

Revision of the genus *Alophosternum* Cushman with a new species from Japan (Hymenoptera: Ichneumonidae, Pimplinae)

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Abstract: The Holarctic genus *Alophosternum* is revised. *A. foliicola albofacialis* Kasparyan, 1981 is raised to species level, and is reported for the first time from Central Europe (Austria). *A. nigricoxis* spec. nov. is described from Japan. An illustrated key to the females is given.

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Introduction

The Holarctic genus *Alophosternum* Cushman, 1933 (Pimplinae, Ephialtini) consists of ectoparasites of leaf-mining larvae. The genus is easily recognised by the absence of the prepectal carina and the absence of the middle part of the strongly downward dipping occipital carina (Townes 1969: 63). Nevertheless, it was not until 1981 that the first specimen from Europe was recorded (Kasparyan, 1981) from the Leningrad region. This specimen was described as the new subspecies *albofacialis* Kasparyan, 1981 of the only known *Alophosternum* species, *A. foliicola* Cushman, 1933. *A. foliicola* occurs in the Nearctic region and an undescribed species occurs in Japan (Townes & Townes, 1960: 207). In the present paper *Alophosternum* is reported from Central Europe: one female from Austria. A comparison of this specimen with the description and figure of *A. foliicola* given by Townes & Townes (1960: 207-208, fig. 370) has revealed structural differences between the Austrian specimen and *A. foliicola*. The original description of *A. foliicola albofacialis* gives information mainly about the colour pattern. A comparison of the Austrian specimen with the holotype of *A. foliicola albofacialis* and with American and Japa-

nese material of the Townes collection has shown that the European specimens represent a distinct species: *Alophosternum albofacialis* Kasparyan, 1981 stat. nov., and that the Japanese specimens belong to a closely related species: *Alophosternum nigricoxis* spec. nov.

Key to the *Alophosternum* species (♀ ♀)

1. Vertex subparallel-sided immediately behind the eyes (fig. 1). First tergite as long as apically broad (fig. 2). Hind tarsal claw with acute lobe (fig. 3) Hypopygium with large median membranous area. Face black, facial orbits (partly) yellow. Nearctic *foliicola* Cushman
— Vertex constricted behind the eyes (figs. 4,7). First tergite at least 1.5 times as long as apically broad (figs. 5, 8). Hind tarsal claw without acute lobe (figs. 6, 9). Hypopygium completely sclerotized. Face (except for a central streak below the antennae) and clypeus yellow-white. Palaearctic 2
2. First tergite widened posteriorly (fig. 8). Hind coxa (fulvo)-ferruginous. Fourth tergite 2.5 times as broad as long. Pedicel (yellowish) brown under-

neath. Europe . . . *albofacialis* Kasparyan
 — First tergite with subparallel sides poster-
 riorly (fig. 5). Hind coxa black. Fourth
 tergite twice as broad as long, abdomen
 more slender. Pedicel pale yellow un-
 derneath. East Palaearctic
 *nigricoxis* spec. nov.

Alophosternum nigricoxis spec. nov.

(figs. 4-6)

Types — Holotype, ♀: "Kamikochi Jap[an], July 26, 1954. Townes Family" in Townes collection Gainesville. Paratypes: Sapporo Japan, Jul. 15, 1954, David Townes, 1 ♀ in Townes coll.; same data but Jul. 13, 1954, 1 ♂ in Townes coll.; Jul. 9, 1954, Townes Family, 1 ♂ in Zwakhals coll.

Holotype, ♀

Fore wing length 5.5 mm. Body length 6.5 mm. Flagellum with 26 segments, all elongate, the first one 5 times as long as broad. Face 1.5 times as wide as high. Clypeus basally convex, medially impressed and with apical margin strongly emarginate. Mandible with upper tooth about 1.5 times as large as lower one. Malar space 0.7 times as long as basal width of mandible. Hypostomal carina meeting occipital carina behind the base of mandible at a distance 0.6 times the breadth of base of mandible. Hypostomal carina about 3 times as high as genal carina. Upper part of occipital carina is rather poorly developed, dipping strongly downward and absent medially. Malar space coriaceous; clypeus, face, frons, vertex and genae polished and impunctate, covered with short, widely spaced white setae. Thorax polished and impunctate. Prepectal carina absent. Lateral areas of propodeum with long white setae; petiolar area bare. Propodeum with only submetapleural carina present. First tergite (fig. 5) with shallow irregular punctures on dorsal face, dorso-lateral carinae well developed. Spiracles of first tergite slightly before the middle. Median dorsal carina weakly developed. Tergites 2-8 broader than long, depressed. Tergites 2-4 shining, and, except for their apical fourth part, strongly and closely punctured. Ter-

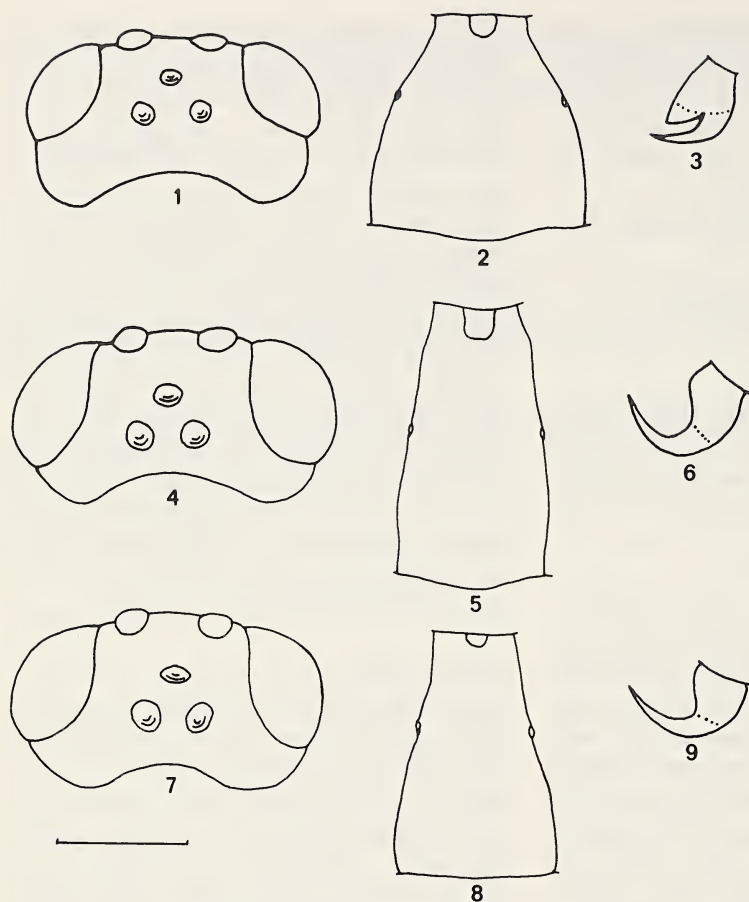
gite 5 punctured in basal 0.25. Tergites 3-5 with shallow transverse subbasal and preapical impressions, tergite 2 and 3 with weak pre-apical transverse impression. Short brown thyridiae on tergite 2, about half as wide as their mutual distance. Ovipositor in basal third curved downward, apically straight. Apex of lower valve with 4 minute ridges. Ovipositor sheaths about one third as long as fore wing. Fore wing hyaline with fuscous pterostigma, areolet twice as long as high. Second recurrent vein separated from distal part of cubitus by twice the breadth of a vein. (In *A. foliicola* these veins almost coincide at the lower outer corner of the areolet). Nervellus broken at the middle, discoidella not pigmented. Front- and middle-tarsal claws with acute basal lobe, hind claw without such a lobe.

Colour pattern

Body black, except for clypeus, mandibles, malar space, lower half of gena, greater part of face and lower half of frontal orbit which are pale yellow; central part of face below antennae with black vertical streak. Palpi white. Hind angle of pronotum, tegulae and subalar prominence pale yellow. Front and middle legs, including coxae, pale yellow, their tarsi white. All trochanters white. Hind coxae black, their extreme apex white. Hind femur fulvous. Hind tibia white, sub-basally and apically fuscous. Middle and hind tarsal segments white, apically fuscous. Front tarsus almost completely white. Abdomen black, apical margin of tergite 2-4 reddish-brown. Flagellum fuscous, segment 1, and pedicel underneath pale yellow.

Variation

The female paratype corresponds in structure and colour pattern to the holotype but is 5 mm long. The male paratypes correspond in structure and colour pattern to the female holotype. Vertex shaped as in the female (cf. fig. 4). The first tergite is twice as long as apically wide. Flagellum with 22 segments, segments 6 and 7 having shiny ty-



Figs. 1-3. *Alophosternum foliicola* Cushman, ♀ U.S.A., Maine, Bar Harbor, side of Cadillac Mts, June 28-30, 1935, ex *Phyllotoma nemorata*. Figs. 4-6. *A. nigricoxis* spec. nov., ♀ holotype. Figs. 7-9. *A. albofascialis* Kasparyan, ♀ holotype. Figs. 1, 4, 7 head, dorsal aspect; 2, 5, 8 first tergite; 3, 6, 9 hind claw. (Scale line in figs. 1, 2, 4, 5, 7, 8: 0.5 mm; in figs. 3, 6, 9: 1.25 mm.)

loids over their entire length, segment 8 in its basal half (and 9 in its basal half, in one specimen). Pale markings are white, face completely white. All claws without acute lobe.

***Alophosternum albofascialis* Kasparyan, stat. nov.**

(figs. 7-9)

Alophosternum foliicola albofascialis Kasparyan, 1981: 64

Material examined: ♀ Holotype *A. foliicola albofascialis*, Kobralowo, 40-44 km S Leningrad, 22.vii.1972, Kasparyan in coll. Zool. Inst. Leningrad; 1 ♀ [Austria] Slzbg, Salzachau, 17.6.84, M. Schwarz in coll. Zwakhals.

In both specimens the pronotum, mesonotum (except basal part of middle region) mesopleura and propodeum are (fulvo-)

ferruginous; propodeum with black borders. In the holotype the tergites 2-5 are dark reddish-brown and have fulvous apical borders. In the Austrian specimen the abdomen is black; tergites 2-5 are laterally reddish-brown and have fulvous apical borders. In both specimens the mesosternum is black. The Austrian specimen has a yellow scutellum. Flagellum consisting of 25 (Leningrad) or 26 (Salzburg) segments. Otherwise as *nigricoxis* spec. nov. This species has also been found in the Caucasus (Kasparyan, in lit.)

***Alophosternum foliicola* Cushman, 1933**
(figs. 1-3)

Cushman, 1933: 8; Townes & Townes, 1960: 207-208, figs. 87, 370; Townes, 1969: 89; Carlson, 1979: 334.

This species has been found in the U.S.A.

in the northeastern States and in California. I have examined 5 ♀♀ from the U.S.A. (Newfoundland, Maine, Michigan and California) from the Townes collection. The northeastern specimens are black. The mesopleura and propodeum of the two Californian specimens are fulvo-ferruginous; in one of these two specimens tergites 2-4 are dark fulvous, the other specimen has a black abdomen.

Biology

Townes & Townes (1960: 208) report that *A. foliicola* has been reared from sawfly and lepidopterous leaf miners on deciduous trees. Most specimens have been reared from *Heterarthrus nemoratus* (Fallén) (Tenthredinidae, Heterarthrinae), which has been imported into the U.S.A. from Europe with infested *Betula* (Carlson 1979). Other hosts are: *Paraclemensia acerifoliella* (Fitch, 1854) (Lepidoptera: Incurvariidae), and *Cameraria aceriella* (Clemens, 1859) (Lepidoptera: Gracillariidae)

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