

## ENTOMOLOGY

***Boreoheptagyia ortladamellica* sp. nov. (Diptera, Chironomidae)  
from Italian Alps**

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*Department of Food, Environmental, and Nutritional Sciences (DeFENS), University of Milan, Italy***Abstract**

A new species from Italian Alps, *Boreoheptagyia ortladamellica* (Diptera, Chironomidae), is here described. The species is presently known only as adult male, it is similar to *B. tibetica*, because of the female-like antenna in adult male, but it can be separated by the following characters: much larger size, darker colour, medially pointed aedeagal lobe, knob-like and heavy sclerotized inferior volsella, gonostylus enlarged at basis with short spiniform setae at apex.

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Key words: *Boreoheptagyia ortladamellica*; Italian Alps, Diptera, Chironomidae.

Acknowledgements: the author thanks prof. Eugenji Makarchenko, Institute of Biology and Soil Sciences, Far Eastern Branch of the Russian Academy of Sciences, 690022 Vladivostok - 22, Russia for having examined the manuscript and useful advices.

Conflict of interest: the author declares no potential conflict of interest.

To meet the requirements by the International Code of Zoological Nomenclature (ICZN), this article was registered at ZooBank (23 June 2017) under the following ZooBank Life Science Identifiers (LSID): 509CAABC-065F-4314-ACD3-44884EBCB777; AFF65E34-77A8-481E-AF4B-75D67D390745.

Received for publication: 20 June 2017.  
Accepted for publication: 23 June 2017.

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*Journal of Entomological and Acarological Research* 2017; 49:6860  
doi:10.4081/jea.2017.6860

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**Introduction**

The genus *Boreoheptagyia* Brundin, 1966 is the single genus in the tribe Boreoheptagyiini, it includes at present 22 species (Ashe & O'Connor, 2009), mostly from Palaearctic Region (Makarchenko *et al.*, 2008). The larvae live in cold fast streams and tolerate high current velocity (Thienemann, 1954). The adults are able to fly but do not assemble in swarms (Serra-Tosio, 1989). Because of their restricted habitat and their low attitude to disperse they are a potentially interesting group from a biogeographical point of view, with many species known only from very restricted areas (Moubayed, 1993). A new species from Italian Alps was captured as adult male in three localities in the Central Alps and is here described.

**Materials and methods**

The adult specimens were collected with a sweep net near rivers, streams and lakes. The material was preserved in 70% ethanol. The specimens were cleared in 10% KOH after the separation of wings and rinsed, including wings, in acetic acid, then transferred in xylene:phenol 3:1 (Wirth & Marston, 1968), finally mounted in Canada Balsam on slides. Morphological terminology and abbreviations follow Sæther (1980). All measures are in  $\mu\text{m}$  unless otherwise stated. Holotype and paratypes are deposited in the Department of Food, Environmental and Nutritional Sciences, Università degli Studi di Milano, Italy.

***Boreoheptagyia ortladamellica* Rossaro sp. nov.**

(Figures 1 and 2)

**Type material**

HOLOTYPE: adult male, Italy, Trentino Alto Adige, Adamello Glacier, glacial stream below Vedretta Lobbia, N 46°11'51" - E 10°35'30.68", 12.IX.1990, leg. Rossaro.

PARATYPES: three adult males, Italy, Lombardia, Ortles Glacier, glacial stream below Ercavallo lake, N 46°19'43.18" - E 10°32'37.24", 16.VIII.1979, leg. Rossaro, adult male, Italy, Trentino-Alto Adige, near Niscli glacial stream, N 46°06'7.93" - E 10°38'30.21", 30.VII.1997, leg. Rossaro.

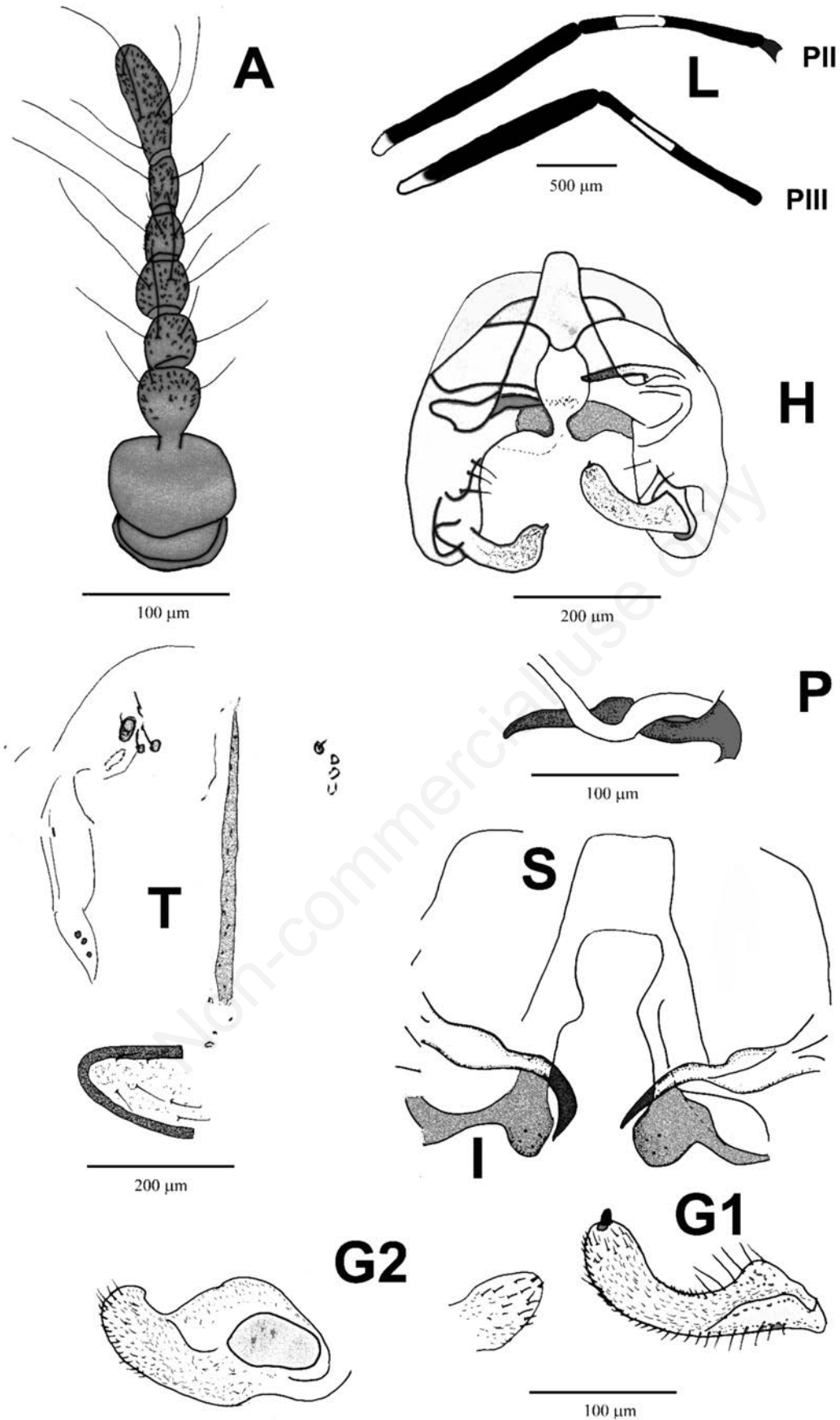


Figure 1. A) antenna, L) median and posterior femur and tibia, T) thorax, H) male hypopygium, P) aedeagal lobe, S) sternapodeme, I) inferior volsella, G1) G2) gonostylus.

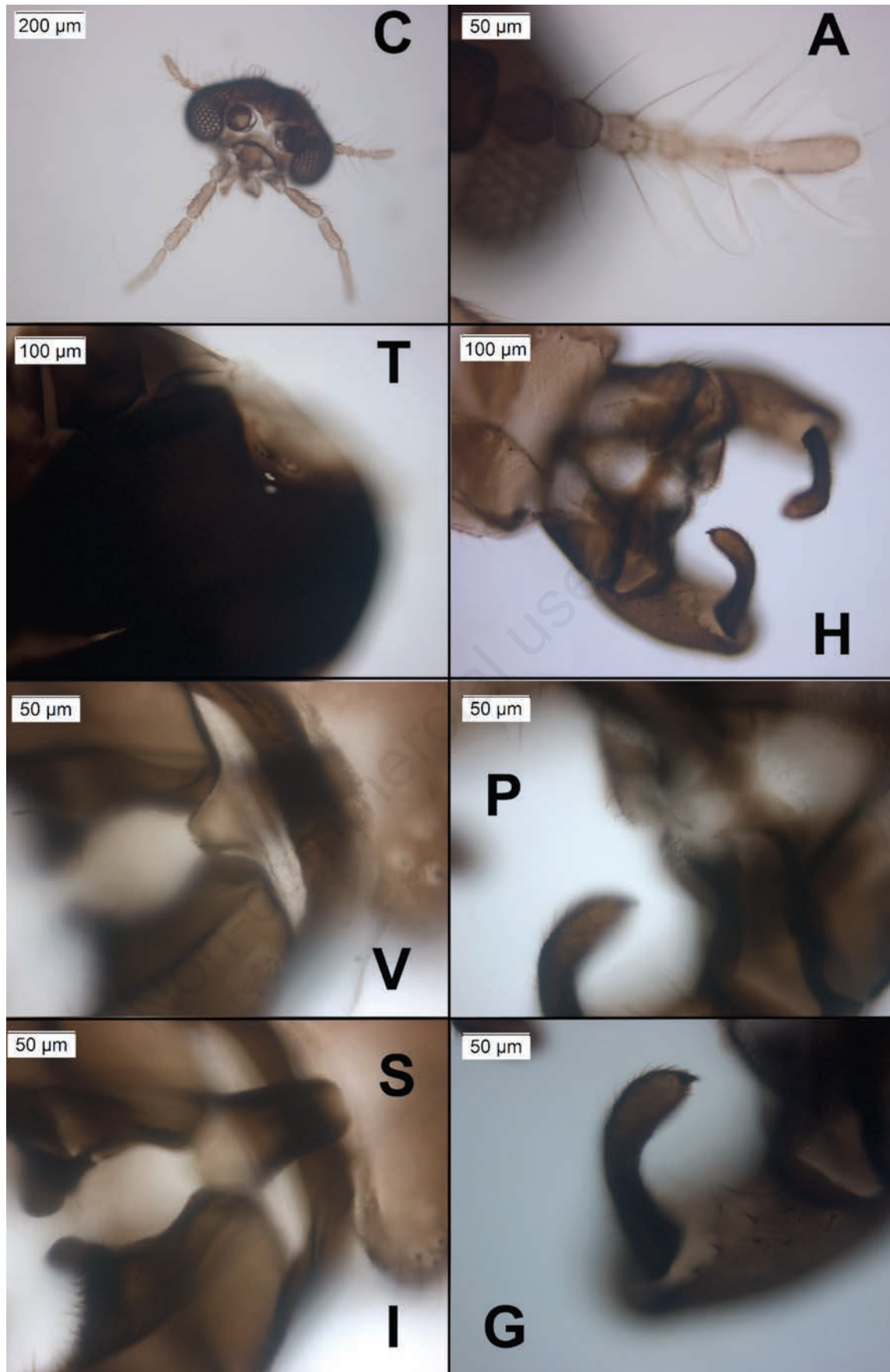


Figure 2. C) head, A) antenna, T) thorax, H) male hypopygium, V) pars ventralis, P) aedeagal lobe, S) sternapodeme, I) inferior volsella, G) gonostylus.

Table 1. Length in  $\mu\text{m}$  and proportions of leg segments.

	Fe	Ti	Ta1	Ta2	Ta3	Ta4	Ta5	LR	BV	SV
PI	1387	1360	856	370	213	84	161	0.63	4.35	3.21
PII	1683	1377	797	344	167	75	192	0.58	4.96	3.84
PIII	1666	1591	976	498	278	77	172	0.61	4.13	3.34

### Derivatio nominis

From the mountains where the species was captured, all belonging to the Ortles-Adamello group.

### Diagnosis

Large species, antenna female-like with 6 flagellomeres, tibiae with white rings, hypopygium with a median pointed aedeagal lobe, knob-like, heavily sclerotized inferior volsella, gonostylus enlarged at basis.

### Description

TOTAL LENGTH: 3.334 mm; wing length 2.514 mm,

COLORATION: thorax and abdomen dark brown, legs: coxae light, femura dark brown except a light proximal part, tibiae dark brown with white rings in the middle, tarsomeres uniformly brown, but lighter than femura.

HEAD (Figure 2C): Eyes bare without dorsomedial extension. About 10-15 vertical setae, not separable into inner and outer verticals, 12 orbitals, 1-3 frontals, 10-12 clypeals. Antenna (Figure 1A, 2A) female-like, with 6 flagellomeres, without plume, two sensilla chaetica on segments 4-6. Length of antennal segments: 56:35:37:33:37:80  $\mu\text{m}$  AR=0.40. Palpomeres length: 40-45:66-72:118-128:100-111:150-184  $\mu\text{m}$ . Head wide/palpal length: about 0.9.

THORAX: Anteprepronotum with 6 ventral anteprepronotals, 25-30 acrostichals almost in one row (Figure 1T, 2T), at most 10  $\mu\text{m}$  long, dorsocentrals reduced to 2-3 setae in anterior position, near to humeral area, in a large white spot, one-two white circular areas in the humeral region (Figure 1T, 2T), 16 prealars in two groups, an anterior group with 6 setae and a posterior group with 10 setae in a white area, preepisternals absent, scutellum with about 20 setae.

WINGS: Damaged, many veins not clearly distinguishable, R vein with setae, wing membrane with coarse microtrichia 5-7  $\mu\text{m}$  long.

LEGS: Dark brown, femura and tibiae darker than tarsi, femura dark brown, with only a very short proximal white part extended for 1/10, tibiae with a white ring extended about 1/5 of the total length of tibia, in the proximal part (Table 1 and Figure 1L).

HYPOPYGIUM (Figure 1H, 2H). Tergite IX without anal point, pars ventralis well visible (Figure 2V), large, rounded, sternapodeme narrow and robust (Figure 1H, 2S), superior volsella rounded, very poorly projecting (Figure 1S), aedeagal lobe sclerotized, pointed on the median side (Figure 1I, P, 2P), inferior volsella knob-like, very sclerotized (Figure 1I, 2I), gonostylus widest in the basal 1/3 with one short megaseta and many short spiniform setae near the apex (Figure 1G1, G2, 2G).

### Remarks

*B. ortladamellica* can be separated from all the other *Boreoheptagyia* species with female like antenna, by the knob-like sclerotized inferior volsella and the shape of gonostylus enlarged in the basal 1/3 with spiniform setae at apex. The species is very similar to *B. tibetica* (Makarchenko *et al.*, 1996, 2008), from which it differs because of much larger size, darker colour, medially pointed aedeagal lobe, knob-like and heavy sclerotized inferior volsella, gonostylus with short spiniform setae at apex.

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