

## Redescription of the larva of *Siobla ruficornis* (Gimmerthal, 1834) (Hymenoptera, Tenthredinidae) from East Finland

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The larva of *Siobla ruficornis* (Gimmerthal, 1834) is redescribed on the basis of specimens collected in East Finland (PS:Heinävesi) on 14 August 1999. Four larvae were found on *Prunus cerasus* and one on *Rubus idaeus*. Malaise (1932) briefly described ornaments of a larva found on *Epilobium angustifolium* in NE Asia. The habitus of Finnish larvae conforms closely to Malaise's description. Further characteristics are added here and drawings of mouthparts and colour picture of larva are given.

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### 1. Introduction

In August 1929, René Malaise found ca. 20 sawfly larvae in Kamchatka, northeastern Asia, which later proved to belong to a new species, *Siobla sibirica* Malaise, 1932. He also described ornaments of the larva. Larvae were found on *Epilobium angustifolium*. The species has been found in eastern Finland, where it was first misidentified as *Siobla sturmii* (Klug, 1817) (Forsius 1919, Hellén 1935). Kontuniemi (1960) recorded it as *S. ruficornis* Cameron (= *S. sibirica* Malaise) and Viitasaari & Vikberg (1985) merely listed *S. ruficornis* (Cameron 1876). Earlier Gimmerthal (1834) had described a sawfly species from Latvia under the name *Allantus ruficornis*, which according to Taeger (1991) is conspecific with *Siobla ruficornis* (Cameron). Thus, the first author of this species is Gimmerthal, 1834.

### 2. Material and methods

Finnish larvae were collected on 14th August 1999 in eastern Finland (PS: Heinävesi, 693:58). The identification of the genus was based on the key given by Lorenz & Kraus (1957). The habitat was a garden with old apple and cherry trees around a house. The forest of deciduous trees with *Betula*, *Alnus* and *Salix* species skirted the garden to the southern and a low ridge with pine forest in the northern side of the area. The place was rather damp although the nearest lake is situated about one kilometer to the south.

All larvae were found during daytime on the underside of leaves. They were rolled up when resting. Four last instar larvae were sitting on a little *Prunus cerasus*-plant about 80 cm high from the ground and one larva on *Rubus idaeus* at about the same level. Later, when all leaves of *Prunus* had withered, all larvae fed on *Rubus*. Other plants were not offered for food. One last instar larva was prepared by blowing and one preserved in 70–80% ethanol. Three larvae moulted to prepupae. One prepupa was blown and two were put in a small glass jar with fine sand and peat moss (*Sphagnum* sp.). Both prepupae died later in the moss and were put

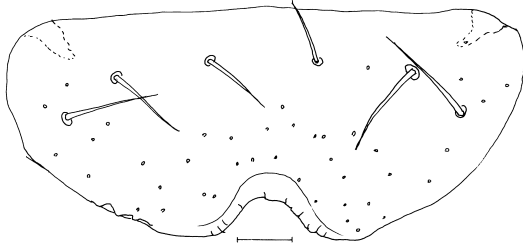


Fig. 1. Labrum from anterior view. Scale 0.1 mm.

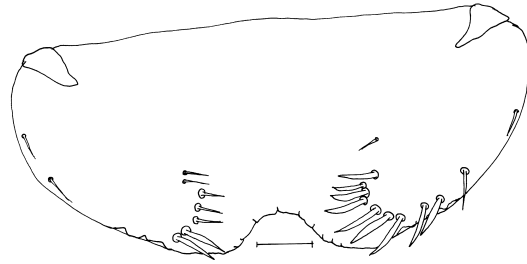


Fig. 2. Setae of epipharynx from posterior view. Scale 0.1 mm.

in ethanol. Terminology follows Viitasaari (in press), the numbering of dorsal annulets is according to Yuasa (1923) as interpreted by Vikberg & Nuorteva (1997).

### 3. Redescription of larva

*Overall description:* The length of the larva varies between 25–30 mm. Head blackish-brown with bluish rim, around coronal suture more brownish, lateral sutures broadly yellowish-brown. Vertex and temples densely covered with numerous minute setae. Black spot around ocellus includes five-segmented antenna, dark brown longitudinal stripe present between this black spot and neck, parietal region narrowly yellowish-grey. Frons dark brown with greyish borders and with ca. 30 setae, yellowish grey spot on adfrontal area. Clypeus pale grey with small dark brown spot and 2 setae on each half. Labrum is symmetrical bearing 3 rather long setae on each lobe (Fig. 1). Epipharynx with row of 11 setae and one weak additional seta on right side and row of 7 setae and two weak lateral setae on left side (Fig. 2). Mandibles with 2 setae, asymmetrical, there are 5 teeth on cutting margin and two ridges with low inner tooth on first ridge on inner surface on left side but only four apical teeth and strongly developed inner tooth on right side (Figs. 3–4). Maxilla: cardo with 1 seta, stipes 2, palpifer with 6 setae, 1st segment of maxillary palpus without setae, 2nd with 1 long seta, 3rd with three minute setae on apex and 4th without setae (Fig. 5). Submentum with 4 short basal and 1 lateral seta on each side, praementum with 3 basal setae, of

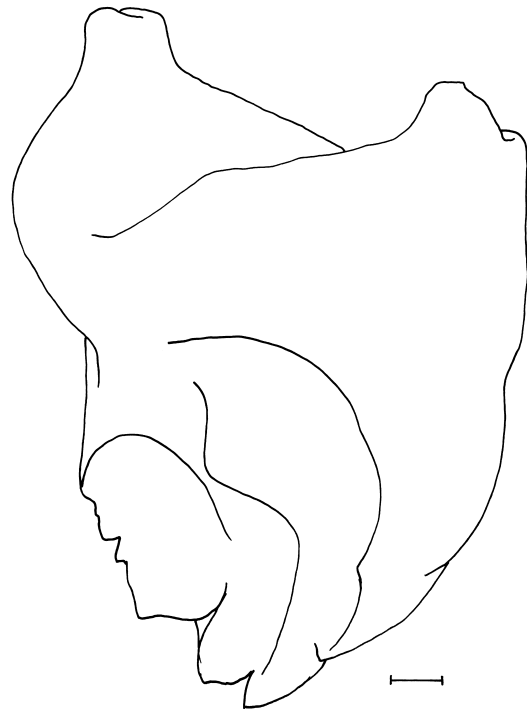


Fig. 3. Inner surface of left mandible. Scale 0.1 mm.

which 1 very short microseta and 3 apical setae. Galea is stout, granulose apically but without setae or spines, lacinia with a row of 17 sensilla trichodea (Fig. 5). There are weak microtrichia on distal region of hypopharynx above bilobed totaglossa and stouter, conical microtrichia on two lateral lobes of posterior region, shallow medial transverse cleft present between regions (Fig. 6).

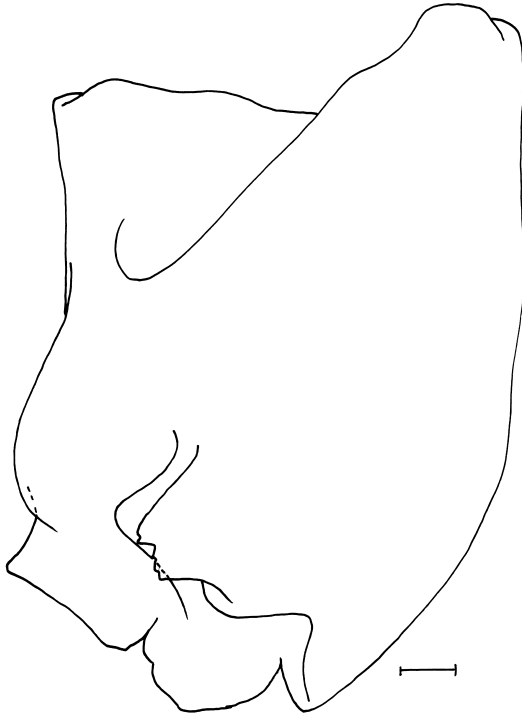


Fig. 4. Inner surface of right mandible. Scale 0.1 mm.

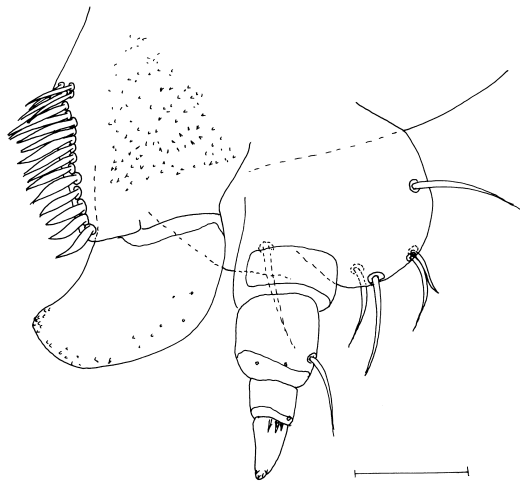


Fig. 5. Left maxillary palpus, stipes, galea and lacinia from anterior view. Scale 0.1 mm.

2 setae present on 2nd segment of labial palpus.

*Trunk:* Long and large spines are present on 3rd (called here as D1) and 5th (D2) annulets, arising from enlarged orange spot. They are white



Fig. 6. Hypopharyngeal complex dorsally. Scale 0.1 mm.

with orange basal part, apex of D2 is black. D1-spines are shorter than D2 and present only on 1st–10th abdominal segments, D2 spines occur from 1st thoracic segment to 9th abdominal segment. Middorsal line white, continuous, narrow, but slightly enlarged segmentally cephalad from D1 spines, it is bordered by orange spots on 1st–3rd annulets and by black transverse spots on 4th–7th annulets. 2–4 black or blackish-brown spots are present on each annulet of dorsal and subdorsal zones of body, those of 3rd and 4th annulets are enlarged ventrad from D1-spines and dorso-caudad from spiracle (Fig. 7). Ground colour of



Fig. 7. 3rd abdominal segment from lateral view. Black spots refer to dark colour spots of larva. Scale 1 mm.

dorsal and subdorsal zones of larva is white or whitish-grey. Spiracles are dark-brownish, spiracular area grey, pre- and postspiracular area white forming a white spiracular line, surpedal lobe with dark brown longitudinal stripe. Ventral zone of larva and abdominal prolegs whitish grey. Prehy-popleurite of thoracic legs with dark brown spot, other part of legs pale yellowish-brown.

**Thorax:** Microsculpture of skin densely spinulate. Lobes rather shallow, subspiracular lobes more prominent, D2-spines long. Legs five-seg-mented, mesotibia with ca. 15 setae.

**Abdomen:** With prolegs on 2nd–8th and 10th segments. Skin spinulate. Third abdominal seg-ment with 7 dorsal annulets, large dorsal spines on 3rd and 5th annulets, spiracles on 3rd annulet.



Fig. 8. Larva of *Siobla ruficornis* resting on the underside of a leaf of *Rubus idaeus*.

3rd annulet with 8 weak setae on base of D1-spine and 7 on D1-spine, 4th annulet with 5 setae on postspiracular lobe, 5th annulet with 4 weak setae above D2-spine, 6 on D2-spine and 6 on postspiracular lobe. Other annulets without setae. There are two groups of setae on pleural zone, subspiracular lobe bears ca. 12 weak setae and surpedal lobe ca. 14 rather weak setae. Abdominal prolegs with 5 setae on inner surface, outer surface bare. 9th abdominal segment with 5 dorsal annulets. Anal shield apically rounded, covered with short weak setae, suranal and subanal lobes with numerous stouter setae.

Praepupal stage blackish grey without large dorsal spines.

#### 4. Discussion

The large dorsal spines are characteristic of the larvae of *Siobla*. The host plant of the species seems to vary. According to Lorenz & Kraus (1957), the larvae of the central European species *S. sturmii* feed on leaves of *Impatiens nolitangere* L. (Balsaminaceae). Malaise (1932) found larvae of *S. sibirica* (= *ruficornis*) on *Epilobium angustifolium* L. (Onagraceae). Finnish larvae of *S. ruficornis* were found on *Prunus cerasus* L. and *Rubus idaeus* L., both of which belong to the family Rosaceae (Fig. 8). Most species of sawflies are monophagous or oligophagous, and it is rare that plants belong to different families (Kontuniemi 1951, Viitasaari 1982). Therefore, it may be possible that larvae living on *Epilobium* are not conspecific with those on Rosaceae, although

some species of Tenthredininae are apparently polyphagous. Also, it is well known that different populations of herbivorous insect species can be specialized on different host plant species. However, according to Malaise's description there are no differences in habitus, except the form of the black spots on dorsal zone. However, variation like this is typical between specimens. Morphological differences remain unknown between Asian and European populations. Since the rearing was unsuccessful, comparison of adult stages was impossible. Based on adult characteristics, the genus *Siobla* is recently placed in a different subfamily than other genera of Tenthredinidae found in North-Europe (Lacourt 1997). Some larval characteristics support this view, e.g. palpifer with 6 setae, totaglossa bilobed with microtrichia above it and on distal region of hypopharynx, abdominal prolegs with 5 setae on inner surface at the base of apex but outer side bare, strong dorsal spines D1 and D2 present on 3rd and 5th annulets (probably synapomorphic character for Sioblinae) and 3rd and 5th annulets of 3rd abdominal segment with weak setae.

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