Ephedrus (*Ephedrus*) *koponeni* sp. n. from Finland (Hymenoptera, Braconidae, Aphidiinae)

Jussi Halme

Halme, J. 1992: *Ephedrus* (*Ephedrus*) *koponeni* sp. n. from Finland (Hymenoptera, Braconidae, Aphidiinae). — Entomol. Fennica 3:113–116.

A new *Ephedrus* species is described. It is related to *E. cerasicola* Stařy and *E. vaccinii* Gärdenfors. The host is *Elatobium abietinum* (Walker) on *Picea abies.*

Jussi Halme, Keltakankaantie 31, SF-46860 Anjalankoski, Finland

Ephedrus (Ephedrus) koponeni sp. n.

Type material (all from Finland). Holotype ♀ *N*: Nurmijärvi (6715:375) 12.9.1981 (M. Koponen leg.). — Paratypes (4♂♂ 15♀♀) from *N*: Porvoon mlk. (= Porvoo rural mun.) (6694:436) 3.6.1982 1♀ (M. Koponen), Sipoo (6687:407) 3.6.1982 1♀, Vantaa (6682:397) 16.8.1982 1♀ (M. Koponen); *St*: Säkylä (6768:244) 16.6.1982 2♀♀, (6774:254) 18.6.1982 1♀, Yläne (6762:256) 19.6.1982 1♀ (M. Koponen); *Ta*: Janakkala (6743:371) 30.5.1982 1♀ (M. Koponen); *Sa*: Ristiina (6826:502) 6.8.1978 1♀, (6826:501) 16.8.1980 1♀ (M. Koponen). — Reared from *Elatobium abietinum*: *N*: Helsinki (668:39) 26.7.1977 1♀, Tuusula (669:39) 29.7.1977 1♀, Espoo (668:37) 30.7.1977 4♂♂ 2♀♀ and *Sa*: Valkeala (678:50) 4.9.1977 1♀ (J. Halme leg.).

Location of types is Department of Agricultural and Forest Zoology. University of Helsinki (DAFZ). Allotype ♂, 3♂♂ and 5♀♀ in coll. Halme.

The specific name is in honour of Mr. Martti Koponen, who collected most of this as well as a lot of other peculiar aphidiid species.

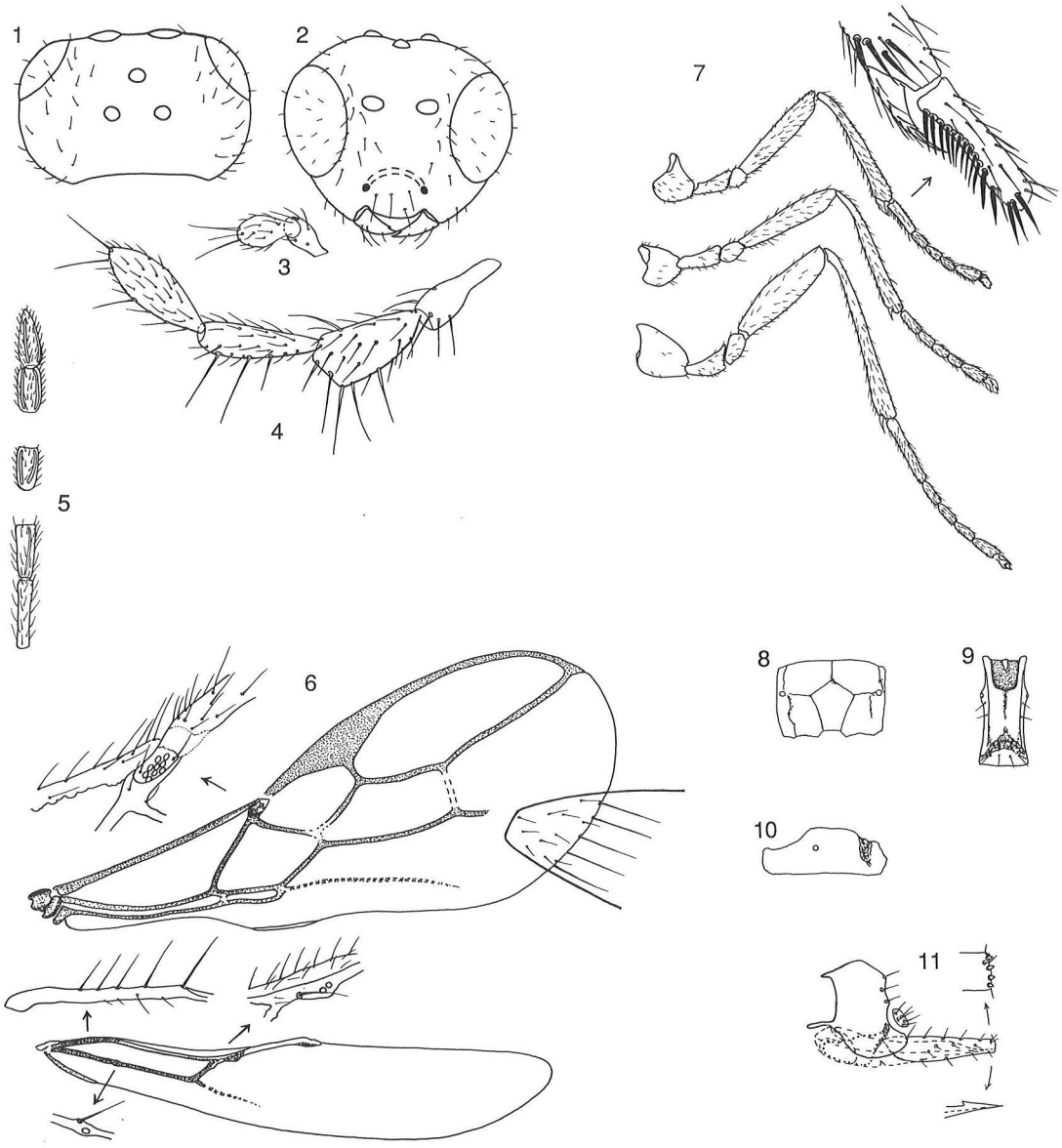
Diagnosis

Female. The new species differs from *E. cerasicola* Stařy, 1962 in having pedicel from brown to testaceous, F_1 from basally to totally testaceous, F_2 with 0–2 rhinaria, F_2–F_9 greyish brown, coxae and petiole brown, basic colour of legs testaceous, 2nd–3rd abdominal tergites medially transparent and ovipositor sheat slender. From *E. vaccinii* Gärdenfors, 1986 it differs in having tentorial index 0.6–0.7, scape brown, pedicel from brown to testaceous, annellus testaceous, F_1 from basally to totally testaceous, F_2 with 0–2 rhinaria, F_2–F_9 greyish brown, coxae brown and petiole brown. From *E. plagiator* (Nees, 1811) it differs in having F_1 boneshaped, 4.3–5.3 times as long as wide, always more or less testaceous.

Male. In the key by Gärdenfors (1986) the male runs to couplet 11. It differs from the allied species in having F_1 2.7–3.0 times as long as wide, with 1–2 rhinariae and 1.06–1.07 times as long as F_2.

Description of holotype female

Head transverse (Fig. 1), smooth, shiny, sparsely hairy. wider than thorax at tegulae (42:27), as wide at temples as at eyes; ocellar triangle acute, equal sided. Eyes not emergent from head capsule, small, oval (10:7), sparsely short haired. Face (Fig. 2) with sparse long hairs, tentorial index 0.70, gena as wide as 1/3 of longitudinal eye diameter, temple equal to transverse eye diameter, insertion point of antennae above the middle level of eyes. Clypeus with 4 long hairs. Mandible bidentate, palpus labialis (Fig. 3) 2-segmented, palpus maxillaris (Fig. 4) 4-segmented. Antenna (Fig. 5) 11-segmented, filiform, slender, feebly thickened to the apex, reaching



Figs. 1–11. *Ephedrus koponeni* n. sp., ♀, Finland. 1, vertex; 2, facies; 3, palpus labialis; 4, palpus maxillaris; 5, flagellar segments F_1–F_2, F_5 and F_8–F_9 of antenna; 6, wings; 7, legs; 8, propodeum; 9, first metasomal tergite dorsally; 10, first tergite laterally; 11, female genitalia.

the end of the first abdominal tergite. The first flagellar segment (= F_1) 4.5 times as long as wide at apex, bone-shaped, 1.2 times as long as F_2, hairs on F_1 and F_2 semierect, slightly longer than segment diameter, F_5 and F_8 2.3 times as long as their width, F_9 2.3 times as long as wide at base, hairs on F_5–F_9 shorter than segment diameter, preapical and apical segments distinctly separate, apical segment gradually acuted towards apex. F_1 with 0, F_2 with 1 and F_3 with 2 rhinaria.

Thorax smooth, shiny, sparsely hairy. Mesoscutum vertically descending to pronotum when seen from side. Notaulices distinct in the ascendent part, rugose, feebly indicated on the disc. Mesoscutum with sparse long hairs at base and along the effaced notaulices. Fore wing (Fig. 6) with pterostigma 4.0 times as long as wide, first radial abscissa shorter than the width of pterostigma, second radial abscissa 1.3 times as long as first interradial vein, hairs on external margin 2.5–3 times as long as hairs on membrane. Hind wing (Fig. 6) with complete basal cell. Legs (Fig. 7) normal, hairy; hairs adpressed, on femora and tibiae shorter than maximal width of segment; cleaning-apparatus with 12-toothed comb. Propodeum (Fig. 8) carinated, area centralis narrow, discs of areolae smooth, anterior areolae with 1–2 hairs, posterior areolae hairless.

Abdomen lanceolate, smooth, shiny, sparsely hairy. First tergite (Fig. 9) almost parallel sided, 2.3. times as long as wide at spiracles, spiracular tubercles prominent, dorsilateral longitudinal carinae complete, central longitudinal carina well developed but only feebly indicated in its posterior part, deep dorsilateral impressions in the hind third before apex, small rugosities close to carinae, profile of tergite high (Fig. 10). Genitalia (Fig. 11) with slender ovipositor sheath.

Colouration: Antenna brown, annellus and basal 1/4 of F_1 testaceous, F_9 gradually infuscating towards apex. Head black, clypeus brown, mouthparts (except dark apices of mandibles) dark brown. Thorax black. Tegulae brown, wings somewhat infuscated, venation light brown. Legs brownish testaceous, coxae brown; femora, tibiae and apexes of tarsi darkened. First tergite of abdomen brown, second and third tergites medially transparent, the rest of abdomen brown; ovipositor sheath basally light brown and apically brown.

Length of body 1.7, antenna 1.0, fore wing 1.5 and fore leg 1.0 mm.

Variation in females

Head 1.52–1.75 times as broad as long, 1.30–1.55 times wider than thorax at tegulae. Eye (diameters) 1.23–1.54 times as long as broad. Facial line 1.19–1.47 times as long as transfacial line, tentorial index 0.6–0.7, clypeus with 4–6 hairs. F_1 4.3–5.3 times as long as wide at apex, 1.1–1.3 times as long as F_2. F_5 2.0–2.6 times as long as wide. F_8 2.0–2.8 times as long as wide. F_9 2.2–3.0 times as long as wide at base. Number of rhinaria in F_1 0 (seldom 1), F_2 0–2 and F_3 2–4.

Pterostigma 3.9–5.1 times as long as wide, second radial abscissa 1.16–1.50 times as long as first interradial vein. Propodeum with central carina usually double, anterior areolae with 1–3 hairs and posterior lateral areolae with 1–2 hairs. Legs with fore femur 0.21–0.28, fore tibia 0.24–0.33, fore tarsus 0.23–0.32, middle femur 0.20–0.32, middle tibia 0.25–0.36, middle tarsus 0.23–0.33, hind femur 0.21-0.32, hind tibia 0.33–0.48 and hind tarsus 0.34–0.50 mm.

Petiolus 1.8–2.5 times as long as broad at spiracles, central longitudinal carina on average weaker than dorsilateral longitudinal carinae, spiracular tubercles from small to prominent.

First flagellar segment usually testaceous, sometimes gradually infuscated towards apex. Colour of body and legs equal in the selected type individuals.

Length of body 1.4–1.9 mm.

Variation in males

Allotype similar to holotype, excluding the sexual differences.

Variation of males (4 specimens in fresh slides). F_1 with 1–2 rhinaria, 2.7–3.0 times as long as wide, 1.06–1.07 times as long as F_2. F_2 with 2 rhinaria. Length of F_1 per width of F_7 2.7–3.0. F_7 1.7–1.8 times as long as wide.

Habitat and host

Habitat is usually mixed forest by wetlands.

The host of the swept type material is unknown. The author has reared this species from *Elatobium abietinum* (Walker) on *Picea abies.* M. Koponen has obtained 1♀ from Christmas spruce. The known *Ephedrus* parasitoids of *Elatobium* are restricted to one species: *E. plagiator* (Nees) (Gärdenfors 1986). It is possible that some or all of the *E. plagiator* records from *Elatobium* really belong to the new species. This is due to the largely overlapping size of body between the new species and *E. plagiator,* which permits spurious assumptions. My culture of E. *plagiator* on *Macrosiphum rosae* (Linnaeus) (coll. Halme) includes some individuals small enough to be

compared directly with the new species. In *E. plagiator* females the first flagellar segment becomes more slender as the body decreases in size. This is just the opposite to Gärdenfors' conclusion (1986:21). However, the transformed F_1 is different in *E. plagiator* and the new species. In lateral view F_1 of small *E. plagiator* is cylindrical or cylindrical with a slight ventral constriction in the basal third, 3.9–4.8 times as long as wide, always dark. In the new species F_1 is bone-shaped, 4.3–5.3 times as long as wide, always more or less testaceous. The number of rhinaria in F_1 is 2–4 in small *E. plagiator,* but usuallly 0 in the new species. Small *E. plagiator* males differ from the new species in having deeper ventral impressions in F_2–F_3 and more rhinaria in F_1 (at least 4).

Distribution

Northern Europe (Finland). Besides type material 1♂ and 8♀♀ have been determined from *Ab*: Halikko (6703:274) 18.9.1981 1♀ (M. Koponen), Vihti, Siikajärvi 30.6.1963 1♀ (V. J. Karvonen); *N*: Espoo (6692:370) 25.7.1983 1♀, Hyvinkää (6723:377) 1984/1985 from Christmas spruce, Nurmijärvi (6708:378) 5.9.1984 3♀♀, (6715:376) 21.6.1975 1♀ (M. Koponen); *Sa*: Ristiina (6826:502) 29.7.1985 1♂ (M. Koponen leg.).

Acknowledgements. I am indebted to Mr. Martti Koponen for assisting me in publication, and to Dr. Ulf Gärdenfors for critical comments on the manuscript.

Reference

Gärdenfors, U. 1986: Taxonomic and biological revision of Palearctic Ephedrus Haliday (Hymenoptera: Braconidae, Aphidiinae). — Entomol. Scand., Suppl. 27:1–95.

Received 4.VI.1991