pronotum 3.2 times as broad as long. Mesoscutum 2.4 times as broad as long, notauli traced anteriorly as very fine sutures, medially with 15 broad coarse reticulations, which are about 3 times wider than meshes on side part, side lobes finely reticulated (Fig. 1c); scutellum slightly longer than broad and 1.3 times as long as mesoscutum, its surface coarsely reticulated, but medially meshes narrower than ones on sides, which are about 3 times wider than meshes on median part (Fig. 1b,f). Propodeum 0.3 times as long as broad, and about half length of scutellum, propodeal surface coarsely reticulate medially and finely reticulate on callus, median carina complete, lateral sulcus complete; supracoxal flange moderate; spiracular elevation with blunt projection below, propodeal callus with 2 long setae. Hind coxa reticulate dorsally. Fore femur about 3.3 times as long as broad, fore tibia 7.3 times as long as broad, 0.8 times as long as its femur; mid femur 3.5 times as long as broad; mid tibia 6.3 times as long as broad, spur of mid tibia as long as breadth of tibia, 0.6 times as long as dorsal margin of mid basitarsus; hind femur about 3.6 times as long as broad, hind tibia about 7.4 times as long as broad, spur of hind tibia about 0.8 times as long as breadth of its tibia, about 0.7 times as long as dorsal margin of hind basitarsus. Hind tarsus 0.7 times as long as its tibia, mid tarsus 0.8 times as long as its tibia. Ratio of tibiae and tarsi of holotype are as follows: fore tibia : tarsus 44 : 40; fore tarsomeres: 8 : 10 : 6 : 8 (+ pretarsus 8); mid tibia : tarsus 63 : 50; mid tarsi: 16 : 12 : 10 : 10 (+ pretarsus 8); hind tibia : tarsus 74 : 50; hind tarsi: 11 : 17 : 10 : 10 (+ pretarsus 7). Fore wing (Fig. 2a) 2.1 times as long as broad; costal cell bare, comparatively wide, 7.5 times as long as broad, as long as marginal vein; subcosta of submarginal vein with 2 dorsal setae, postmarginal vein as long as stigma vein; speculum open; apical margin without fringe (Fig. 2b). Petiole about 0.4 times as long as broad. Metasoma as long as head plus

mesosoma, about 1.7 times as long as broad; syntergum 0.5 as long as broad, about two-tenth of length of the metasoma.

Male. (Fig. 3a) length 2.3 mm. Similar to female except as follows: Head as in fig.3c. Scutellum with coarse reticulation medially, and laterally with broad reticulations (Fig. 3b) Antenna (Fig. 2d) with 4 funicle, one club segments, scape 2.5 times as long as broad, pedicel 1.6 times as long as broad; 1st funicle segment 1.6 times as long as broad, and 1.7 times as long as pedicellus, 2nd segment 1.25 times as long as broad, 0.7 times as long as 1st segment; 3rd segment 1.25 times as long as broad, and as long as 2nd segment; 4th segment 0.9 times as long as broad, 0.7 times as long as 3rd segment; club twice as long as broad (including spicula), spicula 1/5 length of club. Petiole (Fig. 3d) almost as long as broad. Metasoma 0.7 times as long as head plus mesosoma, about 1.8 times as long as broad.

Type material. Holotype ♀, Bakacak, Akçakale, Şanlıurfa, Turkey, 36 43 85 N; 38 49 52 E, 773 m, swept from *Circium* sp., M. Doğanlar (ICMKU). Paratype: 1♂, same data as Holotype. The types were deposited in Insect Museum of Plant Protection Department, Agriculture Faculty, Mustafa Kemal University, Antakya, Hatay, Turkey (MKUI).

Remarks. The new species belongs to the *sparetus*-group (Graham, 1971) of *Entedon* in having fore tibia with dorsal pale longitudinal stripe along entire tibia, other tibiae mostly darkened, trochanters darkened, occipital margin sharp, anterior margin of clypeus truncate; speculum open. *Entedon bakacakicus* n.sp. is close to *E. thomsonianus* Erdős in having fore wing margin without fringe, but it can be easily distinguished from the latter species and as well as other species of the genus in having unusual sculpture on mesosoma.

Etymology. The species name is derived from the type locality Bakacak.

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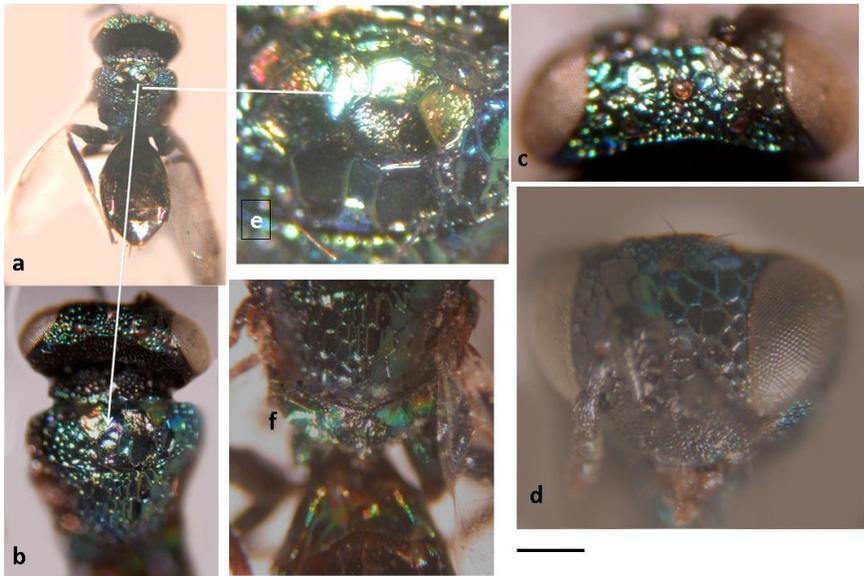


Figure 1. *Entedon bakacakicus* n. sp. Female. a. body in dorsal view; b. head and mesoscutum and scutellum; c. head, in dorsal view; d. head, in frontal view; e. mid lobe of mesoscutum; f. scutellum, propodeum, anterior part of metasoma. Scale bar for a= 0.50 mm; for b, c, f= 0.30 mm; for d= 0.25 mm; for e= 0.10 mm.

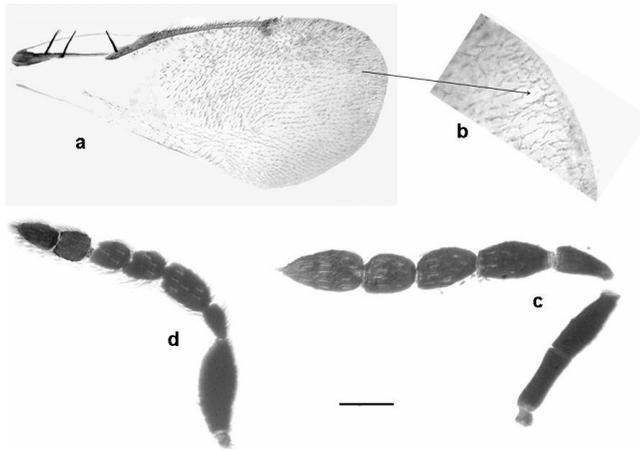


Figure 2. *Entedon bakacakicus* n. sp. a-c. female. a. forewing; b. apical margin of forewing; c. antenna; d. male antenna. Scale bar for a=0.125 mm; for b= 0.05 mm; for c, d= 0.10 mm.

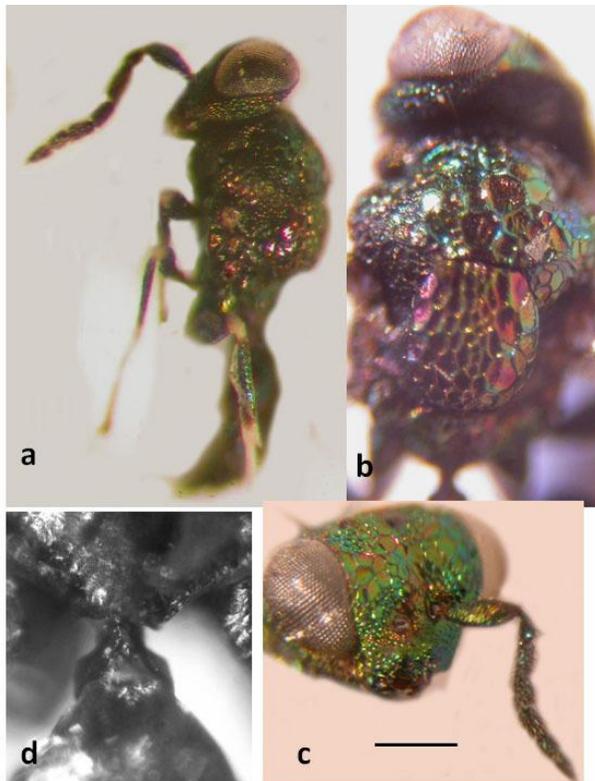


Figure 3. *Entedon bakacakicus* n. sp. Male. a. body, in lateral view; b. head and mesosoma, in dorsal view; c. head, in frontal view; d. part of propodeum and anterior part of metasoma. Scale bar for a= 0.50 mm; for b, c= 0.30 mm; for d= 0.25 mm.