

***Drunella karia* n. sp. a second species of the genus *Drunella* (Ephemeroptera, Ephemerellidae), from Turkey**

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Abstract

Description of the full grown nymph of *Drunella karia* n. sp., the second *Drunella* species reported from Turkey.

Introduction

The family Ephemerellidae in Turkey was to date represented by *Ephemerella ignita* Poda, 1761, and *Ephemerella (Torleya) major* Klapalek, 1905 (Kazancl, 1984), while the genus *Drunella* was recently recorded with the species *Drunella euphratica* Kazancl, 1987. A second new species of the genus *Drunella* is now to be added to this short list.

The distribution area of *Drunella euphratica* Kazancl, 1987 is Eastern Anatolia while that of *Drunella karia* n. sp. is Western Anatolia.

Material examined:

Holotype female nymph and 25 paratypes (all nymphs), Muğla: Fethiye-Antalya Road, Çırpı Village, 210 m., 20. 7. 1987; Muğla: Dalyan-Köyceğiz Road, Beyobası Village, Yuvarlak Stream, 19. 7. 1987, 30 nymphs; Muğla: Fethiye-Antalya Road, Kemer Town, 200 m, 20. 7. 1987, 30 nymphs; Muğla: Kemer: Uurluca Bridge, 1100 m, 21. 7. 1987, 15 nymphs.

The type series is deposited in the British

Museum (Nat. Hist.), under accession number BM1989-83.

Paratypes are in the author's collection as well.

Derivatio nominis:

The name of this new species was originated from the historical name of collecting area.

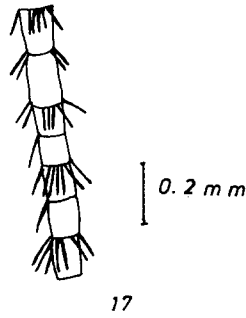
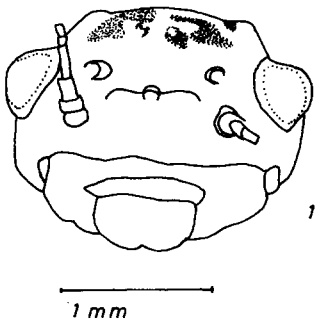
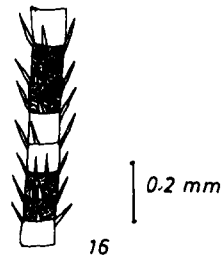
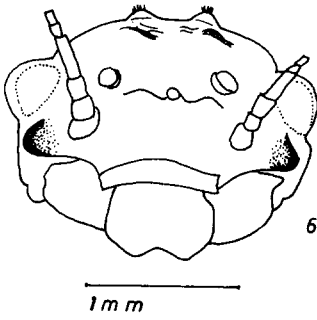
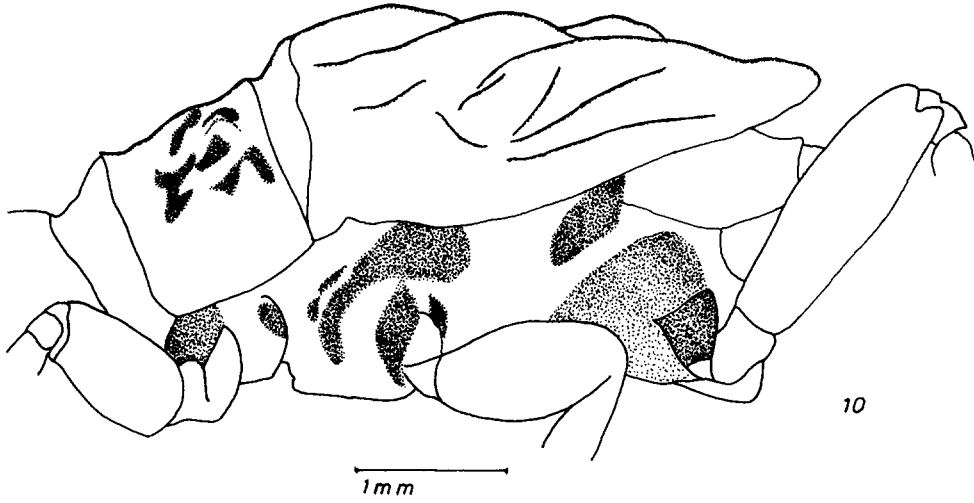
Description of *Drunella karia* n.sp. (Figs. 1–20)

Full grown nymph

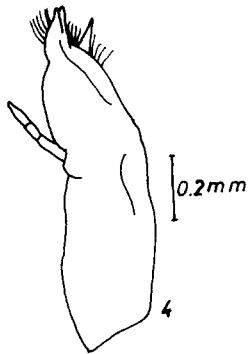
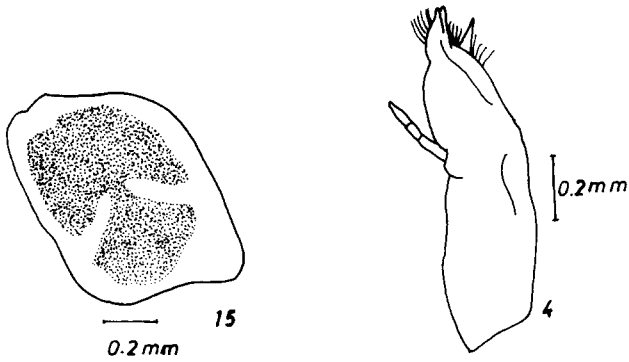
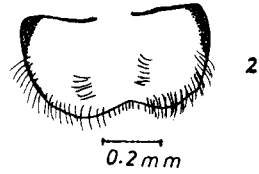
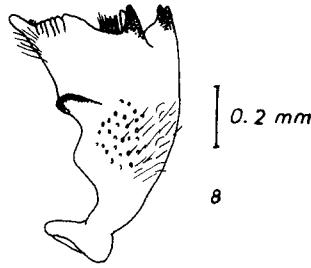
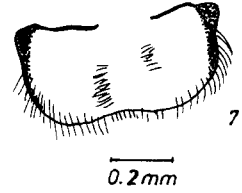
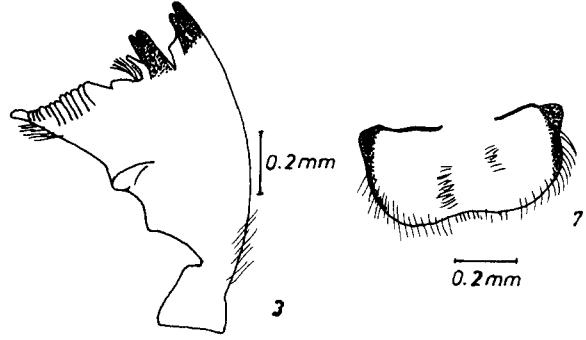
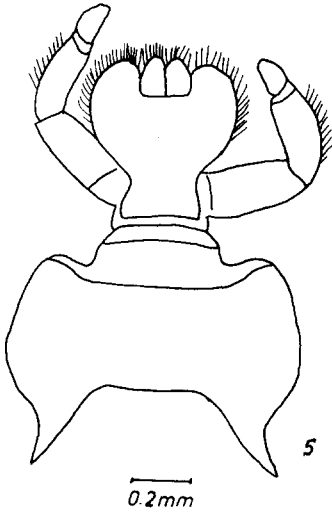
Body length: 6–9 mm; length of cerci: 3–5 mm. Head yellow with light brown patterns and small, blunt occipital tubercles near the base of compound eyes (Fig. 1). Genae without anterolateral tubercles. Second segment of antennae dark brown; remainder yellow.

Mouth parts (Fig. 2–5)

Terminal segment of maxillary palpi with 4–5 spines, irregularly distributed across the apical part (Fig. 4). Glossae slightly pointed at apex,



Drunella karia n. sp. nymph
Fig. 1. : anterior view of head
Fig. 2. : labrum
Fig. 3. : mandible
Fig. 4. : maxilla
Fig. 5. : labium



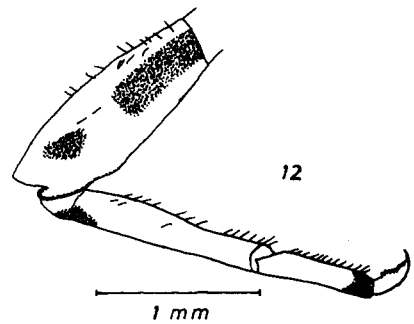
Drunella euphratica Kazanci, 1987 nymph
 Fig. 6. : anterior view of head

Fig. 7. : labrum

Fig. 8. : mandible

Drunella karia n. sp. nymph
 Fig. 9. : dorsal view of thorax

Fig. 10. : lateral view of thorax



posterolateral margin of submentum concave (Fig. 5).

Thorax

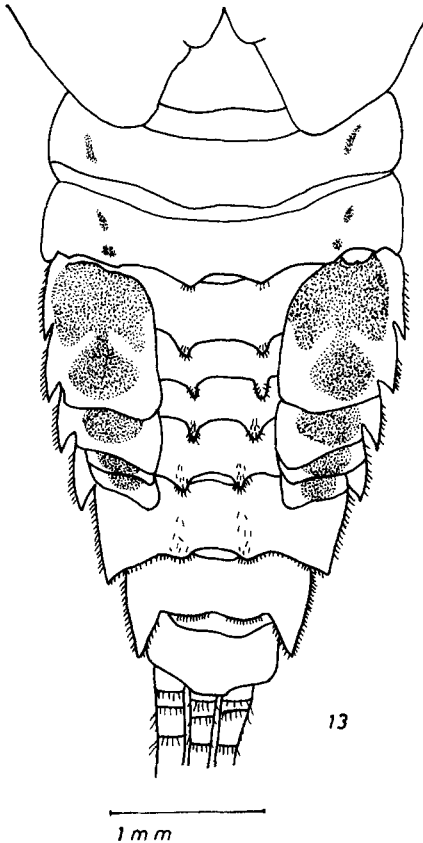
Pronotum yellowish brown with brown patterns on the submedian ridges and median and submedian tubercles. Mesonotum with paired submedian ridges and two anterior and a single posterior tubercle between the submedian ridges. Mesonotum light brown with yellow and dark brown spots (Fig. 9–10).

Legs

Femora of all legs with long and slender spines, and setae on the outer margin and dorsal surface. Tibiae and tarsi with spines and long setae on the inner margin and hairs on the outer margin. Legs yellow with brown spots on the femora, tibiae and tarsi (Figs. 11–12). Tarsal claws of foreleg with 8 denticles; middle and hind claws have 10–12 denticles.

Abdomen

Segments 2–9 with tubercles which are slightly convergent and covered with long, slender spines



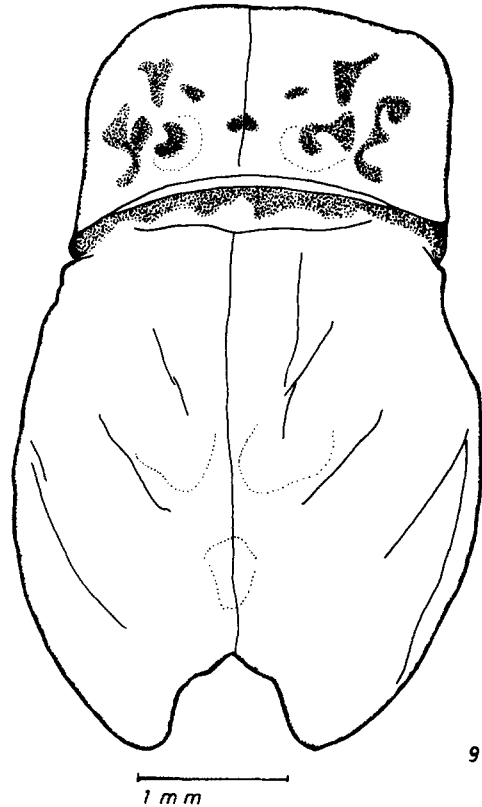
13

1 mm

Fig. 11. : first leg

Fig. 12. : third leg

Fig. 13. : dorsal view of abdomen



9

1 mm

Fig. 14. : lateral view of abdomen

Fig. 15. : first lamellate gill

Fig. 16. : segments of caudal filament

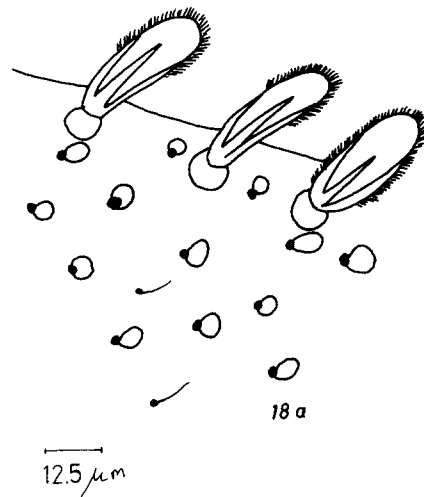
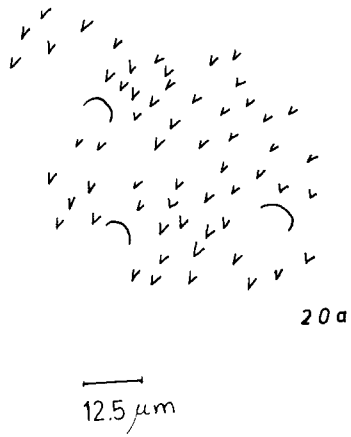
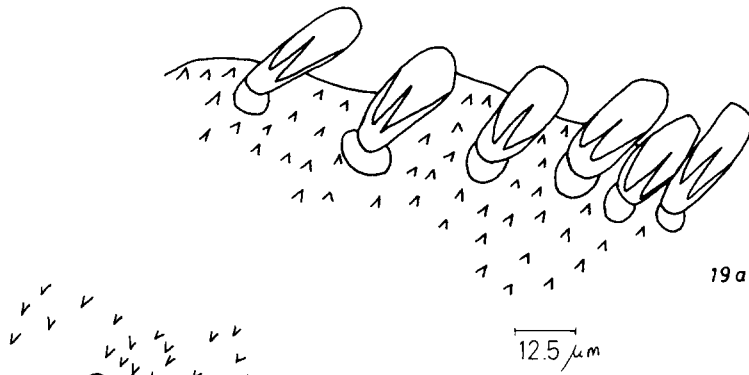
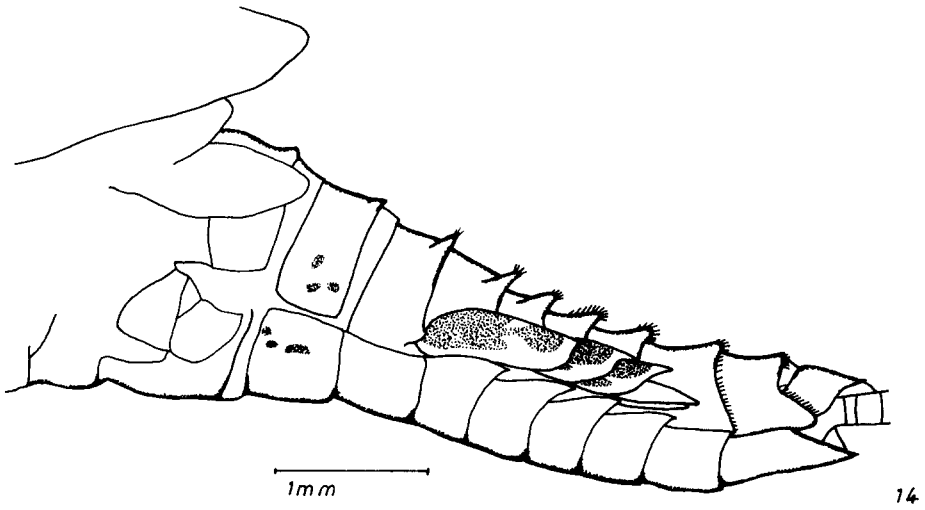


Fig. 17. : segments of caudal filament of *Drunella euphratica* Kazancl, 1987

Fig. 18 a-b. : 9'th tergite of *Drunella euphratica* Kazancl, 1987

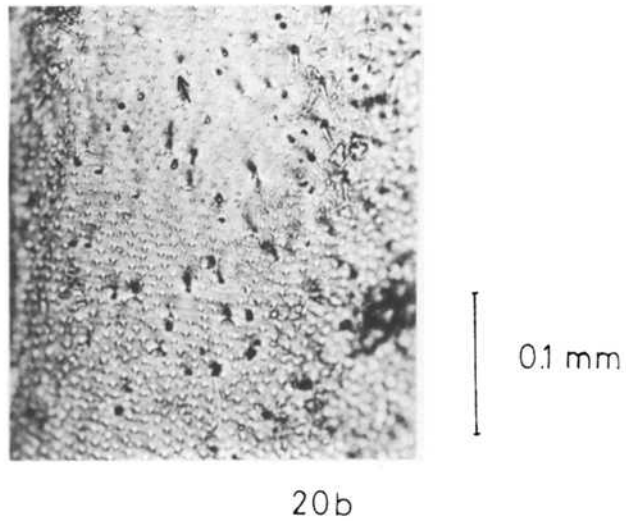
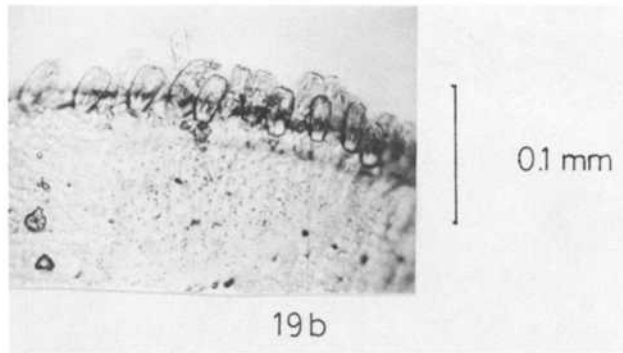
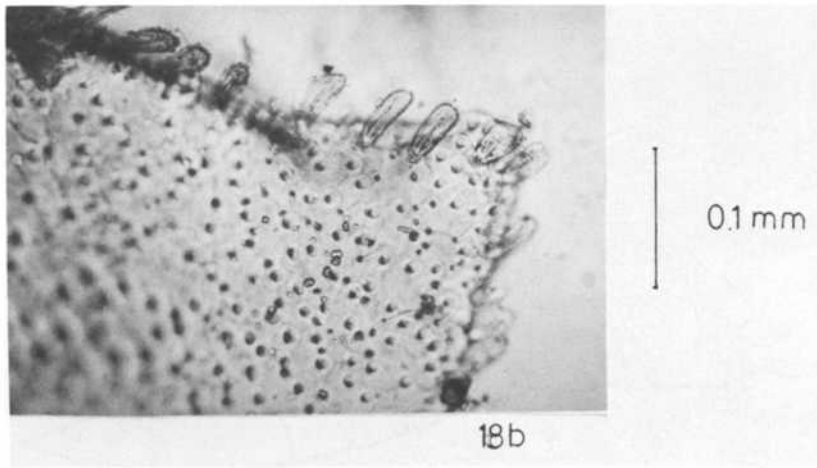


Fig. 19 a-b. : border of 9th tergite of *Drunella karia* n. sp.

Fig. 20 a-b. : surface structure of 9th tergite of *Drunella karia* n. sp.

	<i>Drunella euphratica</i> Kazanci, 1987	<i>Drunella karia</i> n. sp.
1-Body tubercles	<p>Head Located on middle of vertex, pointed, distinct in male and female, genae with tubercle (Fig. 6).</p> <p>Thorax Pronotum like a shield with projections on the anterolateral edges with single median and paired submedian tubercles, and paired submedian ridges. Mesonotum with low paired submedian tubercles, paired submedian ridges, and blunt single tubercle between wing pads.</p> <p>Abdomen Segments 3–9 with slightly divergent dorsal tubercles.</p>	<p>Head Located at base of compound eyes, distinctive in females, blunt, genae without tubercle (Fig. 1).</p> <p>Thorax Pronotum narrow, without projections on the anterolateral edge and with only submedian ridges. Mesonotum with paired submedian ridges, and two anterior and a single posterior tubercle (Figs. 9–10).</p> <p>Abdomen Segments 2–9 with slightly convergent dorsal tubercles (Figs. 13–14).</p>
2-Tergite surface and spines	Tergite surface with mushroom-shaped structures, tergite spines stout and with hairs (Fig. 18a-b).	Tergite surface with 'chagrin' and sparse notches (Fig. 20 a-b), tergite spines long and slender without hairs (Fig. 19a-b).
3-Mouth parts	Differences in shape of mouth parts in the two species shown in Figs. 2–5; 7–8.	
4-Legs	Insertion of spines on femora with slight tubercles, spines on femora stout, with hairs.	The insertion of spines on femora without tubercles (Figs. 11–12), spines on femora long and slender, without hairs.
5-Cerci and caudal filaments	Shapes and rows of spines on posterior margin of segments are different (Figs. 16–17).	
6-Body coloration	Brown with distinctive pattern on head, thorax and abdomen; legs brown without spots. Cerci and caudal filaments dark brown (Fig. 17)	Yellowish with distinctive pattern on head and thorax (Figs. 1 and 9). Abdomen without pattern (Fig. 13), segments 4–6 yellow, legs yellow with brown spots (Figs. 11–12). Cerci and caudal filaments composed of two yellow, two brown segments (Fig. 16).
7-Distribution area	Eastern Anatolia at altitudes of 900–2000 m.	Western Anatolia at altitudes of 200–1100 m.

between segments 2 and 9. Posterolateral spines present from segment 4 (Figs. 13–14) onwards plate-like gills on segment 3–7 (Fig. 15). Segment of caudal filaments and cerci composed of two yellow and two brown segments which have numerous alternating rows of long spines on the posterior margin of each segment (Fig. 16).

General coloration of abdomen yellowish brown. Segments 4–6 yellow. All segments without distinctive patterns.

Male and female subimago and imago unknown.

Affinities

According to its nymphal characteristics this new species belongs to the genus *Drunella* (Allen & Edmunds, 1962; Studemann & Tomka, 1987).

Drunella karia n. sp. belongs to the *Drunella grandis* Eaton group (Allen & Edmunds, 1962) and looks similar to *Drunella paradinasi* Gonzales del Tanago & Garcia de Jalon, 1983. However its closer relative offer to be *Drunella euphratica* Kazanci, 1987 another species from Turkey.

The new species differs from *Drunella paradinasi* Gonzales del Tanago & Garcia de Jalon, 1983 in body coloration, body tubercles and ridges, shape of mouth parts, structure of tergite

surface, shape of spines bordering the outer margin of the segments and covering the dorsal tubercles, and shape of legs and spines on the femora. The differences between *Drunella euphratica* Kazancl, 1987 and *Drunella karia* n. sp. are given above:

Acknowledgements

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