Taxonomical Studies on the Species Belonging to *Urocyclops* Maneval (Hym. Proctotrupoidea, Platygastrinae)

By Lars Huggert
Skolgatan 100, S-902 46 Umeå, Sweden

Abstract

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The genus *Urocyclops* Maneval is looked upon as a subgenus only of *Platygaster* Latr. *U. bettyae* Maneval, *U. roosevelti* Debauche and *U. humboldti* Fabritius et Grelimann are regarded as synonyms of *Platygaster* (*U.*) *depressiventris* Thomson, and the previously unknown male of this species is described.

Platygaster (*Urocyclops*) *depressiventris* Th.

Platygaster depressiventris Thomson 1859: 86
Paracyclops bettyae Maneval 1936 a: 56
Urocyclops bettyae Maneval 1936 b: 142 syn.n.
Urocyclops roosevelti Debauche 1947: 283 syn.n.
Urocyclops humboldti Fabritius et Grelimann 1972: 57 syn.n.

In 1936 Maneval established the genus *Paracyclops,* which, however, had to be altered to *Urocyclops,* because the former had been used for a Copepod genus by Claus in 1893. As type species Maneval described *U. bettyae* and based his new genus mainly on the curious gaster with its extraordinarily long last tergite. Mention should also be made of the unusually narrow wings, especially the anterior ones, and the colour, which resembles that of specimens in *Leptacis* Först. and *Amblyaspis* Först. The present author fully agrees with Masner (1965), Sundholm (1970) a. o., that the shape of the gaster in Platygastrinae is not of generic value, but is perhaps only an expression of some type of specialization. Thus I am inclined to believe that *Urocyclops* should be regarded as merely a subgenus of *Platygaster* Latr. This view is supported by the discovery of the previously unknown male, which in its main characteristics does not differ from males of the latter genus (see p. 62).

When studying *Platygaster* spp. in coll. Boheman, Riksmuseum I found the type of *P. depressiventris* Th., which turned out to be an *Urocyclops.* In order to solve the question regarding these species, I asked for the type of *U. bettyae,* which was kindly sent to me by Dr. Steffan, Paris. Thanks to Dr. Dessart, Brussels, I was able to examine the types of *U. roosevelti,* and he also informed me about *U. humboldti,* recently described by Fabritius and Grelimann, Constanţa, Roumania (unfortunately this species was not available).

At my disposal were also 7 males and 40 females of *U. depressiventris* Th. from all over Sweden.

Except for two specimens in coll. Thomson collected in the vicinity of Lund, the Swedish

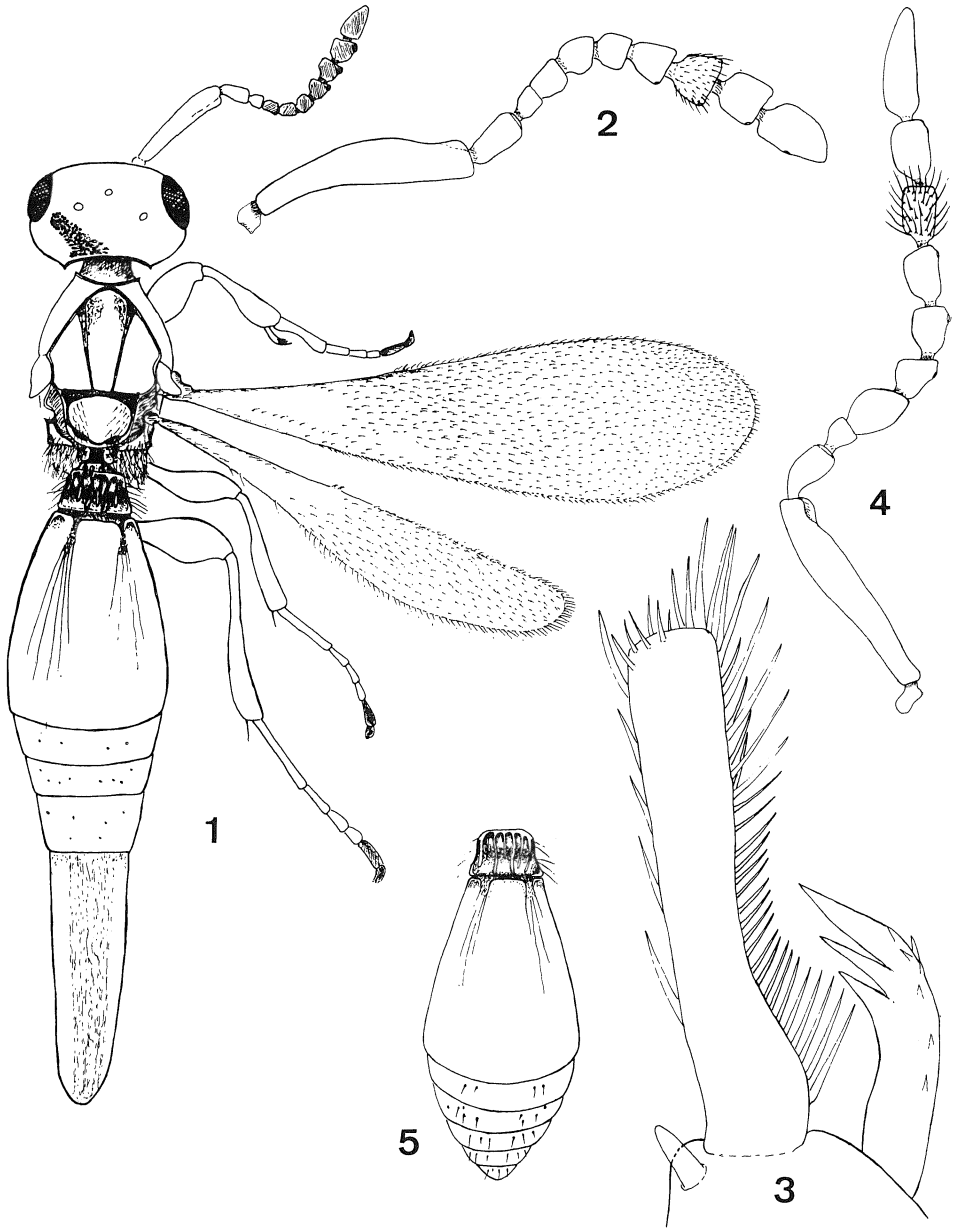
material is rather homogeneous and identical with *U. bettyae*. The shape of the antennae (Figs. 14, 15, 17, 18) and the relative length of the last tergite (Figs. 6—10) with its smooth surface are the same, as is the colour of antennae and legs. Hence *U. bettyae* has to be regarded as a synonym.

In the two specimens from Lund, however, the last tergite is much longer (length/width 3.2—3.4 vs. 1.9—2.7 in typical *U. depressiventris*) with a heavy longitudinal rugosity in a slight depression medially (Figs. 1, 12). This rugosity is not as pronounced in the smaller of the two; thus I believe that these features are of intraspecific value. The legs and the base of the antennae are also, of a lighter reddish colour.

U. roosevelti is an interesting intermediate element with its reddish-yellow legs and antennal base and with the last tergite (Fig. 11) having a clearly visible rugose sculpture basally. This sculpture, however, is also faintly indicated in the typical *U. depressiventris*. The antennae (Fig. 19) and the body appear to be somewhat more slender, but these almost immeasurable differences fall within the specific variation; thus I regard *U. roosevelti* as a synonym.

Regarding the last species, *U. humboldti*, I at first thought that the pedicel being slightly longer than the next two joints and the long last tergite (Fig. 13) were characteristics sufficient to preserve its validity as a species. Later, when I found those two specimens from Lund (mentioned above) I became suspicious. Then I noticed that the illustrations of the antennae of *U. humboldti* and some *Sactogaster* spp. in the same paper were not correctly drawn (obviously not from microscopic mounts). In Fig. 20 (photographically reproduced and redrawn) the exterior limitation of the pedicel has been drawn out right to the farmost apical point of the scape, which is wrong because the pedicel joins the latter medially as in Fig. 17. Instead, the antennae of *U. humboldti* ought to have been drawn more or less as in Fig. 21. The authors simply confused the exterior limitation of the pedicel and the upper margin of the hyaline apical membrane of the scape. With this correction, the pedicel, as in all the other specimens examined, is slightly shorter or clearly shorter than the next two joints. In their description the authors do not say anything about any sculpture on the last tergite, but Fabritius (in litt.) told me that there is a longitudinal rugosity in a slight depression medially. Obviously *U. humboldti* and the two specimens from Lund are identical, and I have not been able to find any features of interspecific value, by which I may separate this form from typical *U. depressiventris*. Since the length of the last tergite alone does not suffice to validate the species, I regard *U. humboldti* as a synonym.

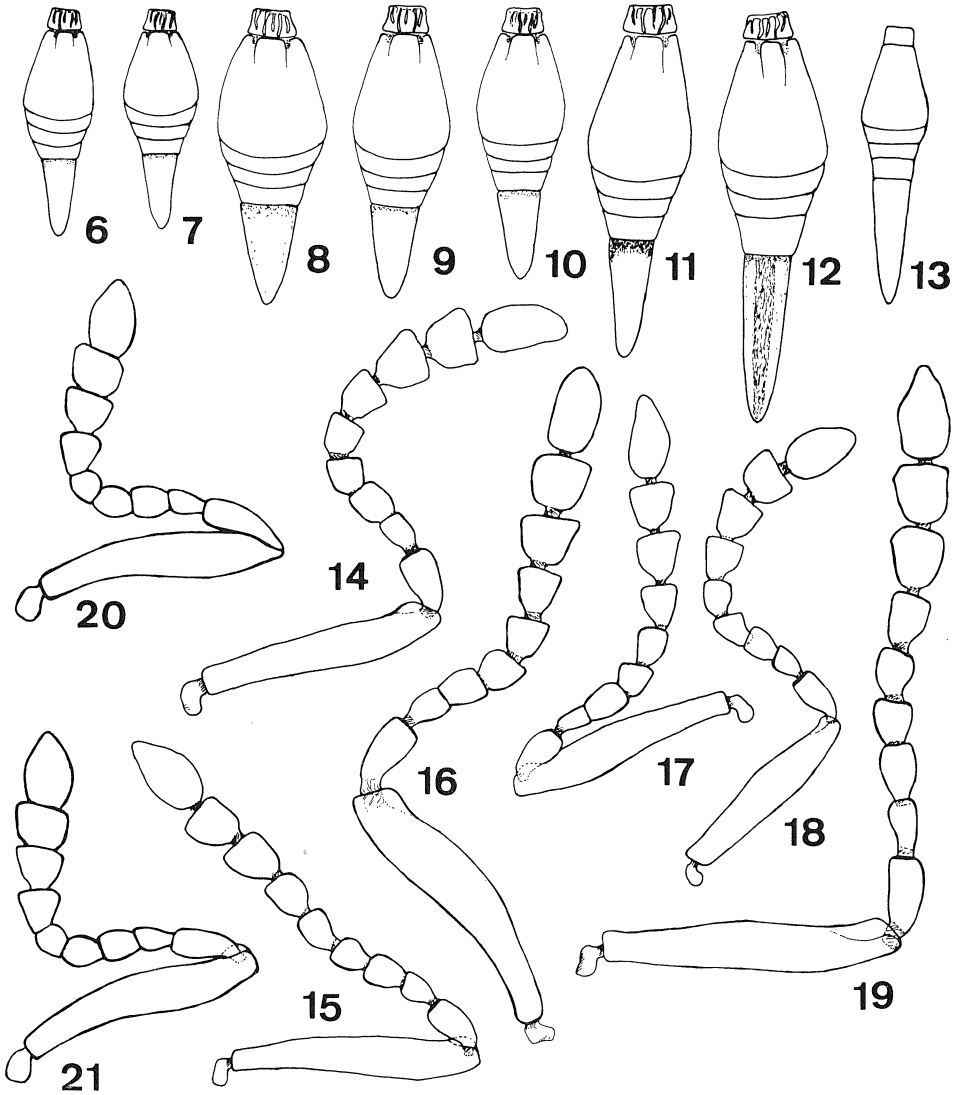
If we believe that the degree of rugosity and length of the sixth tergite are of interspecific value, then *U. roosevelti* and *U. humboldti* ought to have been retained. With our present knowledge, this view cannot be regarded as sound, and I believe that we here have to deal with three local populations. There is perhaps also ecological adaptation involved, demonstrated in the length of the last tergite, i.e., a specimen with a long last tergite may be supposed to oviposit a more inaccessible Cecidomyiid, than one with a shorter last tergite. The French specimen (*U. bettyae*) is identical with the majority of the Swedish specimens, in spite of the geographical distance. This may be explained by the fact that the French specimen was captured on a mountain at rather high altitude (Haute-Loire) "dans la zone forestière du Mont Mézenc parmi les herbes d'une clairière humide". The biotope is almost the same as the Swedish ones (see below) and the vegetation at that high altitude should have some resemblance to the conditions in most of Scandinavia. SW Skåne where Lund is situated, on the other hand, has more affinity to central lowland Europe (nemoral zone; terminology according to Sjörs 1965) than to the remainder of southern Sweden. Most probably the form



Figs. 1—5. *Platygaster* (*Urocyclops*) *depressiventris* Th. — Female in dorsal view (the small specimen from Lund) (1), antenna (2) and fore spur (3). — Male antenna (4) and gaster (5).

from Lund and Roumania is adapted to a host inhabiting this zone with beech woods and is replaced by the typical *U. depressiventris* in the mixed coniferous (boreonemoral) — and coniferous (boreal) forests a.s.o.

The specimens from a given locality are identical in shape and colour, but slight dif-



Figs. 6—21. *Platygaster* (*Urocyclops*) *depressiventris* Th. — Female gaster in *U. bettyae* (6), some specimens from Sweden (7—9), lectotype (10), *U. roosevelti* (11), the large specimen from Lund (12) and *U. humboldti* (13). — Antenna in some specimens from Sweden (14, 15, 17), the large specimen from Lund (16), *U. bettyae* (18), *U. roosevelti* (19), *U. humboldti* (20) and the same after correction (21).
(Figs. 13, 20, 21 after Fabritius et Grelimann, 1972 and not on the same scale as the others. Figs. 20—21 are photographically enlarged and redrawn).

ferences may be seen in specimens from different localities. Among my specimens there is a fairly stout and large specimen from close to the Finnish border in the north with highly infuscate wings and a broad gaster (Fig. 8), but it is interesting to note that there are also specimens from the central and extreme southern parts of the country with dark wings.

When more material from all over Europe

has been studied and we know more about the bionomics, it may prove to be most appropriate to deal with these forms as valid species, especially when males of the different forms have been found, but at the moment there is nothing that supports this view. MacGown and Osgood (1971) e.g. have described *P. mainensis* from U.S.A. reared from the balsam gall midge and in the type series they were able to recognize three rather distinct phena. If these forms had not been reared together, a less critical student would probably have described three species.

It would be of little value to give a comprehensive redescription of *P.* (*U.*) *depressiventris* Th. because the descriptions by Maneval and Debauche are quite good, so I merely wish to stress some features of intraspecific value. Except for the differences mentioned above, the scutellum and frons are slightly flatter in the specimens from Belgium (*U. roosevelti*) and in the larger one of the two from Lund. These differences are due to the fact that these specimens are comparatively large (Dessart, 1972: 10). The large specimen with infuscate wings (see above) is similar in these respects, although it belongs to the typical *U. depressiventris*.

The previously unknown male differs from the female in the following respects (measured from a medium-sized specimen of the typical form):

♂. Length 1.6—2.0 mm. In all respects identical to female regarding colour and sculpture; wings hyaline or fumose.

Antenna (Fig. 4) with scape as long as in female, slightly shorter than the last three joints (50: 53); pedicel and first flagellar joint as in female, but second joint obliquely ovoid, about twice as wide as the preceding one and about 1.4 times as long as wide; flagellar joint three about as in female but somewhat larger (9: 9); fourth slightly longer but narrower (11: 8) and fifth to seventh gradually longer (11—13: 8); last joint much longer and slightly narrower (25: 7) tapering to apex; antenna from apex of second flagellar joint to the last one with rather long erect hairs, almost as long as width of joint — longer than in female.

Gaster of the usual spatulate form and clearly longer than head plus thorax (45: 35); first (petiole) and second tergites as in female; third to seventh equal in length, tapering to apex and about half as long as the second one (22: 46).

Specimens examined:

In coll. Boheman, Riksmuseum, Stockholm.

Lectotype ♀. In bad condition, most of the legs lost or in pieces and the last three joints of the left antenna broken but not lost. Remounted on a card probably by A. Jansson (may actually be holotype), labelled "Rshm 20/6 57" (Rörsjöholm), "Sc" (Skåne), "Thoms", "Type" and bearing my lectotype- and determination labels. — One ♀ in good condition labelled "Hlm" (Stockholm), "Bhn" and with my determination label.

In coll. Thomson, Lund.

One ♀ in good condition but left hind leg and the last three segments of left fore tarsus missing. Remounted by A. Jansson and later also by me on a card. Labelled "Ld" (Lund) and "depressiventris" in Thomson's handwriting, with my determination label. — One ♀ intact, labelled "L-d" and bearing my determination label. Remounted by me on a card.

In the Muséum National d'Histoire Naturelle, Paris.

The holotype ♀ of *U. bettyae* Manev. Intact and labelled "Mt. Mézenc 24-8-33, H. Maneval", "*Paracyclops bettyae* Maneval", "Holotype" and my determination label. The left antenna mounted by me on a microslide, which is on the pin.

In the Institut Royal des Sciences Naturelles de Belgique, Bruxelles.

The holotype ♀ and two paratypes ♀♀ labelled "Héverlé 2.VI.42, Coll. Debauche" and "H. Debauche det. 1942, *Urocyclops roosevelti* Deb." and my determination labels. The left antenna of one of the paratypes on a slide (not seen) and the right antenna of

the other one mounted on a microslide by me — on the pin.

In coll. A. Jansson, Lund.

Närke: Mullhyttan 15.VIII.1955 ♀; Örebro, Oset 26.VI.1940 ♀; Örebro, Östra Mark 21.VI.1938 ♀; Hovsta, Lillån 31.V.1956 ♀, 7.VI.1956 ♀, 2.VII. 1956 ♀, 10.VIII.1955 ♀; vicinity of Örebro 8.VII. 1938 ♀. — Småland: Skillingaryd 4.VII.1941 ♀. — Värmland: Lundsberg 24.VI.1938 3 ♀♀, IX.1941 ♀ (E. Wirén). — Gotland: Bunge VI.1962 ♂ (E. Wirén). (All the others leg. A. Jansson).

In coll. A. Sundholm, Lund.

Blekinge: Rödeby, Göksjöholm 21.VII.1971 ♀; Rödeby, Gagnekulla 16.VII.1957 ♀, 1.VI.1952 ♀, 12.VII.1953 ♀. — Närke: Hovsta, Lillån 10. VIII.1955 ♀; Mullhyttan 15.VII.1953 ♀; Glanshammar, Gäddeby 14.VIII.1955 2 ♀♀. — Västerbotten: Norsjö 5.VII.1956 2 ♀♀. — Norrbotten: Nedertorneå 24.VII.1966 ♀. — Lule lappmark: Vuollerim 27.VII.1958 2 ♀♀. (All leg. A. Sundholm).

In coll. L. Huggert, Umeå.

Bohuslän: Kville 20.VII.1968 ♀. — Småland: Hornsö 13.VI.1970 ♀. — Västerbotten: Bygdsiljum 24.VII.1969 2 ♂♂ 5 ♀♀, 27. VII.1969 2 ♂♂; Hällnäs, Skatan 10.VII.1972 ♂♀. — Lycksele lappmark: Hemavan 1.VII. 1972 ♂♀, 3—6.VII.1972 ♀. (All leg. L. Huggert).

Biology

This species is probably associated with gall midges in marshy localities. Thus I have swept my specimens on swampy meadows close to water or in moist clearings in forests. Some of the localities in Jansson's and Sundholm's material point in the same direction, e.g. "Lillån" (a small stream), "Oset" (a well known swampy shore of Lake Hjälmaren).

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