

The redescription of *Coleophora carelica* Hackman (Lepidoptera, Coleophoridae)

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The redescription of *Coleophora carelica* Hackman 1945 is given. Hitherto unknown host plants *Achillea millefolium* L. and *Artemisia vulgaris* L. are recorded. The larval case is described for the first time and the known distribution is mapped.

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1. Introduction

Coleophora carelica was described as a new species by Hackman (1945) based on 15 males collected in 1942 by V. Karvonen in eastern Karelia, Vaaseni, by the River Svir. The habitat was Soviet territory and there is no information available regarding possible collecting activity from that region after the war.

A new species related to *C. carelica* was described as *C. baltica* (Toll 1952) based on a single female. The specimen was caught in Latvia, Amata, in August. The year and more detailed information about the location are not reported in the article. Later this species was confirmed as a junior synonym of *C. carelica* (Baldizzone 1986).

2. Adult

Hackman (1945) records that *C. carelica* resembles *C. silenella* var. *graminicolella* (= *C. graminicolella* (Heinemann & Wocke, 1877)).

The forewings, which are covered quite richly by dark scales, are yellowish grey with white

stripes. The costal stripe, which is rather broad, has a sharp edge. The stripe extends throughout the whole length of the wing. The head and neck are whitish. The antennae are white with rather inconspicuous brown rings. Large species have a wing span of about 14 mm (Fig. 1).

3. Genitalia

The determination of *C. carelica* can be verified by examining the genitalia. Both the male and the female genitalia can hardly be confused with the genitalia of any other *Coleophora* species (Figs. 2, 3 and 4).

The genitalia, which are very characteristic in *Coleophora* males, can also be examined without preparing a slide for microscopic studies. The scales and hair should be carefully brushed off dry specimens. If they are recently caught, the abdomen should be carefully squeezed with tweezers in front of the last segment, thus revealing the genitalia which can then be examined under the microscope. This is a very dexterous and quick method of determining the species (Fig. 5).



Fig. 1. *Coleophora carelica* Hackman (Latvia, Saule, 19.VI.1989).

4. Biology

The suspicion that *Achillea millefolium* L. is the larva's foodplant was proved correct when I. Šulcs

and N. Savenkov found larval cases in Latvia. Subsequently the larvae have occasionally been found on *Artemisia vulgaris* L by I. Šulcs. The larva mines on the underside of the leaves. The mine is typical of *Coleophoridae*. Larvae have been found in the middle of June and only in the last instar. Thus the earlier stages, in addition to the stage in which the hibernation takes place, remain obscure. Pupation takes place around 20–25 June in Latvia and the pupa is attached to a leaf or the stem of the foodplant.

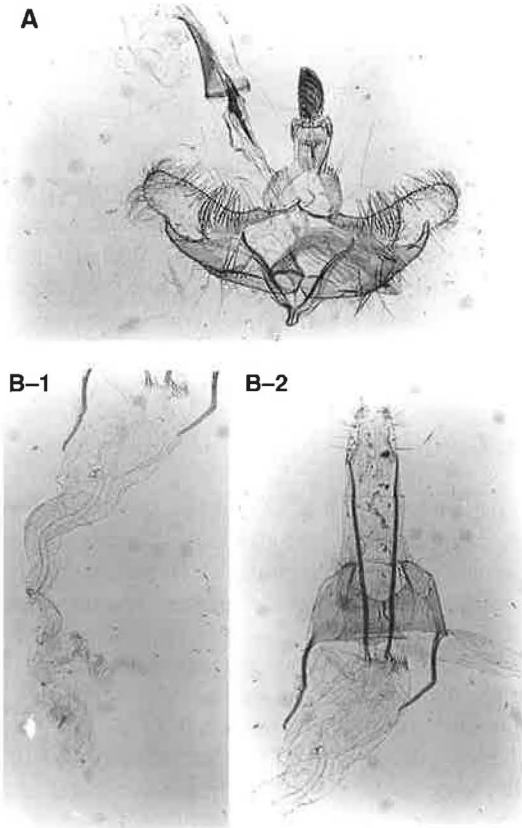


Fig. 2. — A: Male genitalia. Slide no. 1832/89 B. Wikström. Latvia, Saule, ex larva, 1989, I. Šulcs leg. — B: Female genitalia. Slide no. 1830/89 B. Wikström. Latvia, Saule, ex larva, 1989, I. Šulcs leg.

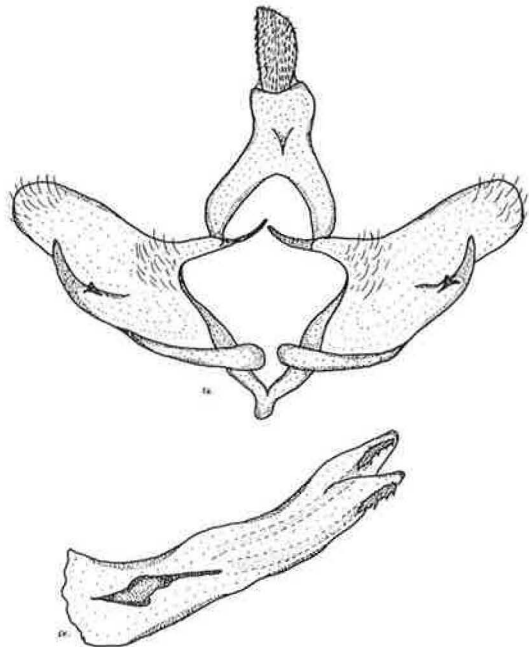


Fig. 3. Male genitalia of *Coleophora carelica* Hackman.

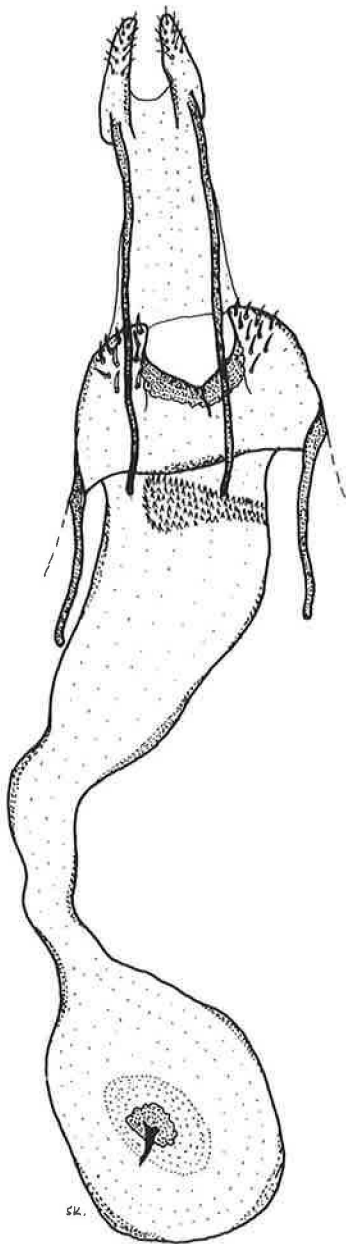


Fig. 4. Female genitalia of *Coleophora carelica* Hackman.

C. carelica is a very late *Coleophora* species, occurring as imagines from the last few days of July and until mid August. The flight period is the same in Finland and Latvia.

The larval case very closely resembles that of *C. expressella* Klemensiewicz, 1883, being covered with whitish silk (Fig. 6). The case is, however, much shorter than that of *C. expressella* and surprisingly short for such a large species.

Fig. 5. Outer male genitalia of *Coleophora carelica* Hackman. The scales and hair have been removed by brushing.

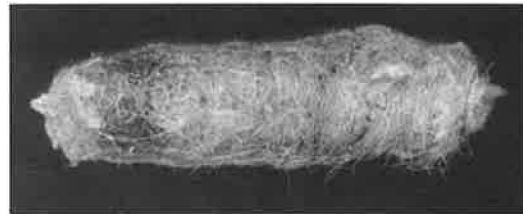
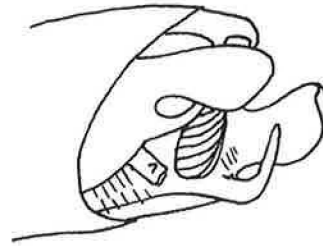


Fig. 6. The last instar larval case of *Coleophora carelica* Hackman. Latvia 1989, I. Šulcs leg.

5. The distribution

Nine specimens have been caught by light traps in Finland: *N*: Hanko, Tvärminneby, 664:28, 3–9.VIII.1980, 1 m, I. Kontuniemi leg.; Helsinki, Isosaari, 666:39, 29.VII.–6.VIII.1983, 1 m, E. & L. Laasonen leg.; *Ka*: Virolahti, 671:53, 11.VIII.1974, 1 m, R. Teriaho leg.; Virolahti,



Fig. 7. The known distribution of *Coleophora carelica* Hackman. 1 = Helsinki (Finland), 2 = Hanko (Finland), 3 = Virolahti (Finland), 4 = Vaaseni (Russia), 5 = Roja (Latvia), 6 = Inciems (Latvia), 7 = Amata (Latvia), 8 = Saule (Latvia).

671:53, 6–11.VIII.1983, 1 m, L. Löfgren leg.; Virolahti, 671:53, 5–10.VIII.1983, 3 m, L. Löfgren leg.; Virolahti, 671:53, 29–30.VII.1984, 1 m, J-P. Kaitila leg.; Virolahti, 671:53, 2–10.VIII.1985, 1 m, L. Löfgren leg.

In spite of quite intensive searching, no larval cases have been found in Finland.

In the 1980s there were many records of *C. carelica* in Latvia and the species has also been reared from several dozen larvae, both male and female.

The map (Fig. 7) shows the known distribution of *C. carelica*. It is quite obvious that the species may occur at least in Estonia and the St. Petersburg region.

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