

Ecdyonurus necatii, a New Ephemeroptera (Heptageniidae) Species from Turkey

by

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Ecdyonurus necatii sp.n. from Anatolia, Turkey, belonging to the *lateralis* group, is described and illustrated.

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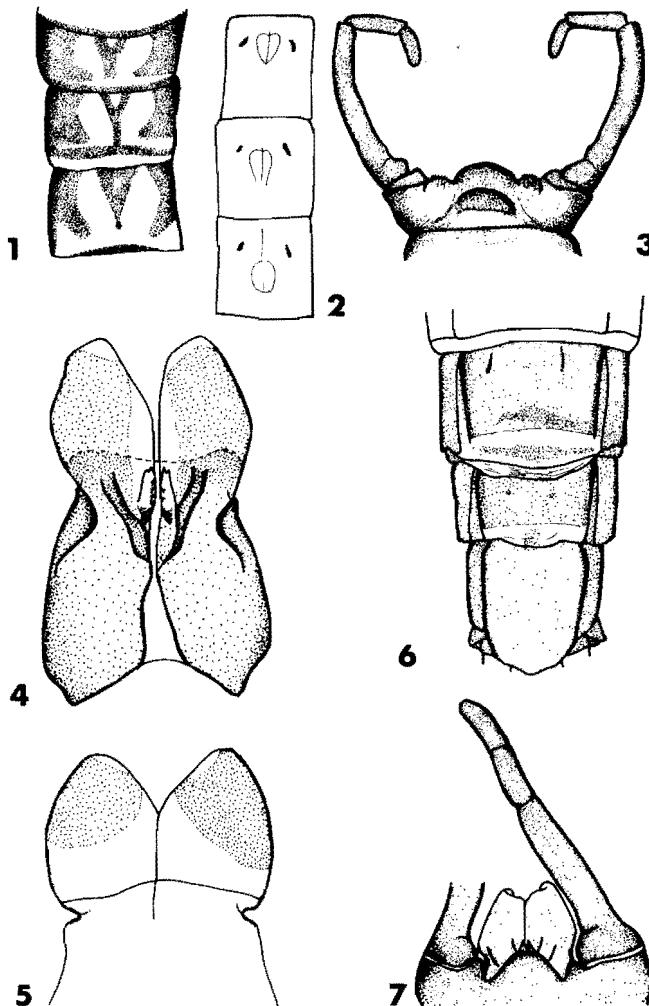
Ecdyonurus necatii sp.n.

Male imago: Body 6-8 mm, fore wings 7-8 mm, cerci 17-20 mm long. Head light brown, compound eyes dark grey, thorax brown, mesothorax laterally yellowish-brown. Middle and posterior legs yellowish-brown. Anterior legs a little darker than the others. The length of the first article of the anterior tarsus is about one half of the second. The first article of the middle and posterior tarsi is slightly longer than the second. Wings are transparent, with light brown venation. Cross-veins are straight or slightly oblique in the milky pterostigma. Segments 1-6 of abdomen yellowish-brown and transparent. Segments 7-10 dark brown and opaque. The dorsal spots are distinct on segments 2-6 (Fig. 1). Sternites have small brown oblique spots on each side of the distinct ganglia (Figs. 2). Some paratypes have additional large brown, slightly apparent spots in the fore corners of the sternites. Cerci yellow, with light brown basal articles.

Genitalia: Light brown styliger plate with large basal protuberance. Its small rounded lateral lobes extend up to the base of the first article of the gonopodes and are separated from each other by a distinct median convexity (Fig. 3). Styles light brown, their first articles are distinctly swollen. The narrow, pointed, obliquely truncated penis lobes are separated by a V-shaped excision. There is a distinct step on the lateral margin of the penis base (Fig. 4). In dorsal view, the lateral sclerites are hardly visible, being covered by the fore halves of the penis lobes (Fig. 5). Squat titillators with 3-4 spines.

Female subimago: Body 7-20 mm, fore wings 7.0-18.5 mm long. Cerci damaged. Head, prothorax, meso- and metathorax yellow. Prothorax has light brown, meso- and metathorax have chestnut brown spots. Femora and tibiae

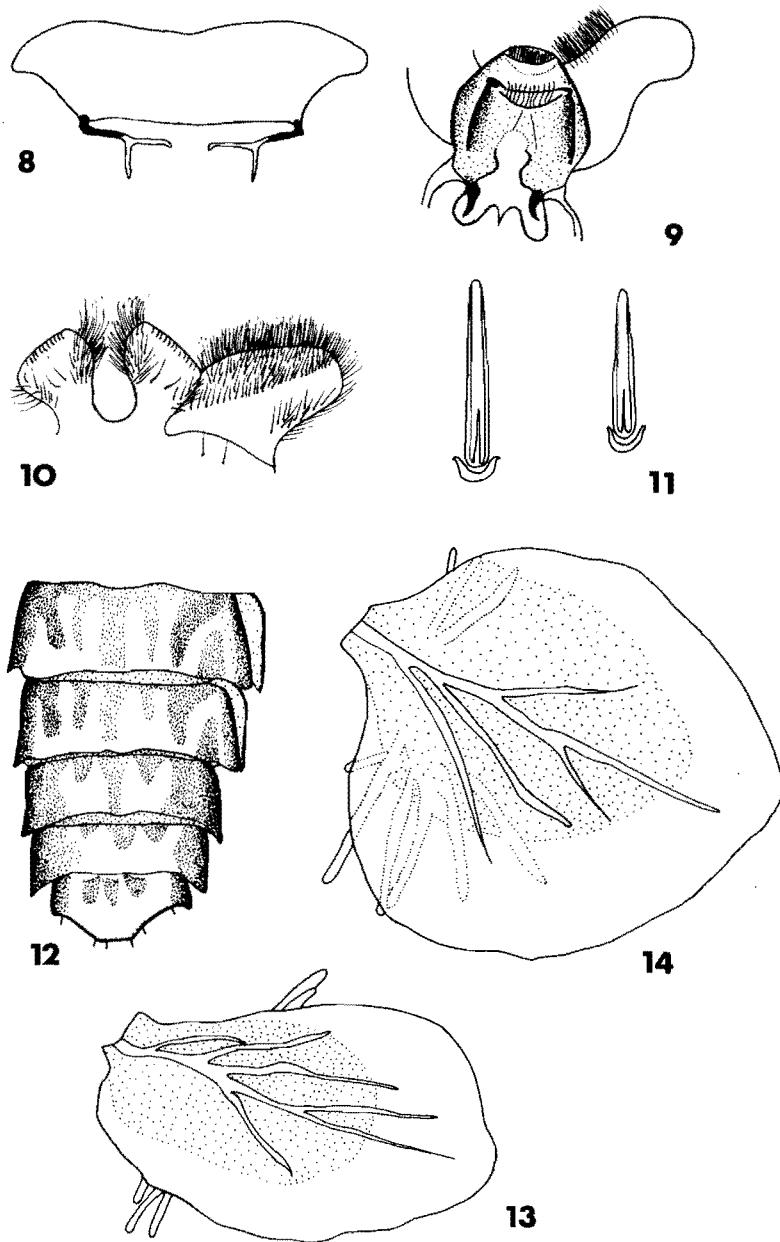
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Figs. 1-7: *Ecdyonurus necatii*, male: (1, tergites 3-5; 2, sternites 3-5; 3, syliger plate; 4,5 penis in ventral and dorsal views); female subimago: (6, abdominal tip); male subimago: (7, penis and styliger plate).

yellow with brown margins. Tarsi light brown. Wings light brown with dark brown venation. Abdomen yellowish-brown, spots are indistinct. The subgenital plate is swollen and its hind margin has two angles. Sternite 8 is slightly pointed at the end (Fig. 6). Cerci yellowish brown.

Male subimago: Body 7-10 mm, fore wings 6.5-10.0 mm long. Cerci damaged. Similar to female subimago in body and wing coloration. The obliquely truncated and pointed penis lobes are united medially. The lateral margins of



Figs. 8-14: *Ecdyonurus necatii*, nymph: 8, labrum; 9, hypopharynx; 10, labium; 11, spines on upper face of femora; 12, tergal pattern; 13, 14 first and third gill.

the penis lobes are slightly angular. The styliger plate protrudes markedly in the middle, the lateral lobes are small and rounded (Fig. 7).

Nymph: Body 9-13 mm long. Head light brown. Anterior margin convex, with a central notch, lateral margins are convex and divergent, posterior margin is straight with a central notch. Frons distinctly swollen. Anterior and posterior angles of head are rounded. Sides of labrum bent slightly backwards (Fig. 8). Left prostheca with 7-8 strong lateral setae and 6-8 on its base extending up to midlength of the prostheca. Second article of maxillary palpus wider in the fore half. Third article equal to about 1/8 of the second article. The lacinia has about 15-17 denticles. The anterior margin of the lateral lobe of the hypopharynx is covered with hair (Fig. 9). Inner margin of large glossa is rounded, outer margin angular (Fig. 10).

Pronotum without backward prolongations. Legs yellowish-brown with dark brown margins. Tarsi darker, upper surface of femora covered with long slender sparse spines (Fig. 11) and lateral margins with strong hairs. Each pretarsus has 4 denticles.

Thorax and abdomen yellow, with light brown spots (Fig. 12). Gills grey, middle with distinct grey tracheation. All pairs of gills are distinctly asymmetrical (Figs. 13, 14). Cerci yellowish-brown, not annulate. The posterior margins of articles are covered with small sparse spines.

Material: Holotype ♂, Bolu-Ankara Road, Akyarma pass, 20.6.1980; paratypes 6 ♂ imagines, 10 ♂ subimagines, 9 ♀ subimagines; Ankara; Çamlidere, 9.6.1978, 8 nymphs, 2 ♂ imagines; Ankara; Çamkoru, 26.6.1981 2 ♂; subimagines; Ankara; Çamkoru 11.6.1982, 1 ♂ imago, 4 ♂ subimagines, 2 ♀ subimagines.

Affinities: *E. necatii* sp.n. is included in the *lateralis*-group, as it seems to be similar to *E. ozrensis* Tanasijevic, 1975. However, *E. necatii* evidently differs from *E. ozrensis* in the shape of the penis lobes, which are pointed, whereby the species is easily recognized. It also differs in abdominal markings, in the wide V-shaped excisions between the penis lobes and in the unspotted legs. The nymph of *E. ozrensis* is not known.

Derivatio nominis: I dedicate this new species to my husband who has always accompanied me on entomological trips.

ACKNOWLEDGEMENTS

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