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## Two New Species of *Cirrospilus* (Hymenoptera, Eulophidae) from Japan

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**Abstract** *Cirrospilus tischeriae* sp. n. and *C. kumatai* sp. n. are described from Japan. The former is reared from *Tischeria* sp. on *Quercus acutissima* and the latter from *Cryphiomyspis* sp. on *Fatsia oligocarpella*.

**Key words:** *Cirrospilus*; Eulophidae; Hymenoptera; new species; Japan.

Recently I have received specimens of an undescribed species of the eulophid genus *Cirrospilus* WESTWOOD, 1832, reared from a tischeriid moth by Mr. S. INOUE. This parasite is described below as new and the opportunity is taken to describe another new eulophid reared from a gracillariid leaf-miner by Dr. T. KUMATA. Both new species belong to the subgenus *Atoposomoidea* HOWARD. The types will be deposited in the Entomological Institute, Hokkaido University, Sapporo.

I would like to thank Mr. S. INOUE, Fukui Prefectural General Green Center, and Dr. T. KUMATA, Hokkaido University, for giving me valuable specimens and information.

### *Cirrospilus tischeriae* sp. n.

(Fig. 1)

*Female.* Body length 1.2–1.8 mm. Body brownish yellow with following areas blackish (not metallic): antennal scrobes above, spot behind median ocellus, inner margins of lateral ocelli, occiput below, pronotum anteriorly, anterior margin of mid lobe of mesoscutum, axillae anteriorly, center of scutellum, median area of propodeum, transverse bands on second to fifth tergites (these bands except last often connected medially), and ovipositor sheaths. Scape and pedicel brownish yellow with dorsal surfaces more or less infuscate; flagellum dark brown, ventrally lighter; extreme apices of funicle segments black. Legs concolorous with thorax, with apices of tarsi darker. Wings subhyaline with hairs blackish. Specimens reared in September with lighter body: markings on mesoscutal mid lobe, axillae and scutellum much reduced or absent.

Head in dorsal view about 2.1 times as broad as long. Malar space about 0.73 times height of eye. Antennae (Fig. 1) inserted near lower level of eyes; scape reaching anterior margin of median ocellus; pedicel plus flagellum quite as long as breadth of head; flagellum stout; first funicle segment slightly to distinctly longer

than pedicel; second funicle segment sometimes thicker than first segment and almost quadrate. Funicle with sensilla usually disposed in two rows but in larger specimens sensilla on first funicle segment disposed in three irregular rows.

Thorax including propodeum 1.45 to 1.6 times as long as broad. Mesoscutum strongly raised-reticulate; mid lobe with only two pairs of blackish bristles. Axillae rather strongly advanced. Scutellum quadrate, reticulate as in mid lobe of mesoscutum, without sublateral grooved lines; anterior margin of scutellum broad, about equal to breadth of axilla; two pairs of blackish bristles equal in length, sometimes an additional bristle present between anterior and posterior bristles. Dorsellum weakly sculptured, half as long as, or a little longer than, median length of propodeum. Propodeum with median area more strongly reticulate than scutellum, median carina conspicuous, plicae absent; callus with about eight hairs. Legs slender with pale hairs; hind tibial spur shorter than breadth of the tibia; a pair of hairs on first to third segments of hind tarsus not conspicuous. Forewing 2.3 times as long as broad; upper surface of costal cell with several hairs apically and lower surface with a row of hairs; basal cell closed below in apical two thirds; speculum large, closed below; stigmal vein more than one fourth length of marginal vein, about as long as postmarginal.

Gaster 1.2 to 1.35 times as long as thorax, nearly twice as long as broad, finely alutaceous. Ovipositor sheaths projecting slightly in dorsal view.

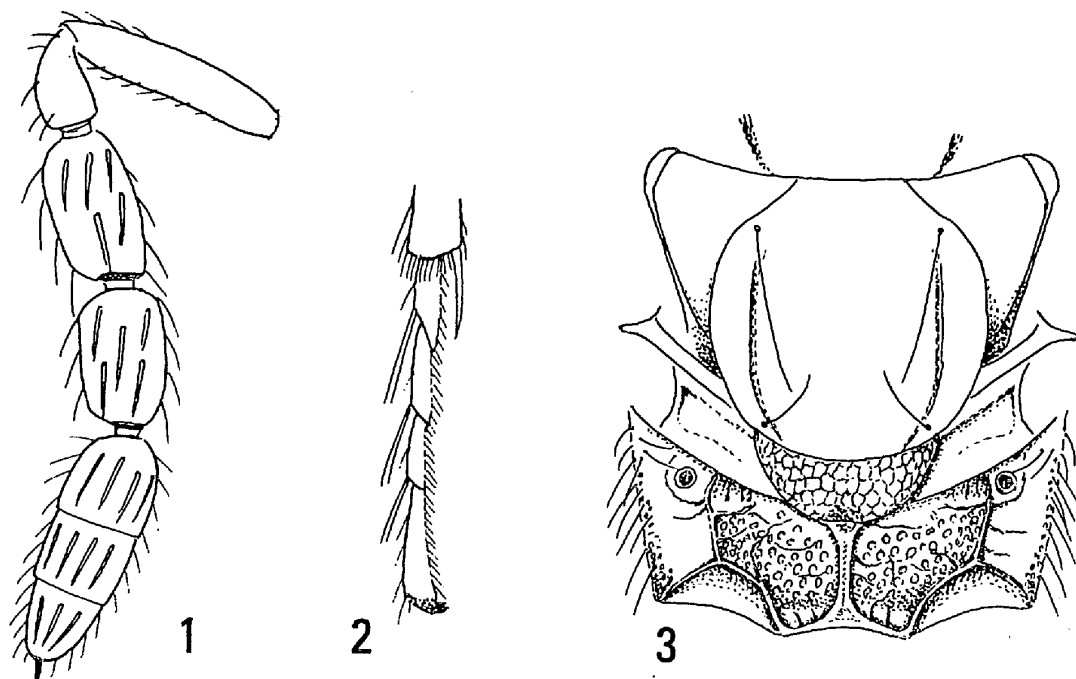
*Male.* Differs from female as follows: Body length 0.8–1.6 mm. Flagellum almost concolorous with body; transverse bands on gaster sometimes absent. Malar space about as long as height of eye. Antenna: pedicel plus flagellum about as long as breadth of head; first funicle segment a little longer than and as thick as pedicel; second segment a little thicker than first segment, about as long as pedicel; clava including terminal spine equal to combined length of two funicle segments. Thorax 1.45 to 1.7 times as long as broad. Gaster usually a little longer than thorax.

Holotype (♀), Kanazu, Fukui-ken, Honshu, em. 12. xi. 1990, ex *Tischeria* sp. on *Quercus acutissima*, (S. INOUE). Paratypes (28 ♀ 17 ♂): all reared from same host at same locality as holotype—5 ♀ 2 ♂, 18. ix. 1990; 6 ♀ 9 ♂, 23. ix. 1990; 2 ♀, 27. x. 1990; 7 ♀ 1 ♂, x. 1990; 6 ♀ 5 ♂, 12. xi. 1990; 2 ♀, 13. xi. 1990.

*Distribution.* Japan (Honshu).

*Biology.* Gregarious, larval parasite of *Tischeria* sp. (Lep.: Tischeriidae) on *Quercus acutissima*.

*Cirrospilus tischeriae* sp. n. is characterized by the scutellum which lacks the sublateral grooved lines, the distinctly raised-reticulate thoracic dorsum, and the mesoscutal mid lobe with only two pairs of bristles. Of these characters, the first two are shared by *C. quadristriatus* (SUBBA RAO & RAMAMANI, 1965) parasitic on *Phyllocnistis citrella* STAINTON in India and Thailand. But *C. quadristriatus* differs from the new species in having the mesoscutal mid lobe with three pairs of strong, black bristles, propodeum rugulose, most hairs on legs blackish, and first to third



Figs. 1-3. — 1, *Cirrospilus tischeriae* sp. n., ♀, antenna; 2, *C. kumatai* sp. n., ♀, hind tarsus; 3, same, ♀, thorax (part).

segments of hind tarsus each with a pair of conspicuous, black bristles. *C. phyllocnistis* (ISHII, 1953) parasitic on *P. citrella* and other gracillariids in Japan (KAMIJO, 1987) also resembles the new species in having the scutellum without the sublateral grooved lines, but is distinguished by the mesoscutal mid lobe with several hairs anteriorly in addition to two pairs of bristles, the engraved-reticulate scutellum, the strongly reticulate gaster, and the first to third segments of the hind tarsus with a pair of conspicuous, pale hairs, respectively.

*Cirrospilus kumatai* sp. n.

(Figs. 2-3)

*Female.* Body length 1.8–2.1 mm. Body black without metallic reflections; frons above and vertex along orbits yellowish brown. Scape and pedicel yellowish brown, darker dorsally; flagellum blackish. Legs brownish yellow; fore coxae darker basally; hind coxae black; fore tarsi brownish; apices of all tarsi darker. Forewing slightly infumate, with veins infusate and hairs blackish.

Head collapsed. Malar space about 0.6 times height of eye. Scape reaching anterior margin of median ocellus, about 3.6 times as long as broad, distinctly shorter than combined length of pedicel, anelli and first funicle segment; pedicel twice as long as broad; first funicle segment about 1.5 times length of pedicel; second segment slightly longer than pedicel; clava slightly to distinctly shorter than

two funicle segments combined, about as long as scape.

Thorax including propodeum 1.6 times as long as broad. Mesoscutum: mid lobe finely and weakly raised-reticulate, with about 16 hairs anteriorly besides two pairs of long bristles; side lobes more strongly reticulate, each with several hairs and a strong bristle. Axillae very weakly advanced. Scutellum (Fig. 3) quadrate, engraved-reticulate, with anterior margin not broad; sublateral grooved lines rather broad and not well-delimited, effaced anteriorly, and distinctly curved inwards posteriorly; two pairs of bristles strong and subequal in length. Dorsellum coarsely raised-reticulate. Propodeum 1.6 to 1.7 times length of dorsellum, transverse, punctate-reticulate with some rugae; median carina very thick and strong; plicae very strong; lateral, oblique, strong carinae branched from middle of plicae and extending to postero-lateral corners of propodeum; petiolar foramen only weakly emarginate; callus with more than ten hairs. Hind tibia with spur long and strong, almost reaching apex of basitarsus (Fig. 2). First to third segments of hind tarsus dorsally with a pair of outstanding, fuscous bristles. Forewing about 2.3 times as long as broad; basal cell closed below in apical two thirds; speculum narrow, closed below; stigmal vein 0.31 times length of marginal vein, a little longer than postmarginal.

Gaster ovate, fully 1.1 times length of thorax, 1.65 times as long as broad, pointed apically; each tergite distinctly raised-reticulate with smooth band posteriorly. Ovipositor sheaths slightly projecting seen from above.

*Male.* Differs from female as follows: Body length 1.4 mm. Frons, face and genae dark brown. Pedicel slightly shorter than first funicle segment (4.5: 5), slightly longer than second; clava as long as two funicle segments combined. Gaster shorter than thorax (32: 38), subcircular, 1.2 times as long as broad.

Holotype (♀), Haha-jima, Ogasawara Is., em. 24. xi. 1984; ex *Cryphiomyspis* sp., (T. KUMATA). Paratypes: 2 ♀ 1 ♂, with same data as holotype but em. 14. xi. 1984 (♂) and 20. xi. 1984 (2 ♀).

*Distribution.* Japan (Ogasawara Is.).

*Host.* *Cryphiomyspis* sp. (Lep.: Gracillariidae) on *Fatsia oligocarpella*.

*Cirrospilus kumatai* sp. n. is characterized by the long spur on the hind tibia and the presence of strong propodeal plicae. It resembles *C. diallus* WALKER, 1838, in having the plicae on the propodeum, but differs as follows: hind tibia with long spur; first to third segments of hind tarsus with a pair of long, fuscous bristles; scutellum with sublateral grooved lines effaced anteriorly; mesoscutal mid lobe with many hairs anteriorly; gaster distinctly raised-reticulate; and body black without metallic reflections.

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## A New Name of *Palaeorhiza* (Hymenoptera, Colletidae)

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Key words: Colletidae; *Palaeorhiza*; *Eusphecogastra*; new name.

A new name of *Palaeorhiza* is proposed as follows:

*Eusphecogastra* HIRASHIMA, new name. Gender feminine.

The new name, *Eusphecogastra*, is proposed for *Sphecogaster* HIRASHIMA, 1978, Esakia, (12): 72, nec *Sphecogaster* LACORDAIRE, 1869, Hist. nat. Ins., Gen. Col., **8**: 471.

This is a subgenus of the genus *Palaeorhiza* PERKINS, 1908. The type species is *Palaeorhiza paradisea* HIRASHIMA, 1978.

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