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## A new species of Heptageniidae from Corsica: *Ecdyonurus cortensis* n. sp. (Ephemeroptera) (\*\*)

### ABSTRACT

Imagines and nymph of *Ecdyonurus cortensis* n. sp., a species related to *E. corsicus* Esben Petersen, are described from Corsica. Diagnostic features are: nervous ganglia pigmented and penis lobes subtriangular (male); bristles on femora pointed (nymph). The new species is related also to *E. moreae* Belfiore & Braasch and *E. graecus* Braasch. On the basis of nymphal characters, *E. cortensis* and *E. corsicus* are grouped into a separate species group, named *corsicus* group.

### ***Ecdyonurus cortensis* n. sp.**

#### DIAGNOSIS:

A Corsican *Ecdyonurus* close to *E. corsicus* Esben Petersen, 1912: imagines with abdominal nervous ganglia pigmented on pale sternites. Nymphs with strongly pointed bristles on upper surface of fore femora.

#### TYPE MATERIAL:

Corsica, Corte, R. Restonica, 1260 m, 13-9-1986, C. Belfiore & K. Lorenzi leg.: 1 male imago (holotype), 5 male imagines, 2 female imagines with nymphal exuvia, 1 female imago and 1 male imago collected while mating; Corte, R. Restonica, 940 m, P. de Tragone, 6-6-1986, C. Belfiore leg.: 1 nymph; tributary of R. Restonica, lac Melo, 13-9-1986, C. Belfiore leg.: 1 nymph; Palneca, left tributary R. Taravo, 7 Km from Col de Verde, 11-6-1986, C. Belfiore leg.: 2 nymphs (paratypes).

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## OTHER MATERIAL:

(C. Belfiore leg.). Corsica - Corte, R. Restonica, 1260 m, 13-9-1986, 2 male imagines; Corte, R. Restonica, 943 m, P. de Tragone, 6-6-1986: 9 nymphs; Haut Asco, R. Stranciacone, 1100 m, 8-6-1986: 6 nymphs; Forête de Vizzavona, Tattone, right trib. R. Vecchio, 9-6-1986: 2 nymphs; Bocognano, R. Gravona, 9-6-1986: 10 nymphs; Val d'Ese, R. Ese, Bastelica, 1600 m, 10-6-1986: 2 nymphs; R. Taravo, 7 Km from Col de Verde, 11-6-1986: 10 nymphs.

Two paratypes (1 male, 1 nymph) in the Regional Museum of Natural Sciences, Turin; other material in the Author's collection.

## DESCRIPTION OF HOLOTYPE ♂ (in alcohol)

Body length 13 mm, forewing 14 mm, cerci 25 mm. Eyes grey, darker on the sides. Thorax light-middlebrown, pleurae whitish: a narrow brown oblique band extends from wing basis to fore margin of mesosternum. Fore legs uniform brown; femur and tibia of mid and hind legs yellowish, tarsus dark brown. Wings hyaline. Longitudinal veins dark brown, cross veins dark violet. Pterostigmatic area yellowish opaque, with several branched cross veinlets. Abdomen yellowish: tergites with a brown band along the hind margin, which continues forward in two oblique narrow stripes (Fig. 8). Median part of tergites without markings. Sternites pale yellowish; nervous ganglia on sternites II-VII evident, violet (Fig. 8). Cerci dark brown.

First segment of fore tarsus shorter than half of second segment.

Hind margin of IX sternite slightly convex with two wide and short rounded lateral projections. Penis lobes (Figs. 1-3) subtriangular, with outer margin widely rounded. Lateral sclerite wide, with hind margin strongly sinuous. Few large denticles near inner angle.

## Variability:

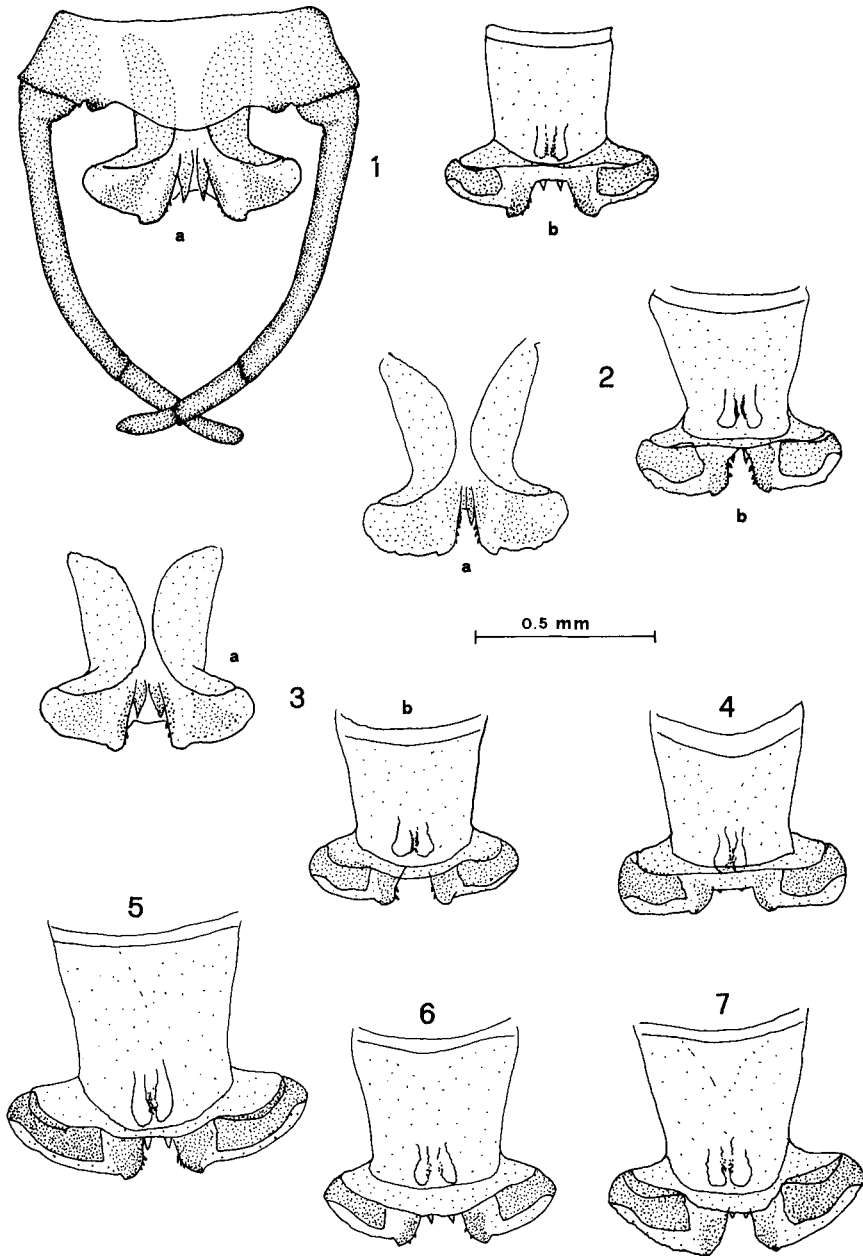
Imagines of this species were collected all from the same locality. Penis lobes shape is very variable; two males showed penis very like *E. corsicus* Esben-Petersen, 1912.

Sometimes is also visible a very pale polygonal spot on sternites. Nervous ganglia, however, are always tinged with violet and pterostigmatic area is always lighter than *E. corsicus*.

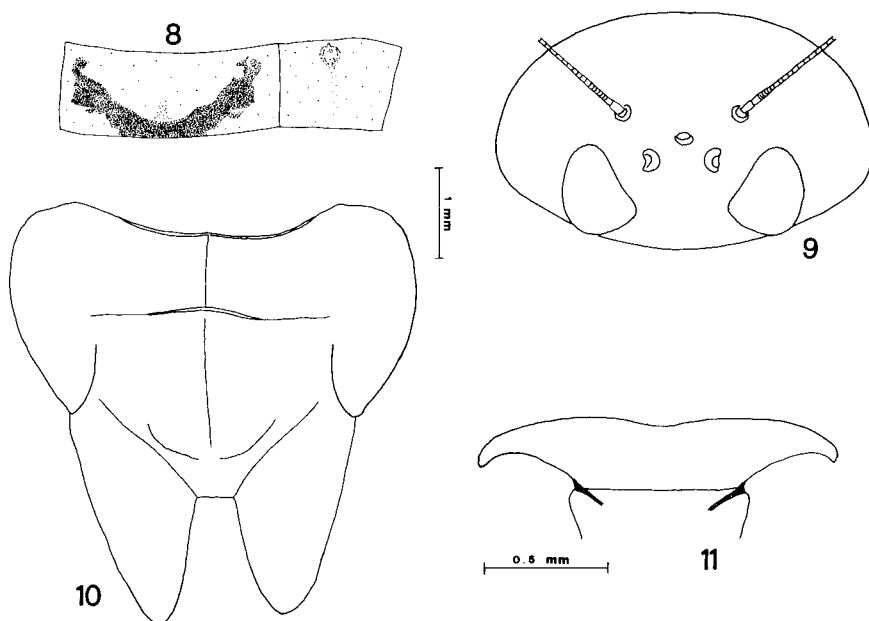
## Female imago:

Body length 12 mm, forewing 13 mm, cerci 24 mm.

Thorax light brown. Fore legs brown. Mid and hind femur yellowish, tarsi darker. Abdomen like male imago.



Figs. 1-7 — Genitalia of *Ecdyonurus* spp. 1-3: *E. cortensis*, three paratypes, a = dorsal view; b = ventral view; 4: *E. corsicus* from the same locality, dorsal view; 5: *E. macani* from Pindus, Greece, d. v.; 6-7: *E. moreae* from Peloponnese, d. v.

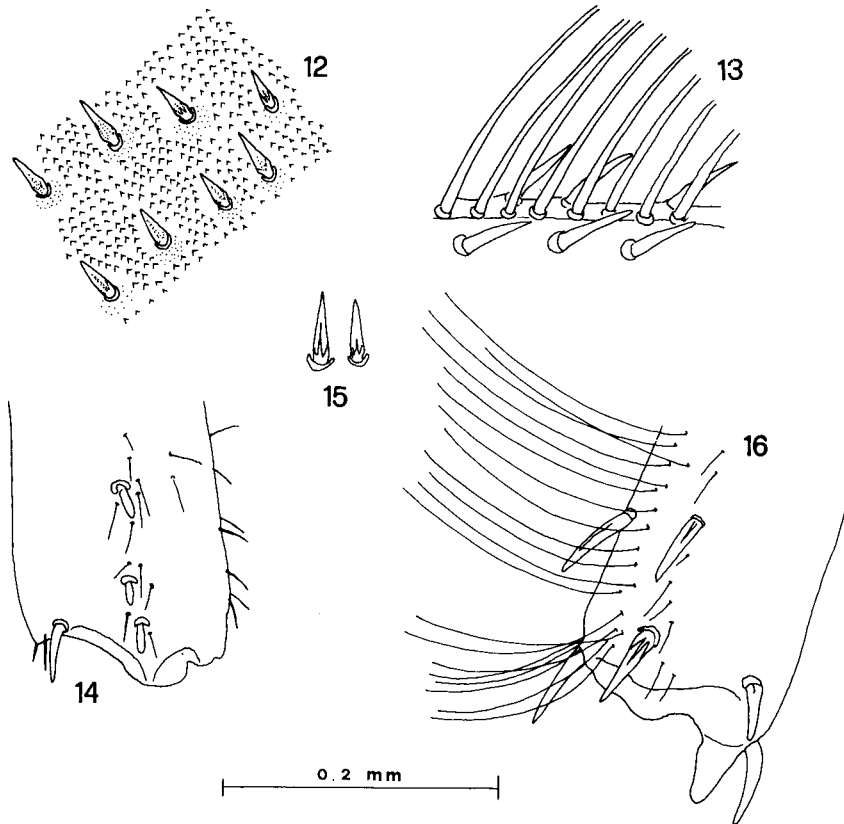


Figs. 8-11—*Ecdyonurus cortensis*. 8: 4th tergite and sternite of male imago; 9: head of nymph; 10: pronotum and mesonotum of nymph; 11: labrum of nymph.

Nymph (cfr. Belfiore, 1987, for a comparison with the nymph of *E. corsicus*). Head wide, subtrapezoidal, expanded at sides (Fig. 9). Labrum slender, lateral projections well developed, in most cases strongly bent backwards at apex (Fig. 11). Maxilla like *E. corsicus*: 28-34 comb-shaped bristles on fore margin, first segment of maxillary palpus without or with very few long and tiny hairs; some few long hairs are also on outer margin of maxilla, between fore angle and insertion of palpus. Pronotum wide, lateral projections large, often with apex slightly bent outwards (Fig. 10). Bristles on fore femora with a pale brownish area at the basis (Fig. 12). A row of bristles is on ventral surface of femora, just behind the marginal row of long hairs (Fig. 13); all bristles on upper surface of femora are long and pointed (Figs. 12, 15). Fore and mid tibia with a row of narrow rounded bristles on dorsal side (Fig. 14); hind tibia with a dorsal row of pointed bristles (Fig. 16). Tarsus darkened at apex, two denticles on tarsal claws. Last sternite of female nymphs long, subtriangular, with narrowly rounded apex.

#### ETIMOLOGY:

The species name *cortensis* comes from Corte, main town of central Corsica.



Figs. 12-16 – Nymph of *E. cortensis*. 12: part of upper surface of fore femur; 13: distal hind margin of fore femur; 14: end of fore tibia; 15: dorsal bristles of hind femur; 16: end of hind tibia.

#### DISCUSSION:

*E. cortensis* is easily distinguishable from *E. corsicus* (fig. 4) mainly for pigmented ganglia of male imago and for strongly pointed bristles on nymph femora. These species are however closely related: they share the following common characters: oblique reddish brown bands on tergites and penis lobes laterally little expanded, with rounded apex (males); pronotal projections well developed, first segment of maxillar palpus without or with few long hairs proximally on inner margin, few long hairs on outer margin of maxilla, just over the basis of maxillar palpus. Male imagines of *E. cortensis* are closely related also to *E. moreae* Belfiore & Braasch, 1986 (Figs. 6-7) and to *E. graecus* Braasch, 1984: penis lobes are shorter and more rounded in the Corsican species.

*E. corsicus* and *E. cortensis* may be separated from other species of the genus *Ecdyonurus*, in an own group, which I name *corsicus* group, characterized by penis lobes laterally little expanded and by the combination of the following nymphal characters: pilosity on outer margin of maxilla and on first segment of maxillar palpus; presence of pointed bristles on ventral surface of femora, just behind the hind row of long hairs; basis of femoral bristles more or less pigmented. This group includes possibly also *E. moreae*, *E. graecus*, *E. macani* Thomas & Sowa, 1970 (Fig. 5), and *E. torrentis* Kimmins, 1942.

From available data, *E. cortensis* has a flight period shorter than *E. corsicus*: adults presumably appears in late June to September; imagines of *E. corsicus* may be found also in May. The new species is widespread all over the Corsica, often syntopic with *E. corsicus*.

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#### RIASSUNTO

Una nuova specie di Heptageniidae della Corsica: *Ecdyonurus cortensis* n. sp. (Ephemeroptera).

Vengono descritte le immagini e le ninfe di *Ecdyonurus cortensis* n. sp., raccolte in Corsica. Si tratta di una specie affine a *E. corsicus* Esben Petersen, le cui immagini maschili sono distinguibili per la forma dei peni e per i gangli nervosi addominali pigmentati. Le ninfe si riconoscono agevolmente per avere le spine sui femori anteriori lunghe ed appuntite. Entrambe le specie sono incluse in un gruppo di specie distinto, denominato gruppo *corsicus*.

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