DESCRIPTIONS OF FIVE NEW SPECIES OF EUOLPHINAE FROM JAPAN AND OTHER NOTES

(HYMENOPTERA : CHALCIDOIDEA)

By KAZUAKI KAMIJO

Hokkaido Forest Experiment Station, Bibai, Hokkaido

This paper is dealt with twelve species of Eulophinae occurring in Japan, of which five are new to science and six new to Japan. The types of the new species are deposited in the Entomological Institute, Hokkaido University, Sapporo.

I wish to express my sincere gratitude to Prof. C. Watanabe, Entomological Institute, Hokkaido University, for his kind guidance and critical reading of the manuscript. Grateful acknowledgement is also made to Dr. T. Kumata, Entomological Institute, Hokkaido University, for his kindness in identifying host species and in offering valuable material; to Dr. Z. Bouček, National Museum, Praha, for the gift of many valuable specimens; to Dr. B. D. Burks, United States National Museum, Washington, D. C., for his kindness in examining Ashmead's types and in giving helpful suggestions. Thanks are also due to Dr. A. Habu, Mr. T. Oku, Dr. S. Takagi, Mr. K. Homma, Mr. H. Takada, and Dr. S. Momoi for their generous offering of material.

Sympiesis sericeicornis (Nees)*

Eulophus sericeicornis Nees, 1834, Hym. Ichneum. affin. Monogr. 2 : 168.
Sympiezus sericeicornis: Thomson, 1878, Hym. Scand. 5 : 217.
Sympiezis Feketei Györffy, 1939, Folia ent. Hung. 4 : 100.
Sympiesis sericeicornis: Bouček, 1959, Acta Ent. Mus. Natl. Pragae 33 : 126.

According to Bouček (1959) in the males of the European form the processes of the first to third funicle segments are, in general, almost wanted or very short and rarely prolonged. On the other hand, so far as my investigations go, in those of the Japanese form the processes are usually long, the third one being about as long as the fourth funicle segment. Only in a few specimens the processes are almost wanted.

In the Japanese form the variation of colour seems to be the same as in the European:— body colour dark green to bluish black; all tibiae usually wholly to partly infuscated, and sometimes fore and middle, or rarely all tibiae brownish yellow.

Specimens examined: 1♀, Kitami, Hokkaido, em. XII. 1962, ex *Lithocolletis nipponicella*, K. Kamijo; 1♀, Nukabira, Hokkaido, 14. VII. 1959, K. Kamijo; 1♀, Bibai, Hokkaido, em. XII. 1963, ex *L. hancola*, K. Kamijo; 1♀, Bibai, em. 30. I. 1964, ex *L. cavella*, K. Kamijo; 1♂, Bibai, em. 15. IX. 1964, ex cocoon of Ichneumonid sp. on *Caloptilia* sp., K. Kamijo; 1♀, Bibai, em. 24. IX. 1964, ex *L. pastorella*, K. Kamijo;

* The species marked by the asterisk is new to Japan.

[Insecta Matsumurana, Vol. 28, No. 1, August, 1965]

2♀♀, 3♂♂, Sapporo, Hokkaido, em. 6.–12. VII. 1956, ex *L. ringoniella*, T. Kumata; 2♂♂, Sapporo, 15. VII. 1956, T. Harada; 1♂, Sapporo, 8. VI. 1957, K. Kamijo; 1♀, 5♂♂, Sapporo, 21. V.–22. VI. 1958, K. Kamijo; 1♀, Sapporo, em. 6. IX. 1958, ex *Caloptilia* sp. on *Alnus hirsuta*, T. Kumata; 6♀♀, 10♂♂, Sapporo, 4.–30. VII. 1959, K. Kamijo; 2♀♀, Sapporo, em. 12. VII. 1959, ex *L. issikii*, K. Kamijo; 2♀♀, 3♂♂, Sapporo, em. 14. VII. 1959, ex *L. ringoniella*, K. Kamijo; 2♀♀, Sapporo, em. 20. VII. 1959, ex *L. pygmaea*, T. Kumata; 2♀♀, 3♂♂, Sapporo, em. 29. VII. 1959, ex *L. bicinctella*, K. Kamijo; 4♀♀, 1♂, Sapporo, em. 29. VII.–4. VIII. 1959, ex *Lithocolletis* sp. on *Alnus japonica*, K. Kamijo; 1♀, 1♂, Sapporo, em. X. 1959, ex *L. issikii*, K. Kamijo; 2♂♂, Sapporo, em. X. 1959, ex *L. ermani*, K. Kamijo; 1♀, Eniwa, Hokkaido, 1962, ex *L. juglandis*, T. Kumata; 1♂, Apoi-Dake, Hokkaido, 26. VIII. 1956, K. Kamijo; 2♀♀, 1♂, Apoi-Dake, em. VIII. 1957, ex *Lithocolletis* sp., T. Kumata.

Hosts: In Europe this species attacks many lepidopterous and some hymenopterous leaf-miners and their parasites (after Bouček). In Japan the following species have been known as its hosts: *Caloptilia* sp. on *Alnus hirsuta*; *Lithocolletis bicinctella* Matsumura; *L. cavella* Zeller; *L. ermani* Kumata; *L. hancola* Kumata; *L. issikii* Kumata; *L. juglandis* Kumata; *L. nipponicella* Issiki; *L. pastorella* Zeller; *L. pygmaea* Kumata; *L. ringoniella* Matsumura; Ichneumonid sp. on *Caloptilia* sp.

Distribution: Japan (Hokkaido); Europe.

Sympiesis laevifrons, sp. nov.

Female. Length 1.9–2.7 mm. Eyes prominent, with inner orbits strongly divergent below (fig. 1). Ocellocular line short, half as long as diameter of lateral ocellus. Face and vertex virtually smooth, with area between clypeus and antennal sockets finely sculptured. Scape not reaching median ocellus; flagellum 1.45 times as long as width of mesonotum; first funicle segment 2.4 times as long as wide, as long as the second; club slightly longer than first funicle segment (9 : 8). Thorax about 1.8 times as long as wide. Mesoscutum rather strongly reticulate; notaulices restricted anteriorly. Axillae feebly sculptured and polished, especially in small specimens. Scutellum a little longer than wide, reticulate as in mesoscutum. Metascutellum weakly and coarsely reticulate, in some small specimens smooth. Propodeum arched in lateral view, with neck well developed; median carina conspicuous; plicae strong in posterior two-thirds; area between plicae weakly and reticulately sculptured, sometimes with oblique, weak carinae anteriorly in normal, almost smooth and polished in smaller specimens. Fore wing: submarginal vein as long as marginal; stigmal vein long one-fourth, to one-fifth as long as width of wing; relative length of sm : m : p : s as 32 : 31 : 16 : 9. Gaster a little longer than head and thorax combined; last tergite slightly wider than long.

Dark green to bluish green, sometimes with bronzy reflections: upper face (area between antennal sockets and median ocellus) violet; scape whitish, pedicel and flagellum dark brown. Legs whitish. Petiole and anterior part of first tergite brownish yellow; second to sixth tergites dark brown, each tergite sometimes with indistinct yellowish brown band in anterior part; ventral area of gaster yellowish brown in greater part.

Male: Unknown.

Holotype (♀): Sapporo, Hokkaido, em. 2. VII. 1956, ex *Lithocolletis ringoniella*, T. Kumata. Paratypes: 2♀♀, Yamabe, Hokkaido, em. 8. VII. 1963, ex *L. ringoniella*, K. Kamijo; 1♀, Sapporo, 15. VIII. 1952, T. Tomioka; 1♀, Sapporo, em. 5. VII. 1956,

ex *L. pseudolautella*, 1♀, Sapporo, em. 6. VII. 1956, ex *L. issikii*, 2♀♀, Sapporo, em. 6.–12. VII. 1956, ex *L. sorbicola*, 1♀, Sapporo, em. 12. VII. 1956, ex *L. ringoniella*, 1♀, Sapporo, em. 13. VII. 1956, ex *L. cretata*, T. Kumata; 1♀, Sapporo, 28. VI. 1957, K. Kamijo; 1♀, Sapporo, em. 5. VII. 1959, ex *L. ringoniella*, T. Kumata; 1♀, Sapporo, em. 21. VII. 1959, ex *L. tristrigella*, T. Kumata; 1♀, Sapporo, em. 26. VII. 1959, ex *Lithocolletis* sp. on *Alnus japonica*, K. Kamijo; 2♀♀, Sapporo, em. 29. VII. 1959, ex *L. bicinctella*, K. Kamijo; 1♀, Sapporo, em. 7. VIII. 1963, ex *L. ringoniella*, K. Kawakami; 1♀, Sapporo, em. 15. VIII. 1963, ex *Callisto multimaculata*, T. Kumata; 1♀, Sapporo, em. 23. III. 1964, ex *L. ringoniella*, K. Kamijo.

Hosts: *Callisto multimaculata* Matsumura; *Lithocolletis bicinctella* Matsumura; *L. cretata* Kumata; *L. issikii* Kumata; *L. pseudolautella* Kumata; *L. ringoniella* Matsumura; *L. sorbicola* Kumata; *L. tristrigella* Haworth.

Distribution: Japan (Hokkaido).

It is probable that *S. laevifrons* belongs to the subgenus *Cladosympiesis* Graham. This species is distinguishable from any other representatives of the genus by the prominent eyes, the short ocellocular line, the smooth face and vertex, the violet upper face, and the first tergite which is brownish yellow anteriorly.

Sympiesis mikado Ashmead

Sympiesis mikado Ashmead, 1904, J. New York Ent. Soc. 12 : 164.

Female. Length 4.3–4.8 mm. Eyes prominent, separated by less than their own length. Face reticulately sculptured; upper face with shallow, sparse pits at sides. Diameter of lateral ocellus almost as long as ocellocular line. Vertex behind lateral ocelli with a short indistinct occipital carina. Scape as long as pedicel and first funicle segment combined; flagellum 1.4 times as long as width of head; club nearly as long as first funicle segment; relative length of each funicle segment and club as 13 : 11 : 9.5 : 9 : 12. Thorax twice as long as wide. Notaulices restricted anteriorly. Scutellum a little longer than wide (20 : 18). Metascutellum weakly reticulate. Propodeum alutaceous, smooth posteriorly, with several hairs between median carina and spiracle; median carina weak, visible in anterior one-third of propodeum; plicae absent. Submarginal vein almost as long as marginal; relative length of sm : m : p : s as 50 : 52 : 22 : 6.5. Gaster slender, about twice as long as thorax. Fifth tergite nearly quadrate, the sixth distinctly longer than wide, the last four times as long as wide, parallel-sided in anterior two-thirds.

Green: head with golden reflections; scape brownish yellow ventrally, darker dorsally; pedicel and flagellum dark brown; dorsum of thorax with golden reflections. Legs pale yellow: fore coxae with small, dark or metallic spot at base anteriorly; middle coxae with large, dark spot at base posteriorly; hind coxae concolorous with thorax in basal half. Second to fifth tergites partly, sixth and last tergites entirely purplish black.

Male: Unknown.

Specimens examined: 1♀ (paratype, No. 7214, U.S.N.M.), Atami, Honshu, undated, A. Koebele; 1♀, Sapporo, 1903, S. Matsumura; 2♀♀, Sapporo, undated, S. Matsumura; 1♀, Jozankei, Hokkaido, 10. IX. 1916, S. Matsumura.

Hosts: Unknown.

Distribution: Japan (Hokkaido; Honshu).

Dr. Burks, who kindly compared the type of *S. mikado* with that of *Sympiesis*

dolichogaster Ashmead and with a specimen of *Sympiesis nowikii* Szelényi, which was synonymised with *S. dolichogaster* by Bouček in 1959, informed me that the three forms are slightly different from one another and that there may be a species complex consisting of several closely related species. According to him *S. mikado* differs from *S. dolichogaster* in the structure of the antennae and the propodeum.

Sympiesis japonica, sp. nov.

Female. 1.8–2.6 mm. Head as wide as thorax. Eyes less prominent, separated by more than their own length, with inner orbits slightly divergent below. Vertex rather strongly convex (fig. 2). Ocellocular line more than 1.5 times as long as diameter of lateral ocellus. Scape as long as first two funicle segments combined; pedicel more than half as long as first funicle segment: flagellum short, 1.25 times as long as width of head; first funicle segment twice as long as wide, shorter than the second, as long as the fourth. Thorax stout, 1.6 times as long as wide. Notaulices complete though superficial. Mesoscutum and scutellum very coarsely reticulate. Scutellum about as long as wide. Metascutellum depressed in lateral view (fig. 3), more finely reticulate than scutellum. Propodeum irregularly reticulate or rugulose, with neck developed; median carina distinct, usually finely sinuate; plicae restricted posteriorly. Fore wing: pubescence on disc sparse; marginal vein a little longer than submarginal, stigmal vein seven times shorter than width of fore wing. Gaster as long as thorax and head combined, 1.6–1.8 times as long as wide.

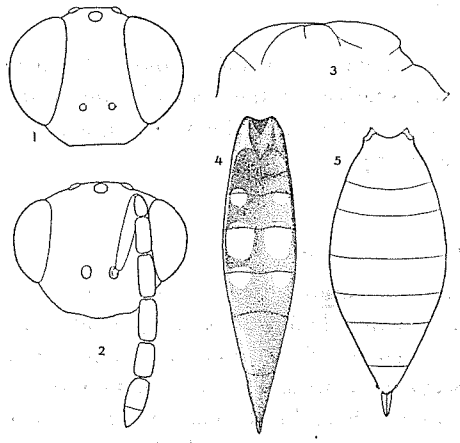

Fig. 1. *Sympiesis laevifrons*, sp. nov., head of female in front view.
Figs. 2–3. *Sympiesis japonica*, sp. nov.: 2, head of female in front view; 3, thoracic dorsum in profile.
Fig. 4. *Sympiesis ringoniellae*, sp. nov., female gaster.
Fig. 5. *Sympiesis derogatae*, sp. nov., female gaster.

Dark green: head usually purplish black; scape brownish yellow, darker dorsally. Legs brownish yellow: fore coxae metallic in greater part; hind coxae sometimes metallic basally; fore femora sometimes darker. Hairs on thoracic dorsum blackish. Gaster brownish black, polished, with first tergite dark green.

Male. Length 1.5–2.0 mm. Frontal cross suture in front of median ocellus indistinct. First branch of antennae much shorter than all funicle segments combined; third funicle segment branched at basal one-third. Sculpture on axillae and metascutellum weaker, especially in small specimens. Gaster a little shorter than thorax. Legs brownish yellow: coxae blackish and hind femora darker in distal half. Gaster with a yellow subbasal spot.

Holotype (♀): Yamabe, Hokkaido, em. 5. VII. 1961, ex Tortricid on poplar, K. Kamijo. Paratypes: 8♀♀, 4♂♂, the same as holotype; 8♀♀, 2♂♂, Yamabe, em. 5. VII. 1961, ex Tortricid on *Betula platyphylla*, K. Kamijo.

Hosts: Tortricids on popular and *Betula platyphylla*.

This species is a gregarious parasite.

This species is closely related to *Sympiesis viridula* (Thomson), from which it differs, in the female, by the short antennae, the elevated vertex, the coarser reticulation of the mesoscutum and scutellum, the depressed metascutellum, and the blackish head. In the male it may be distinguishable by the depressed metascutellum and the elevated vertex.

Sympiesis ringoniellae, sp. nov.

Female. Length 2.8–3.7 mm. Head seen in front rounded, a little wider than high. Eyes prominent, separated by less than their own length (14.5 : 17), with inner orbits moderately divergent below. Ocellocular line twice as long as diameter of lateral ocellus. Face densely reticulate, with sides of lower face superficially sculptured. Scape as long as first and half of second funicle segment combined; pedicel less than half of first funicle segment; flagellum slender, nearly twice as long as width of mesonotum; first funicle segment three times as long as wide, the fourth a little shorter than the first, about twice as long as wide; club slightly longer than first funicle segment. Thorax 1.9 times as long as wide. Mesoscutum, scutellum, and metascutellum coarsely and strongly reticulate. Mesoscutum with notaulices indicated anteriorly. Scutellum slightly longer than wide. Propodeum horizontal, more finely reticulate than scutellum, with neck vague; median carina strong; plicae visible posteriorly. Fore wing slender (67 : 26); pubescence on disc with interspaces between hairs about as broad as marginal vein; relative length of sm : m : p : s as 32 : 36 : 21 : 8; stigmal vein five times shorter than width of fore wing. Gaster elongate, 1.5 times as long as head and thorax combined; sixth tergite slightly longer than wide; last tergite sharp triangular, 1.3–1.4 times as long as wide (fig. 4).

Dark green: scape pale yellow with dorsal part darker, pedicel and flagellum blackish; legs pale yellow with middle and hind coxae dark green in greater part, and last tarsal segments darker. Wings hyaline. First tergite shining dark green, following tergites brownish black or blackish, with a pair of brownish yellow spots on the third to fifth, spots on the fourth largest. Ventral area of gaster yellowish brown with marginal part blackish.

Male. Length 1.7 mm. Head seen in front transverse (23 : 18). Eyes separated by more than their own length (13 : 11.5), with inner orbits slightly divergent below. Scape nearly reaching level of vertex; branches long and slender, the first one being as long as all funicle segments combined; third funicle segment branched at middle. Thorax 2.1 times as long as wide. Propodeum coarsely and feebly reticulate, shining; plicae lacking. Fore wing less slender (68 : 30); submarginal vein nearly as long as marginal. Gaster shorter than thorax. Scape dark brown. Legs pale yellow: middle and hind coxae concolorous with thorax; hind femora slightly darker distally; tarsi darker, with last segments blackish. Gaster blackish with a brownish yellow subbasal spot.

Holotype (♀): Sapporo, 2. VII. 1956, ex *Lithocolletis ringoniella*, T. Kumata. Paratypes: 1♀, the same as holotype; 1♂, Sapporo, em. 6. VII. 1956, ex *L. ringoniella*, T. Kumata.

Hosts: *Lithocolletis ringoniella* Matsumura.

Distribution: Japan (Hokkaido).

This species belongs to the *viridula*-group. On account of the slender gaster *S. ringoniellae* resembles *Sympiesis gregori* Bouček and *Sympiesis flavopicta* Bouček. It

differs from *S. gregori* by the sculpture of the scutellum, the more slender gaster, the sparsely hairy and immaculate fore wing, and the metallic middle and hind coxae. From *S. flavopicta* it is distinguishable by the immaculate head and thorax, the presence of the median carina on the propodeum, and the immaculate and sparsely hairy fore wing.

Sympiesis derogatae, sp. nov.

Female. Length 2.1–3.4 mm. Head transverse in front view, as wide as thorax. Eyes prominent, separated by their own length, with inner orbits weakly divergent below. Ocellocular line 1.5 times as long as diameter of lateral ocellus. Flagellum about 1.3 times as long as width of head; first funicle segment more than 2.5 times as long as wide, slightly longer than the second, the fourth nearly twice as long as wide. Thorax robust, about 1.6 times as long as wide. Mesoscutum strongly and coarsely reticulate; notaulices complete and distinct. Axillae densely reticulate. Scutellum flat, reticulate as in mesoscutum, as long as wide. Metascutellum weakly reticulate, sometimes smooth posteriorly. Propodeum flat, densely and weakly reticulate, sometimes irregularly rugulose, with a few longitudinal, weak carinae at middle, or with a shallow longitudinal groove; plicae absent. Fore wing: submarginal vein nearly as long as marginal; stigmal vein short, seven times shorter than width of fore wing; relative length of sm : m : p : s as 42 : 44 : 20 : 6. Gaster longer than head and thorax combined (58 : 48), 2.1–2.5 times as long as wide, spindle-shaped (fig. 5); last tergite a little wider than long (12 : 9).

Dark green with bronzy reflections, especially on face; scape pale yellow; pedicel and flagellum yellowish brown. Legs pale yellow: extreme base of hind coxae infuscate; fore and middle coxae with a dark spot basally. Wings hyaline; veins and hairs on disk pale yellow. Gaster with a large brownish yellow spot on second to fourth tergites. Ventral area of gaster yellowish brown with marginal part brownish black.

Male: Unknown.

Holotype (♀): Tokyo, VIII. 1932, ex *Natarcha derogata*, T. Ishii. Paratypes: 12♀♀, the same as holotype; 1♀, Sasayama, Hyogo Pref., VIII. 1961, S. Momoi.

Hosts: *Natarcha derogata* Fabricius.

Distribution: Japan (Honshu).

This species is a gregarious parasite.

This species seems to be variable in colour: in the specimen from Sasayama the scape is brown, flagellum brownish black, legs pale brownish yellow, darker part on coxae much expanded, and spot on gaster smaller and brown.

The new species belongs to the subgenus *Teleogmus* Förster. It is distinguished from *Sympiesis xanthostoma* (Nees) by the following points: gaster longer than head and thorax combined; dorsum of thorax more strongly sculptured; veins and hairs on fore wing paler; face immaculate. From *Sympiesis čapeki* Bouček it is readily distinguishable by the longer gaster, the sculpture of the scutellum, and the longer antennae.

Encopa brevicornis (Erdös)*

Eulophus brevicornis Erdös, 1954, Ann. Hist.-nat. Mus. Natl. Hung. (s. n.), 5 : 331.
Sympiesis (Encopa) brevicornis: Graham, 1959, Trans. Soc. Brit. Ent. 13 : 182.
Encopa brevicornis: Bouček, 1959, Acta Ent. Mus. Natl. Pragae 33 : 139.

Female. Length 1.8–2.4 mm. Head about as wide as high seen in front, wider than thorax (30 : 26). Eyes prominent, separated by much less than their own length, with inner orbits remarkably divergent below. Ocellocular line usually shorter than diameter of lateral ocellus. Flagellum much shorter than width of head (23 : 30); first funicle segment slightly longer than wide, and following funicle segments quadrate or slightly transverse. Thorax about 1.8 times as long as wide. Mesoscutum moderately reticulate. Axillae alutaceous. Scutellum distinctly longer than wide, flat, alutaceous. Metascutellum feebly alutaceous. Propodeum smooth and shining, sometimes weakly sculptured basally; median carina complete; plicae usually complete, parallel in anterior half. Thorax depressed; scutellum, metascutellum, and propodeum slightly and evenly arched in lateral view. Submarginal vein of fore wing longer than marginal. Gaster slightly shorter than thorax, rounded at apex; last tergite much wider than long.

Dark green to bluish green: face and mesoscutum usually with faint bronzy reflections; scape pale yellow; pedicel and flagellum brownish yellow ventrally, darker dorsally. Legs pale yellow with coxae concolorous with thorax.

Male. Length 1.2–1.5 mm. Eyes less prominent, separated by about their own length. Scape slender; flagellum longer than width of thorax (42 : 36); first funicle segment shorter than the fourth; branches with sparse, short hairs (fig. 6). Mesonotum sculptured as in female, but more weakly so. Metascutellum smooth. Propodeum smooth; median carina visible in basal half, sometimes complete but weak; plicae restricted to posterior half or entirely lacking. Antennae dark brown, scape with metallic reflections. Face sometimes with a violet tinge. Gaster with a pale subbasal spot.

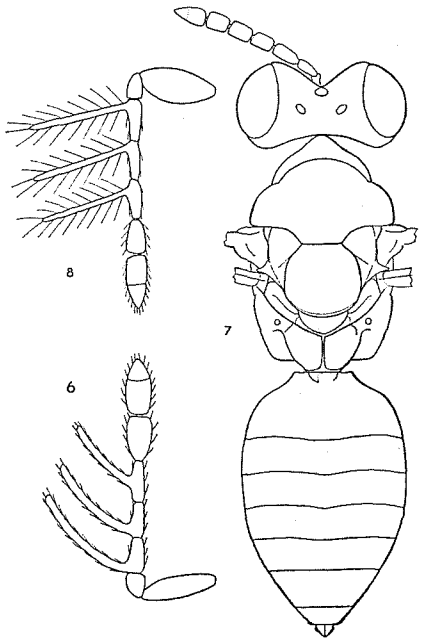

Fig. 6. *Encopa brevicornis* (Erdös), male antenna.
Figs. 7–8. *Encopa reticulata*, sp. nov.: 7, female; 8, male antenna.

Specimens examined: 1♀, 1♂, Kitami, Hokkaido, em. I. 1963, ex *Caloptilia sapporensis*, K. Kamijo; 2♀♀, 1♂, Bibai, Hokkaido, em. 4. IX. 1962, ex *C. stigmatella*, K. Kamijo; 4♀♀, 1♂, Bibai, em. 21. VIII. 1962, ex *Caloptilia* sp. on *Alnus hirsuta*, K. Kamijo; 2♀♀, Bibai, em. II. 1963, ex *C. sapporensis*, K. Kamijo; 2♀♀, Bibai, em. 19. VI. 1963, ex *C. stigmatella*, K. Kamijo; 3♀♀, 2♂♂, Bibai, em. 8. VII. 1963, ex *C. stigmatella*, K. Kamijo; 1♀, 1♂, Bibai, em. I. 1964, ex *Caloptilia* sp. on *A. hirsuta*, K. Kamijo; 1♀, 1♂, Bibai, em. I. 1964, ex *C. sapporensis*, K. Kamijo; 4♀♀, 1♂, Bibai, em. 4. IX. 1964, ex *C. stigmatella*, K. Kamijo; 3♀♀, Bibai, em. 12. IX. 1964, ex *C. stigmatella*, K. Kamijo; 4♀♀, 2♂♂, Bibai, em. 17. IX. 1964, ex Gracillariid sp. on *A. hirsuta*.

Hosts: *Caloptilia sapporensis* Matsumura; *C. stigmatella* Hübner; *Caloptilia* sp. on *Alnus hirsuta*.

Distribution: Japan (Hokkaido); Europe.

Encopa reticulata, sp. nov.

Female. Length 1.6–2.3 mm. Head transverse in front view, about 1.26 times as wide as high. Eyes less prominent, separated by their own length, with inner orbits weakly divergent below. Ocellocular line nearly 1.5 times as long as diameter of lateral ocellus. Face irregularly reticulate, vertex finely so. Scape not reaching median ocellus, as long as first three funicle segments combined; flagellum shorter than width of head (27 : 33); first funicle segment much longer than wide, second to fourth segments a little longer than wide. Thorax robust, less than 1.7 times as long as wide. Mesoscutum coarsely and strongly reticulate; axillae finely so. Scutellum rounded, as long as wide, more densely reticulate than mesoscutum. Metascutellum finely reticulate. Propodeum reticulate as in scutellum, with median carina strong; plicae complete, strong, divergent anteriorly. Thorax not depressed in lateral view, scutellum, metascutellum, and propodeum gently arched. Submarginal vein of fore wing shorter than marginal; relative length of sm : m : p : s as 27 : 32 :12 : 6. Gaster depressed, a little longer and wider than thorax, pointed at apex.

Dark green with bronzy reflections, especially on vertex and lower face; scape pale yellow; pedicel and flagellum dark brown; legs pale yellow; gaster usually with a brownish yellow subbasal spot.

Male. Length 1.1–1.7 mm. Scape strongly swollen; flagellum longer than width of head (28 : 25); first funicle segment longer than the fourth; branches with sparse, long hairs (fig. 8). Thorax about 1.8 times as long as wide, more weakly sculptured, especially in smaller specimens. Axillae and metascutellum alutaceous. Submarginal vein as long as marginal. Gaster shorter than thorax. Legs pale yellow: coxae usually darker with metallic reflections and hind femora slightly darker in middle, sometimes only hind coxae darker with metallic reflections basally. Gaster with a white subbasal spot.

Holotype (♀): Bibai, Hokkaido, em. 9. VII. 1962, ex *Rhythmonotus takagii*, K. Kamijo. Paratypes: 11♀♀, the same as holotype; 25♀♀, 9♂♂, Bibai, em. VII. 1962, ex *Apanteles liparidis*, K. Kamijo; 4♀♀, Suigen, Korea, 10. VII. 1961, 1♀, 1♂, Suigen, 20. VI. 1963, 5♀♀, 1♂, Suigen, undated, ex cocoons of *Apanteles* sp. on macrolepidopterous larva, 3♀♀, 1♂, Korea, undated, ex cocoons of Ichneumonid sp.

Hosts: *Apanteles liparidis* Bouché; *Apanteles* sp.; *Rhythmonotus takagii* Matsumura.

Distribution: Japan (Hokkaido); Korea.

This species is gregariously parasitic on Ichneumonid and Braconid cocoons.

This species is readily distinguished from *E. brevicornis* by the reticulate propodeum, the rounded scutellum, the anteriorly pointed gaster in the female, and the male antennae, of which the scape is swollen and the branches are long-hairy.

Eulophus larvarum (Linné)*

Ichneumon Larvarum Linné, 1758, Systema Naturae, ed. 10, p. 567.
Eulophus nigribasis Gradwell, 1957, Ent. month. Mag. 93 : 160.
Eulophus larvarum: Bouček, 1959, Acta Ent. Mus. Natl. Pragae 33 : 167.

Through courtesy of Dr. Bouček, I have examined six European specimens determined by himself as *E. larvarum*. The Japanese specimens examined, all of which

belong to the summer form, agree well with the European, but the metascutellum is sometimes longitudinally depressed medially as in *E. smerinthicida* Bouček and the fore coxae are infuscated at base in most specimens.

Specimens examined: 11♀♀, 1♂, Ashoro, Hokkaido, 22. VII. 1955, K. Yasumatsu; 8♀♀, 1♂, Yamabe, Hokkaido, em. 5. VII. 1961, ex lepidopterous larva on *Populus alba*, K. Kamijo; 4♀♀, Bibai, Hokkaido, em. 17. VII. 1961, ex *Orgyia thyellina*, 13♀♀, 6♂♂, Bibai, em. 21. VI. 1962, ex lepidopterous larva on *Alnus glutinosa*, 10♀♀, 3♂♂, Bibai, em. 23. VI. 1962, ex *Orthosia incerta*, 14♀♀, Bibai, em. 24. VII. 1962, ex lepidopterous larva on poplar, 2♂♂, Bibai, em. 30. VII. 1962, ex *Orgyia recens*, 11♀♀, 2♂♂, Bibai, em. 30. VII. 1962, ex *Apatele leporina*, K. Kamijo; 22♀♀, 1♂, Sapporo, Hokkaido, 5. VII. 1937, H. Kono; 1♀, Sapporo, 9. IX. 1957, K. Kamijo; 1♀, Sapporo, em. 16. VI. 1961, ex Noctuid larva on *Hamamelis japonica*, S. Takagi; 11♀♀, 1♂, Sapporo, em. 29. VI. 1962, ex *Orthosia carnipennis*, T. Oku; 4♀♀, 1♂, Fujisaki, Aomori Pref., em. 14.-31. VII. 1959, ex *Apatele incretata*, K. Homma; 4♀♀, Slovakia, VI. 1957, M. Čapek; 2♀♀, Srbsko-Koda, Bohemia, 9. VII. 1953, P. Starý.

Hosts: In Europe many lepidopterous species have been recorded as hosts of this species. So far as I am aware it attacks following Lepidoptera in Japan: *Apatele incretata* Hampson; *A. leporina leporella* Staudinger; *Orgyia recens approximans* Butler; *O. thyellina* Butler; *Orthosia carnipennis* Butler; *O. incerta incognita* Sugi.

Distribution: Japan (Hokkaido; Honshu); Europe.

Eulophus smerinthicida Bouček*

Eulophus smerinthicida Bouček, 1959, Acta Ent. Mus. Natl. Pragae 33 : 164.

I have examined two female paratypes of *E. smerinthicida*, which were kindly sent me by Dr. Bouček. The Japanese specimens at hand agree well with them, except that the thorax is bluish green with weak golden or bronzy reflections instead of tending to be golden red and that the first funicle segment is shorter.

Specimens examined: 27♀♀, 3♂♂, Karifuto, Hokkaido, em. 24. VII. 1961, ex lepidopterous larva on black poplar, K. Kamijo; 2♀♀ (paratypes), Praha, 1949, ex *Smerinthus ocellatus*, Bouček.

Hosts: *Acronycta megacephala* Schiffermüller; *Smerinthus populi* Linné; *S. ocellatus* Linné (after Bouček, in Europe).

Distribution: Japan (Hokkaido); Europe (Germany; Czechoslovakia).

Eulophus thespius Walker*

Eulophus Thespius Walker, 1839, Monogr. Chalciditum 1 : 127.
Cratotechus ungularis Thomson, 1878, Hym. Scand. 5 : 222.
Eulophus thespius: Bouček, 1959, Acta Ent. Mus. Natl. Pragae 33 : 162.

The present specimens from Japan agree well enough with a European specimen at hand determined by Dr. Bouček as *E. thespius*.

Specimens examined: 2♀♀, Nukabira, Hokkaido, 14. VII. 1959, S. Momoi and K. Kamijo; 1♀, Nukabira, 10. VII. 1961, H. Takada; 1♀, Praha, Bohemia, 26. VII. 1962, Z. Bouček.

Hosts: *Acronycta leporina* Linné; *Aethia emortualis* Schiffermüller; *Oporinia dilutata* Schiffermüller; *Pachnobia rubricosa* Fabricius (after Bouček, in Europe).

Distribution: Japan (Hokkaido); northern and central Europe.

Dicladocerus westwoodi Westwood*

Dicladocerus Westwoodii Westwood, 1832, Philos. Mag. (3) 1 : 128.
Diglyphis rugifrons Thomson, 1878, Hym. Scand. 5 : 236.
Diglyphis aeneiscaps Thomson, 1878, Hym. Scand. 5 : 236.
Dicladocerus westwoodi: Bouček, 1959, Acta Ent. Mus. Natl. Pragae 33 : 145.

This species exhibits a great deal of variation in structure, sculpture, and colour (Bouček, 1959). The Japanese specimens examined, however, are rather uniform, showing slight differences in colour:— antennal scape pale yellow to dark brown; tibiae wholly pale yellow, in some specimens darker apically.

Specimens examined: 2♀♀, Yamabe, Hokkaido, em. 1. VII. 1960, ex *Coleophora laricella*, S. Takagi; 1♀, Bibai, Hokkaido, em. 25. VII. 1963, ex *C. laricella*, K. Kamijo; 3♀♀, 1♂, Teine, Hokkaido, em. 2. V. 1959, ex *C. laricella*, T. Kumata; 2♀♀, 6♂♂, Karuisawa, Nagano Pref., 11, VI. 1958, ex *C. laricella*. T. Nakashima.

Hosts: *Coleophora laricella* Hübner.

Distribution: Japan (Hokkaido; Honshu); Europe; North America.

Selected Literature

Ashmead, W. H. 1904. Descriptions of new Hymenoptera from Japan, II. J. New York Ent. Soc. 12 : 146-165.

Bouček, Z. 1959. A study of central European Eulophidae, I: Eulophinae (Hymenoptera). Acta Ent. Mus. Natl. Plagae 33 : 117-170.

Erdös, J. 1954. Eulophidae hungaricae indescriptae. Ann. Hist.-nat. Mus. Natl. Hung. (s. n.) 5 : 323 - 365.

Graham, M.W.R. de V. 1959. Keys to the British genera and species of Elachertinae, Eulophinae, Entedontinae, and Euderinae (Hym., Chalcidoidea). Trans. Soc. Brit. Ent. 13 : 169-204.

Szelényi, G. 1941. Description of a new species of the genus *Sympiesis* Först. (Hymenoptera : Eulophidae). Fragm. Faun. Hung. 4 : 27-29.

Thomson, C. G. 1878. Hymenoptera Scandinaviae, 5. 307 pp.

A NEW HOST-RECORD OF MONODONTOMERUS OSMIAE KAMIJO. This species was originally described as a parasite of *Osmia excavata* Alfken and *O. taurus* Smith. Recently, I have examined seven females reared from a new host, *Osmia cornifrons* Radoszkowski, collected at Kuroishi, Aomori Pref., in 1963.

KAZUAKI KAMIJO

Errata

Vol. 28, No. 1, 1965, p. 69, line 1 from top, for "EUOLPHINAE" read "EULOPHINAE".

Vol. 28, No. 1, 1965, p. 82, line 12 from bottom, for "ichnemmonflies" read "ichneumonflies".

PRINTED BY
BUNYEIDO PRINTING CO., FOREIGN DEPT.
SAPPORO JAPAN