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Oxytorinae, a new subfamily for the Turkish fauna (Hymenoptera: Ichneumonidae)

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Abstract: *Oxytorus luridator* (Gravenhorst, 1820) is redescribed, figured, and reported for the first time from Turkey. A key for the Western Palearctic species of the genus *Oxytorus* Förster is given.

Key words: Western Palearctic, *Oxytorus*, key, Turkish fauna

1. Introduction

Oxytorinae is a small subfamily with only one genus, *Oxytorus* Förster, 1869. It contains 2 species from the Western Palearctic region, 8 species from East Asia, 3 species from the Nearctic region, and 8 species from the Neotropic region (Alvarado et al., 2011; Yu et al., 2012; Bordera and González-Moreno, 2014). Townes (1971) placed the genus in Microleptinae, but Wahl (1990) moved it to a separate subfamily, Oxytorinae.

The subfamily can be distinguished from other ichneumonid subfamilies by the following: antenna elongate, male flagellum without tyloids, mandible large, lower tooth somewhat shorter than upper tooth, maxillary palpus elongate with apex reaching middle of mesosternum, clypeus large, separated from face by groove; notaulus and sternaulus weak or absent, second recurrent vein (2m-cu) with one bulla, front tibia without small tooth apically; apical third of female metasoma compressed laterally, first metasomal segment elongate and narrow, with prominent longitudinal carinae and with spiracle at or beyond middle, glymma absent, epipleurum of 2–3 segments separated by a crease, metasomal sterna 4–7 completely sclerotized, ovipositor sheath wide and almost flat, as long as apical depth of metasoma, ovipositor with subapical dorsal notch (Wahl and Sharkey, 1993).

No host record is known for this genus.

In Turkey, 20 Ichneumonidae subfamilies are known so far (Çoruh et al., 2014). With this study, we have added a new subfamily for the country.

2. Materials and methods

2.1. Study area

İkizdere (Rize) (Figure 1) is situated in the Eastern Black Sea Region of Turkey (40°42'N, 40°36'E), and covers an area from sea level up to 570 m. The town of İkizdere is on the river bank, 56 km from the city of Rize on the road to Erzurum. İkizdere has a typical Black Sea climate. The vegetation is mostly forest; there is broad-leaf forest at lower elevations and pine at higher elevations. İkizdere has the Anzer Plateau and Ovit Mountain.

2.2. Sampling method and collection

Material was collected by sweeping of flowering plants in the Eastern Black Sea Region (Rize-İkizdere) in 2003. Collected samples were transferred into a handmade aspirator and killed with ethyl acetate. The conventional standard method was used for preparation of the samples (Çoruh and Özbek, 2008). Wasp specimens are deposited in the collection of the University of Plovdiv (Bulgaria). All plant species that the wasps visited in the study area (Table) were collected by hand, pressed, and deposited in the Herbarium of the Department of Plant Protection of Atatürk University (Erzurum). Plant specimens were identified according to Davis (1965–1988) and compared with specimens deposited at the Herbarium of Atatürk University, Faculty of Agriculture, Department of Plant Protection, by İrfan Çoruh.

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Figure 1. Map of study area (from Google Maps).

Table. List of the collected plant species.

Apiaceae	<i>Lolium temulentum</i> L.
<i>Daucus carota</i> L.	<i>Lolium perenne</i> L.
<i>Heracleum platytaenium</i> Boiss.	<i>Sorghum halepense</i> (L.) Pers.
Asteraceae	<i>Paspalum dilatatum</i> Poir.
<i>Conyza canadensis</i> (L.) Cronquist.	<i>Paspalum paspalodes</i> (Michx.) Scribner
<i>Erigeron acer</i> L.	<i>Setaria glauca</i> (L.) P.Beauv.
<i>Erigeron annuus</i> (L.) Pers.	<i>Poa annua</i> L.
Equisetaceae	<i>Poa trivialis</i> L.
<i>Equisetum palustre</i> L.	<i>Festuca pratensis</i> Hudson
Geraniaceae	<i>Phleum phyleoides</i> (L.) Karsten
<i>Geranium asphodeloides</i> Burm.f.	Polygonaceae
<i>Geranium ibericum</i> Cav.	<i>Polygonum persicaria</i> L.
<i>Geranium sylvaticum</i> L.	Primulaceae
Hypolepidaceae	<i>Anagallis arvensis</i> L.
<i>Pteridium aquilinum</i> (L.) Kuhn	Ranunculaceae
Lamiaceae	<i>Delphinium formosum</i> Boiss. & Huet
<i>Prunella vulgaris</i> L.	Rosaceae
<i>Salvia forskahlei</i> L.	<i>Fragaria vesca</i> L.
<i>Salvia verticillata</i> L.	<i>Rubus discolor</i> Weihe & Nees
Linaceae	<i>Rubus hirtus</i> Waldst. et Kit.
<i>Linum hypericifolium</i> Salisb.	Rubiaceae
Onagraceae	<i>Galium verum</i> L.
<i>Epilobium parviflorum</i> Schreber	Scrophulariaceae
Plantaginaceae	<i>Pedicularis comosa</i> L.
<i>Plantago media</i> L.	<i>Rhinanthus angustifolius</i> C.C. Gmelin
Poaceae	<i>Veronica gentianoides</i> Vahl.
<i>Alopecurus myosuroides</i> Hudson	Urticaceae
<i>Cynodon dactylon</i> (L.) Pers.	<i>Urtica dioica</i> L.

3. Results

***Oxytorus* Förster, 1869**

Oxytorus Förster, 1869. Verhandlungen des Naturhistorischen Vereins der Preussischen Rheinlande und Westfalens. 25 (1868): 199.

Type species: *Oxytorus armatus* Thomson.

Front wing 4.0–7.0 mm, body up to 10.0 mm long. Occipital carina complete. Lateral carina of scutellum developed at least near base. Prepectal carina ending near middle of hind margin of pronotum. Front wing usually with areolet. Propodeum moderately elongate, completely areolated, sometimes areola confluent with basal area. First metasomal tergum fused with sternite. Female subgenital plate large, roundly folded on midline (Townes, 1971).

Until now, no member of the genus was known from Turkey. Among the materials collected from northeastern Turkey we found an *Oxytorus* species, which is redescribed below.

Key for determination of Western Palearctic *Oxytorus* species (after van Rossem (1980) with changes)

1. Fore wing with areolet closed; second metasomal tergum coriaceous; apophyses on propodeum usually strong; ovipositor sheath as in Figure 2a
..... *Oxytorus armatus* Thomson, 1883

- Fore wing without areolet; second and following metasomal terga in female polished, in male second tergum weakly coriaceous; apophyses on propodeum weak or absent; ovipositor sheath as in Figure 2b
..... *Oxytorus luridator* (Gravenhorst, 1820)

***Oxytorus luridator* (Gravenhorst, 1820)**

(Figures 2b–2e)

Oxytorus luridator Gravenhorst, 1820. Memorie della Reale Academia dell Scienze di Torino. 24: 379.

Female. Front wing 4.5–6.5 mm, body 7.1–7.7 mm long. Head strongly narrowed behind eyes. Frons almost flat, shagreened. Inner eye orbitae weakly divergent down. Flagellum with 25 segments. First segment 2.7 times as long as wide. Flagellar segments 9–12, white, apical segments transversal. Occipital carina well developed, reaching hypostomal carina just beyond base of mandible. Diameter of ocellus 0.86 times as long as distance between compound eye and lateral ocellus. Temple 0.65 times as long as transversal diameter of compound eye. Face 1.6 times as wide as long, punctured on shagreened surface (Figure 2c). Clypeus distinctly separated from face by furrow, 3.0 times as long as wide, with arched apical margin and row of erect setae. Malar space 0.9 times as long as basal width of mandible. Upper tooth of mandible

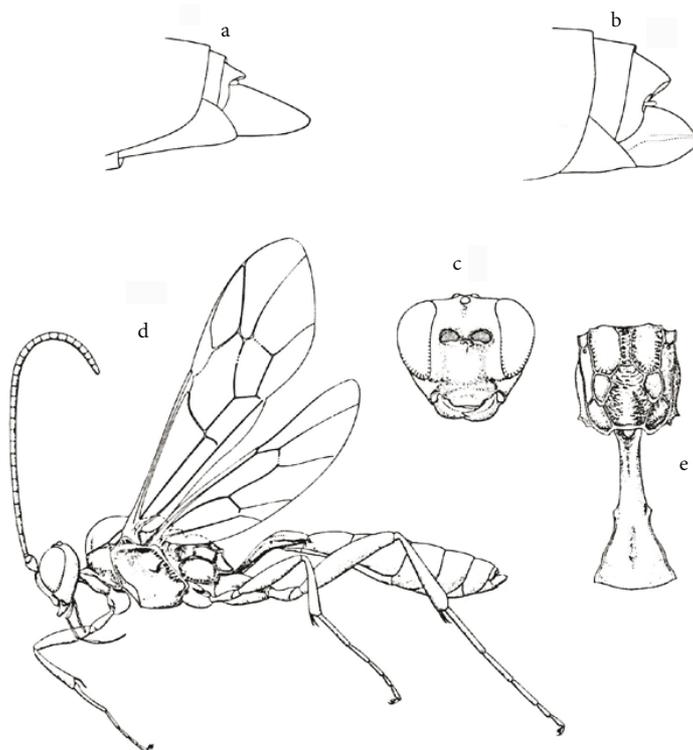


Figure 2. a: *Oxytorus armatus* Thoms. - ovipositor sheath in lateral view; b–e: *Oxytorus luridator* Grav. b: Ovipositor sheath in lateral view (Kerrich, 1939); c: head in frontal view; d: body in lateral view; e: propodeum and first metasomal segment in dorsal view (Townes, 1971).

weakly longer than lower tooth. Maxillary palpus elongate and reaching middle of mesosternum.

Epomia, notaulus, and sternaulus weakly indicated. Scutellum somewhat convex, not carinated laterally except at base. Prepectal carina strong, reaching pronotal margin in its middle. Pro-, meso-, and metapleurum punctured on shagreened surface. Speculum large, luscious. Fore wing without areolet (Figure 2d). First radius originate from apical third of pterostigma. Nervulus slightly antefurcal. Parallel vein connected postnervulus on its lower third. Hind wing with 5 distal hamuli. Nervellus slightly inclivous, intercepted clearly below middle, discoidella not pigmented, but distinct. Legs slender, hind femur 3.6 times as long as wide. All tibial spurs curved apically. Correlation between lengths of hind tarsal segments 43:31:23:12:15. Tarsal claws simple. Propodeum fully areolated, basal and petiolar area confluent with areolet (Figure 2e). Apophyses weakly developed. Propodeal spiracle oval, almost touching pleural carina. Justacoxal carina strong.

First metasomal segment 2.2 times as long as wide, curved in lateral view. Median and dorsolateral carinae of first tergum well developed. First sternite extending beyond spiracle. Ventrolateral carinae well indicated. Epipleurum of 2–3 terga separated by crease, 4–7 terga fully sclerotized. Subgenital plate large. Ovipositor sheath short, with long erect setae. Ovipositor pointed to the apex.

References

- Alvarado M, Bordera S, Rodríguez-Berrio A (2011). First record of Oxytorinae (Hymenoptera: Ichneumonidae) from South America, with description of a new species of *Oxytorus* Förster, 1869. *Biologia* 66: 866–869.
- Bordera S, González-Moreno A (2014). Review of the New World species of *Oxytorus* (Hymenoptera: Ichneumonidae: Oxytorinae), with description of two new species from Brazil. *C Ent* 147: 23–28.
- Çoruh İ, Çoruh S (2008). Ichneumonidae (Hymenoptera) species associated with some Umbelliferae plants occurring in Palandöken Mountains of Erzurum, Turkey. *Turk J Zool* 32: 121–124.
- Çoruh S (2010). Composition, habitat distribution and seasonal activity of Pimplinae (Hymenoptera: Ichneumonidae) in North-East Anatolia region of Turkey. *Anadolu J Agri Sci* 25: 28–36.
- Çoruh S, Kolarov J, Özbek H (2014). The fauna of Ichneumonidae (Hymenoptera) of eastern Turkey with zoogeographical remarks and host data. *J Insect Biodiversity* 2: 1–21.
- Çoruh S, Özbek H (2005). New records of Cryptinae (Hymenoptera: Ichneumonidae) from Turkey with some hosts. *Turk J Ent* 29: 183–186.
- Çoruh S, Özbek H (2008). A faunistic and systematic study on Pimplinae (Hymenoptera: Ichneumonidae) in Eastern and Northeastern parts of Turkey. *Linzer Biol Beit* 40: 419–462.
- Black, with antenna, clypeus, mandible, palpi, tegula, pterostigma, and legs brown, hind trochanters yellow, tibiae and metasoma except basal 4/5 of first segment red-orange, apical segments sometimes fuscous.
- Male.** Flagellum without white ring, with 37 segments, first segment 2.2 times as long as wide, all segments elongate. Inner eye orbitae parallel. Clypeus in middle with almost straight apical margin. Nervulus interstitial. Propodeal spiracle small, not joining pleural carina, but closer to pleural than to lateral carina. Hind coxa basally, hind femur apically, and VI–VII metasomal segments darkened.
- Material examined. Turkey: Rize, İkizdere, 572 m, 24.06.2013, 8 ♂♂ and 1 ♀.
- Distribution: Europe and Georgia (Yu et al., 2012).
- This species is recorded for the first time in Turkey.
- In addition, all plant species that were visited by the wasps in the study area are shown in the Table. It seems that these insects visited these plants that provide food sources as well as resting places. Çoruh and Özbek (2005), Çoruh and Çoruh (2008), and Çoruh (2010) recorded plant species associated with Ichneumonidae in Turkey.

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