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*RHITHROGENA REATINA* SP. N., A NEW SPECIES  
OF THE *HYBRIDA* GROUP FROM CENTRAL ITALY  
(Ephemeroptera, Heptageniidae)

During the examination of sets of individuals belonging to the genus *Rhithrogena* Eaton, 1881, collected from different populations of Central Italy, we encountered some previously unknown «forms» referable to the *hybrida* group (cfr. Sowa, in press). These forms were similar in general features, but the specimens of the different populations showed some slight constant differences both in egg and adult characters. Waiting for a further study on material from all developmental stages with the aim of stating the taxonomic level of such differences, we will describe in this paper a new species from the most quantitatively represented population in our material.

***Rhithrogena reatina* n. sp.**

DESCRIPTION. Male imago. Body length: 10-12 mm; fore wings: 10.5-12 mm; cerci: 25-29 mm. Head dark brown, eyes from dorsal view pinkish grey, from lateral view with a light grey stripe between two darker ones. Antennae brown. Thorax dark brown with whitish unsclerotized parts on the sides. Abdomen lighter, reddish brown, transparent. Joints of segments lighter. On II-VII sternites there is a polygonal spot, with two lighter submedial points (fig. 6); similar points are also on the respective tergites. Cerci uniformly dark brown. Nervous ganglia not coloured. Fore legs dark brown, mid and hind legs lighter, yellowish brown. Femora without dark spot. Fore wings brown on the proximal half: the pigmentation fades to the apex of wing. Veins of wings dark brown, large transverse vein light or with a violet shade. Genitalia: hind emargination of IX sternite well marked with two lateral rounded projections (fig. 2); gonopodes slender. Penis lobes spread out; subapical inner tooth evident from ventral view (fig. 1), far from the apex of lobes and directed backwards (toward apex of lobes). Outer tooth dorsally placed: from ventral view its basis appears as a subapical outgrowth. On the inner margin of lobes, before the inner tooth, there is a blackish-violet stripe.

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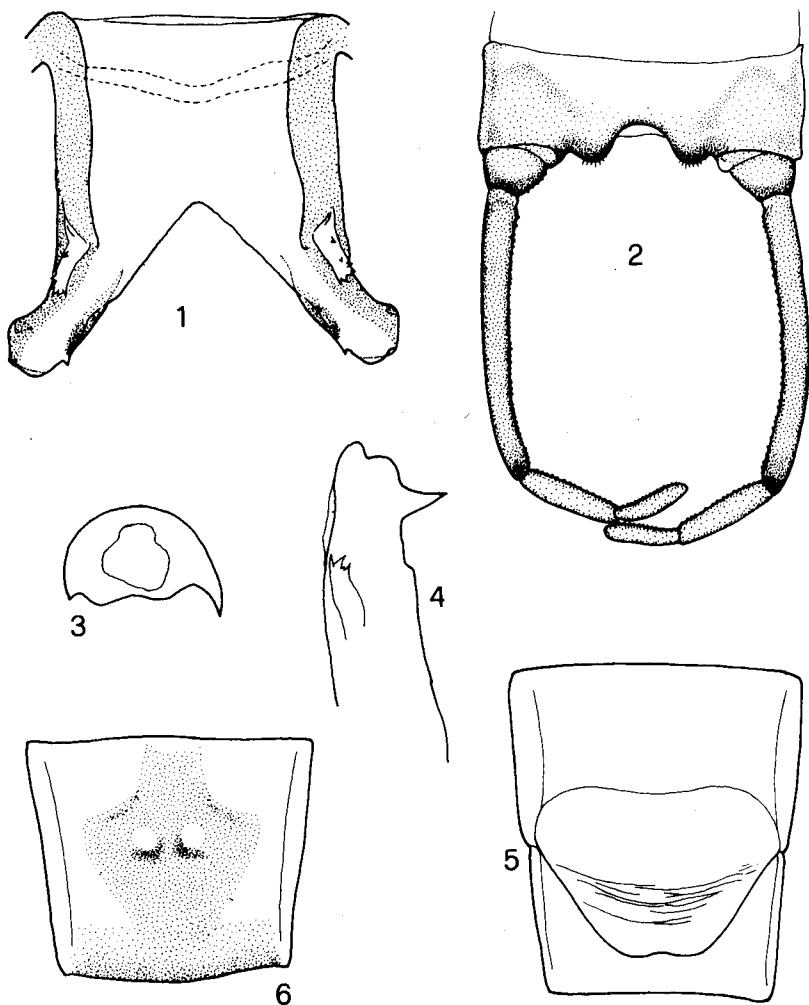


Fig. 1-6 — *Rhithrogena reatina* n. sp. 1: Penis lobes from ventral view; 2: gonopodes; 3: apex of penis lobe from caudal view; 4: penis lobe from lateral view; 5: subgenital plate of female; 6: IV sternite.

From lateral view (fig. 4) the hind margin of lobes has two well developed projections. From hind view (fig. 3) the light part of the penis apex is rounded.

Female imago. Body length: 9-11.5 mm; fore wings: 11-13 mm; cerci: 16-18 mm. Lighter than male imago, particularly thorax, fore legs and sides of abdomen. On well pigmented specimens there are spots on tergites and sternites like that of male imago. Fore wings transparent,



Fig. 7 — *Rhithrogena reatina* n. sp.: egg.

veins dark brown. Transverse veins well marked also in the proximal part of Costal area. Large transverse vein light violet. Subgenital plate wide (fig. 5), longer than half of the following sternite. Hind margin of IX sternite slightly rounded.

Subimagines and nymphs unknown.

Egg (fig. 7). Surface of chorion with a lot of granules of different size, which cluster all over the surface, but mostly near the poles. Adhesive apparatus all over the surface, adhesive elements clearly larger at one pole.

**MATERIAL.** Holotype (male imago), 11 male imagines, 7 female imagines, Velino River, between Cittaducale and Borgovelino (Rieti, Latium, Central Italy), 400-450 m, 16.VII.1978 and 30.IX.1979, C. Belfiore leg. Holotype deposited in the Museum of Zoological Institute, Rome University. Paratypes in Authors' collections.

**DERIVATIO NOMINIS.** The species is named from the Rieti district, where it was collected.

**AFFINITIES.** The new species is very closely related to *R. puthzi* Sowa, 1984 and *R. hybrida* Eaton, 1885. It differs from these species for the following set of characters: marking of abdomen (chiefly of sternites), proximal transverse veins of fore wings less marked (male), shape and

colour of penis lobes apex from ventral view, rounded genital opening on penis lobes from caudal view, shape of hind margin of IX sternite (especially in comparison with *R. puthzi*), length of subgenital plate (females), granulation of the eggs and pattern of their adhesive apparatus.

#### SUMMARY

Images and eggs of *Rhithrogena reatina* n. sp. are described from Velino River, Central Italy: the new species belongs to the *hybrida* group. Diagnostic characters are: shape and colouration of penis lobes, length of female subgenital plate, marking on sternites of both sexes, granulation and pattern of adhesive apparatus of eggs.

#### RIASSUNTO

Vengono descritti il maschio, la femmina e l'uovo di *Rhithrogena reatina* n. sp., una specie della famiglia Heptageniidae appartenente al gruppo *hybrida* raccolta sul fiume Velino, presso Rieti. I caratteri diagnostici della nuova specie sono: forma e pigmentazione dei lobi del pene, lunghezza della lamina subgenitale della femmina, pigmentazione degli sterniti in ambedue i sessi, granulazione e disposizione dell'apparato adesivo dell'uovo.

#### LITERATURE

SOWA, R. (in press). Contribution à la connaissance des espèces européennes de *Rhithrogena* Eaton (Ephemeroptera, Heptageniidae). Proc. IV Int. Conf. on Ephemeroptera.