

Elachista leifi sp. n. from northern Finland (Lepidoptera, Elachistidae)

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Elachista leifi sp. n. is described from material collected in Kuusamo, northern Finland. It is a very large species resembling *E. kilmunella* Stainton, *E. parasella* Traugott-Olsen and *E. eskoi* Kyrki & Karvonen. The species occurs on open bogs, swarming early in the morning at sunrise. The systematic position of *E. leifi* is discussed.

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The family Elachistidae has recently been actively studied in northern Europe. Twelve species have been described as new from this region during the last two decades (Schantz 1971, Traugott-Olsen 1974, Svensson 1976, Bengtsson 1977, Traugott-Olsen & Nielsen 1977, Kyrki & Karvonen 1984, Traugott-Olsen 1990). Despite this, the very complicated *E. bifasciella* -group (*sensu* Traugott-Olsen & Nielsen 1977) still appears to include undescribed taxa. Here we describe one new species belonging to this group. The new species lives on open bogs in the northern parts of Fennoscandia.

Elachista leifi sp. n.

Type material: Holotype ♂, Finland 736:61 Ks: Kuusamo, Hangasrimpi 7.7.1985 J. Jalava leg., L. Kaila prep. no. 422 in the Zoological Museum, University of Helsinki, Finland. Paratypes: 21 males from the same locality and same date, J. Jalava, S. Kerppola and L. Löfgren leg., L. Kaila prep. no. 274, 276, 280, 400, 401, 471. The paratypes have been deposited in the Zoological Museum, University of Helsinki, Finland, and in private collections of the collectors of the material.

Additional material: Finland 761:55 Li: Inari 3.7.1979 2♂♂ E. Laasonen leg. (L. Kaila prep. no. 472, 473), 754:36 LKem: Muonio 10.–13.7.1986 2♂♂ H. Holmberg leg. (L. Kaila prep. no. 475, 476), Ks: Posio, Riisitunturi 4.7.1979 “AMI” leg., Ks: Kuusamo, Korvasvaara 736:61 8.7.1985 2♂♂ I. Kontuniemi leg. (L. Kaila prep. no. 504, 505). — Russia: Kola Pns, Apatity 17.7.1991 9♂♂ J. Jalava leg., 18.7.1991 1♂ A. Lvovsky leg., Kola Pns, Monchegorsk 15.7.1991 5♂♂ A. Lvovsky leg.

The species is named after the late Mr. Leif Löfgren, who had a great impact on our knowledge of Finnish Microlepidoptera. He also collected 12 of the paratypes.

Diagnosis

A very large species. Forewings dark grey, with slightly mottled appearance. Costal and tornal spots white, distinct and normally separate. Inner fascia does not reach costa (Fig. 1). Habitus closest to *E. kilmunella* Stainton, 1849. *E. leifi* can be separated from that species by the much larger size and the more elongated and tapered forewings with more distinct white markings. *E. leifi* can be separated from *E. eskoi* Kyrki & Karvonen, 1984, which is of the same size, by

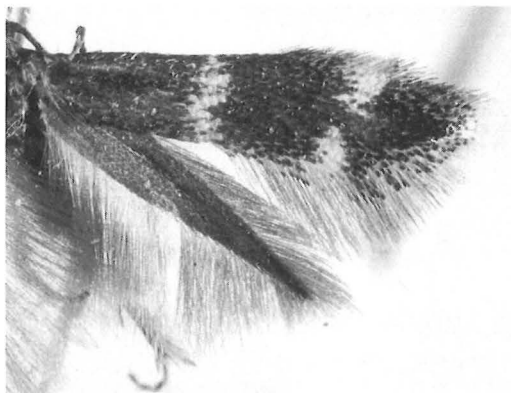
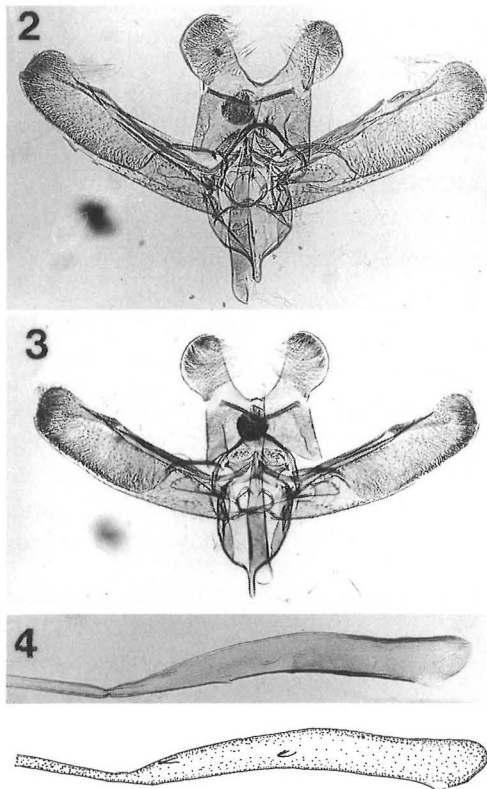


Fig. 1. *Elachista leifi* sp. n., habitus (holotype).

the costal spot being triangular and broader on the costa. The biotopes of these two species also differ: *E. eskoi* lives on moist meadows particularly on sea shores, whereas *E. leifi* lives on open bogs. *E. parasella* Traugott-Olsen, 1974 s.str., is smaller, with narrower forewings. The base colour of that species is lighter grey, costal and tornal spots fused, forming an angle outwards in the middle, inner fascia also forming an angle outwards. Inner fascia of *E. leifi* is almost straight. Male genitalia of *E. leifi* (Figs. 2–5) resemble generally those of *E. kilmunella*. In the vesica *E. leifi* has two cornuti, which are slightly larger than the single cornutus of *E. kilmunella*. Uncus lobes are generally slightly broader and more rounded than in *E. kilmunella*. The U-shaped indentation between the uncus lobes is broader in *E. kilmunella*. The inner side of the juxta lobes is less rounded in *E. leifi*, often forming an angle with the upper margin, that of *E. kilmunella* being more rounded (Figs. 5 and 6). *E. parasella* can be separated from *E. leifi* by larger and sharper cornuti in aedeagus, more rounded cucullus of valva and smaller gnathos. *E. eskoi* can easily be separated from *E. leifi* by the two large, curved cornuti in the aedeagus.

Description

Male. Forewing length 5.0–6.0 mm. — Head dark grey, variably mottled with slightly paler scales. Neck tufts grey. Labial palpi grey with



Figs. 2–4. Male genitalia of *Elachista leifi* sp. n. — 2: holotype, L. Kaila prep. no. 422. — 3: paratype, L. Kaila prep. no. 401. — 4: aedeagus (paratype, L. Kaila prep. no. 280).

upper side, at least at tip of second segment, more or less whitish. Antennae uniformly dark grey. — Tegulae grey, often with some whitish scales. Scales covering thorax grey with dark grey tips. Abdomen dorsally grey, laterally with ochreous tint, ventrally light grey. Anal tufts light ochreous grey. Legs grey, with large yellowish patch on middle of mid and hind tibia. Tarsal segments with yellow distal rings. — Forewings dark grey. Scales dark tipped giving a slightly mottled appearance. Inner fascia white, almost straight, narrowest in middle of wing, not reaching costa. Costal spot distinct and elongate, white, closer to apex of wing than to inner fascia. Form and size of the opposite tornal spot variable, normally elongate, not reaching costal spot. On the tip of forewing a light ochreous tint. Cilia

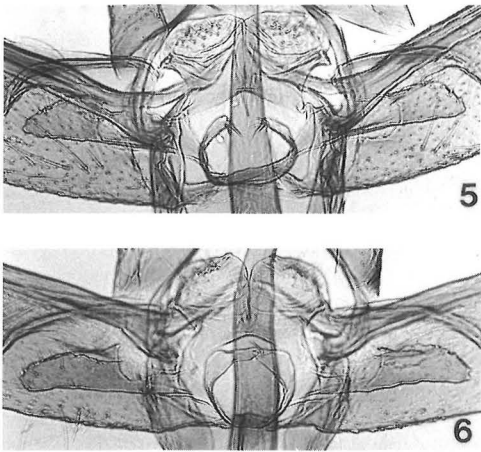


Fig. 5–6. Juxta lobes and digitate process. — 5: *Elachista leifi* sp. n. (paratype, L. Kaila prep. no. 401). — 6: *E. kilmunella* Stt. (Finland, N: Sibbo, Stormossen 66877-8:413-4 21.–27.6.1987 A. Albrecht leg., L. Kaila prep. no. 415).

whitish with ochreous tint, with distinct black cilia line. Hindwings uniformly grey, with cilia of the same colour. — Male genitalia. Uncus with deep and rather narrow U-shaped indentation, lobes rounded, but inner side straight. Gnathos large, rounded. Valva almost straight, slightly widening towards the end. Hump of costa smoothly rounded. Cucullus slightly rounded. Sacculus projecting into a small, often indistinct or almost rounded spine. Digitate process rather broad, with almost parallel sides. Juxta lobes broad, apically rounded. Inner side straight. Vinculum with rather indistinct medial ridge. Saccus rather short and slender. Aedeagus slightly curved at base, where it is broadest, tapering distally to square-ended opening. Two weak arrow-shaped cornuti, one of them broad, the other narrow and sharp.

Female unknown.

Biology

The type series has been collected on an open bog. The main vegetation consisted of *Carex* spp., with scarce *Eriophorum vaginatum*. The

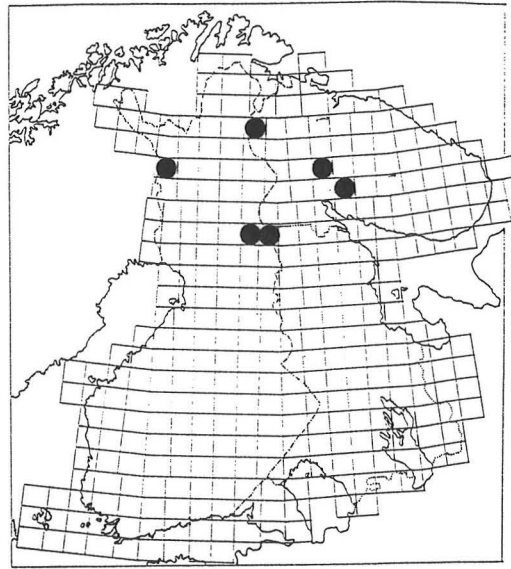


Fig. 7. Distribution of *E. leifi* sp. n.

series, containing only males, was collected after a cold night, when the temperature had been below freezing point, in the morning at 0300–0400 h just after sunrise. All specimens were found in free flight. Because of the wet vegetation female specimens could not have been collected with the sweeping method.

Very probably the swarming time can be used as a diagnostic character for distinguishing *E. leifi* and *E. kilmunella* in the field. In Apatity, Kola Peninsula, *E. leifi* was similarly collected only at sunrise in the morning, whereas the closely related *E. kilmunella* was found in the afternoon (J. Jalava and A. Lvovsky, pers. comm.).

The immature stages of *E. leifi* are still unknown. We suggest that the probable food plant of the larva is some *Carex* sp., as these were the dominant vascular plants in the swarming place. *Eriophorum vaginatum*, which is the food plant of *E. kilmunella*, was rather scarce in that locality.

Distribution

The type series of *E. leifi* has been collected in Kuusamo, northern Finland (Fig. 7). In addition, the species has also been found in Li: Inari,

*L*Kem: Muonio and *Ob*: Posio in northern Finland. It has also been found in Russia, Kola peninsula, near Apatity.

Systematic position

The genus *Elachista* has been divided into species groups and subgroups (Traugott-Olsen & Nielsen 1977). *E. leifi* clearly belongs to the *E. bifasciella* group. This group has been further divided into three subgroups (Traugott-Olsen & Nielsen 1977). As these subgroups seem rather artificial to us, we shall not follow this classification. The closest relatives of *E. leifi* seem to be *E. kilmunella* and the *E. parasella* Traugott-Olsen complex, which apparently includes more than only one known species in northern Fennoscandia. As the female of *E. leifi* is unknown, the systematic position of this species cannot be verified yet.

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