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CHALCIDOID PARASITES OF DRYOCOSMUS KURIPHILUS YASUMATSU (CYNIPIDAE) IN JAPAN, WITH DESCRIPTIONS OF FIVE NEW SPECIES (HYMENOPTERA)*

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Abstract

The present paper deals with 12 species reared from galls of the chestnut gallwasp, *Dryocosmus kuriphilus* Yasumatsu, a serious pest of chestnut trees in Japan. Five new species, *Torymus benejicus*, *Megastigmus nipponicus*, *M. maculipennis*, *Ormyrus flavitibialis*, and *Eurytoma schaeferi*, are described. *Sycophila variegata* (Curtis) is recorded from Japan for the first time. Host records other than *D. kuriphilus* are also given for all species.

Introduction

By request from the Bureau of Forestry, Ministry of Agriculture and Forestry, Japanese Government, Yasumatsu has been engaged in the study of natural enemies of the chestnut gallwasp, *Dryocosmus kuriphilus* Yasumatsu since **1952.** During this study a large number of galls were collected from almost all prefectures of Japan through the kind support and cooperation of Mr. S. Matsuyama, Forest Protection Officer of the Bureau of Forestry, and forest entomologists of the respective prefectures.

Two preliminary reports were prepared by Yasumatsu on this project, one in 1955 and the other in 1958. It was stated in these reports that among the many parasites and predators collected during this study were 11 species including seven apparently new species which were of importance in the biological control of the chestnut gallwasp. It was also reported that the chestnut

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trees in Japan could not be completely destroyed by this chestnut pest owing to the gradual increase of natural enemies from the outbreak centers.

The determination of the specific names of these natural enemies were made by Yasumatsu who was kindly assisted by Dr. Ch. Ferrière of the Museum d'Histoire Naturelle, Genève. For convenience in making his reports, Yasumatsu gave tentatively a new name (manuscript names) for the new species which was to be described later by him. The preliminary reports in which these manuscript names were used were sent to the Bureau of Forestry in 1955 and 1958. A copy of the **1958** report was sent to Mr. Pak Seawook of Korea for his personal reference. Unfortunately, Mr. Pak (1963) compared the Korean species of natural enemies of the chestnut gallwasp with those of Japan and recorded species with new names from Korea together with descriptions. However, these new names are invalid because he did not comply with the rules of International Code of Zoological Nomenclature. It is unfortunate that Mr. Pak did not know how to apply the International Code of Zoological Nomenclature.

Unfortunately, the descriptions of the new species of natural enemies of the chestnut gallwasp had to be suspended by Yasumatsu due to unexpected circumstances for a long period. However, in the meantime Kamijo has started the taxonomic study of natural enemies of the chestnut gallwasp recently independently with specimens either collected by himself or his colleagues. The specimens represented in his collection are almost the same as those which have hitherto been collected and recorded by Yasumatsu. Therefore, Yasumatsu and Kamijo have mutually agreed to jointly publish the paper on the taxonomic study of the natural enemies of the chestnut gallwasp.

The present paper deals with 12 species, of which five are new to science. The holotypes of the new species are deposited in the Entomological Laboratory, Kyushu University, and paratypes in the Entomological Institute, Hokkaido University, in the Entomological Laboratory, Kyushu University, and in the United States National Museum, Washington, D. C.

Torymus beneficus sp. n.

(Japanese name : Kurimamori-onagakobachi)

Torymus beneficus Yasumatsu, 1955, Shinrin Boeki News 4: 100, **nomen nud.**
Torymus beneficus Yasumatsu, 1958, Report appl. Res. Ministry Agr. Forest., Tokyo, 1958 p. 38, figs. p. 41, **nomen nud.**

Female. Bluish green with a bronzy tinge (especially in specimens from southern Japan) : scape yellowish brown, darker apically with metallic reflections ; pedicel and flagellum blackish ; coxae concolorous with thorax; femora dark green with basal and apical tips lighter; hind tibiae broadly infuscate with faint metallic reflections ; fore tibiae usually with a dark stripe dorsally;

remainder of legs yellowish brown with last segments of tarsi darker; first three tergites shining bluish green. Venation brownish yellow. Body length 1.1–2.6 mm.

Head in dorsal view slightly broader than thorax, twice as broad as long, with frons weakly protruding in front of eyes; temples converging strongly, nearly one-third as long as eyes (fig. 1). Vertex convex; POL about twice as long as OOL, which is a little longer than the lateral ocellus. Head in front view 1.3 times as broad as high. Malar space 0.36 to 0.40 times height of eye. Eyes separated by their height. Distance between antenna1 toruli distinctly less than distance from them to inner borders of eyes. Scape not reaching median ocellus, 3.3 times as long as broad ; pedicel about 1. 5 times as long as broad. Flagellum (fig. 1) weakly clavate distally, 1.2 to 1. 3 times breadth of head; anellus transverse ; first funicle segment slightly longer and broader than pedicel, 1.4 to 1.6 times as long as broad; the seventh very slightly transverse ; club as long as or slightly longer than two preceding segments combined. Sensilla disposed in one row on each funicle segment, sometimes in two irregular rows on first two segments.

Thorax 1.7 times as long as broad, strongly arched dorsally. Mesoscutum 1.4 times as broad as long, finely and transversely imbricate, covered with rather long hairs, with hind margin moderately sinuate. Scutellum 1.2 to 1.3 times as long as broad, area before frenal furrow sculptured like mesoscutum, with long and sparse hairs ; frenal furrow distinct, frenum smooth and polished. Propodeum faintly and longitudinally sculptured or practically smooth ; submedian carinae strong, sharply curved at middle; median carina absent; propodeal spiracle separated from posterior margin of metanotum by less than its long diameter. Lower part of mesepimeron alutaceous, about 1.4 times as high as broad. Hind coxa stout, with dorsal surface bare basally, and with strong dorsal carina complete. Inner spur of hind tibia a little longer than maximum breadth of the tibia. Forewing: basal vein pilose; basal cell usually bare, broadly open below; upper surface of costal cell with a complete row of hairs becoming double apically; its lower surface hairy with bare area in basal half posteriorly; speculum moderate in size, narrowly open below; disc rather densely hairy ; relative lengths of sm : m : pm : s as 31 : 23 : 6 : 2.5; stigma petiolate. In specimens from northern Honshu and Hokkaido, forewing tending to be less hairy: basal vein with at most four hairs; basal cell completely open below; upper and lower surfaces of costal cell with hair rows broadly interrupted medially; hairs on disc sparser ; marginal vein shorter, its relative length about 19.

Gaster a little shorter than thorax. First tergite occupying one-third length of gaster, usually extending beyond apex of second tergite at middle, with hind margin weakly incised medially; the third with hind margin weakly incised at middle. Ovipositor sheaths 1.1 times length of thorax.

Male. Differs from female as follows: Scape entirely bluish green ; mid and fore tibiae usually darker with faint metallic reflections dorsally. Eyes separated by more than 1.1 times their height. Pedicel about 1. 3 times as long as broad; flagellum filiform, 1.6 to 1.8 times breadth of head ; funicle segments about equal in length and breadth, 1.3 to 1.5 times as long as broad. Sensilla disposed in two rows on each funicle segment, tending to form three rows in larger specimens. Hair rows on upper and lower surfaces of costal cell complete, occasionally interrupted on upper surface. Gaster shorter than thorax; third tergite with hind margin not incised at middle. Body length 1. l-2.4 mm.

TYPE MATERIAL. Holotype (♀) (Type No. 2140, Kyushu Univ.), Nosecho, Osaka-fu, em. iii. 1978, ex *Dryocosmus kuriphilus* Yasumatsu, (F. Komai). Paratypes. Hokkaido : Muroran, 7 ♀7♂, em. iv. 1978. Sôbetsu, 2♀5♂, em. iv. 1977, 2 ♀, em. iv. 1978, Mori, 4 ♀2♂, em. iv. 1975, 1♀1♂, em. iv. 1977, Otobe, 2♀1♂, em. iv. 1977, Hakodate, 5 ♀5♂, em. iv. 1975, all ex *D. kuriphilus*, (K. Kamijo). Honshu: Kamabuchi, Yamagata-ken, 6♀5♂, em. iii. 1978, ex *D. kuriphilus*, (K. Tate) ; Seto, Aichi-ken, 7♀4♂, em. 26. iii. 1977, ex *D. kuriphilus*, (K. Kanamitsu and P. W. Schaefer) ;22♀16♂, with same data as holotype ; Kyoto, 3♀3♂, *7-9. v.* 1965 (H. Takada) . Kyushu : Fukuoka-shi, **1** ♂, em. 7-13. iv. 1966, 6♀1♂, em. 11-15. iv. 1976, 1 ♂, em. 21-27. ii. 1977, all ex *D. kuriphilus*, (Y. Murakami) ; Fukuoka-shi, 2 ♀1♂, em. 6-27, iii. 1977, ex galls of *Andricus* sp. on Quercus sp. (Y. Murakami) ; Fukuoka-shi, 4♀2♂, em. 25. iii. 1977, ex *D. kuriphilus*, (Y. Murakami and P. W. Schaefer) ; Sasaguri, Fukuoka-ken, 1♀2♂, em. 21-31. v. 1977, ex galls of *Andricus* sp. on Quercus sp. (Y. Murakami) ;Kagoshima, 4 ♀, 27. iv. 1970 (K. Kusigemati).

ADDITIONAL MATERIAL. Minamiawa, Awaji-shima,6♀, em. 23. iii. 1978, Shiratori, Kagawa-ken, Shikoku, 20 ♀, em. 23. iii. 1978, all ex *D. kuriphilus*, (P. W. Schaefer).

DISTRIBUTION. Japan (Hokkaido, Honshu, Shikoku, Kyushu).

BIOLOGY. A very common parasite of *D. kuriphilus*; also reared from galls of *Andricus* sp. on leaves of Quercus sp. This species has usually one generation a year and overwinters as a mature larva in the gall. The adult emergence starts from the later half of February. This female oviposits her eggs in the gall which is just beginning its growth. In some occasions, the emergence of adult wasps occurs in early summer through autumn; these adults are very small in size, less than 1. 5 mm in body length.

This species belongs to the subgenus *Syntomaspis* Förster. It seems to resemble *T. notata* Walker and *T. cerri* Mayr, but may be distinguished from them **by** the following combination of characters: temples strongly receding behind eyes ; frons protruding in front of eyes; flagellum 1.2 to 1.3 times breadth of head, distance between antenna1 toruli less than distance from them to inner

borders of eyes; ovipositor sheaths distinctly shorter than head plus thorax.

This species is recorded as occurring in Korea by Pak (**Torymus** *benificus* [sic] Yasumatsu: Pak, 1963 : 2, **nomen nud.).** Through the courtesy of Dr. Schaefer, we have seen 12 females reared from *D. kuriphilus* collected at Inchon, South Korea in 1978. These specimens have the flagellum relatively short, about as long as the breadth of the head, the temples rounded behind eyes, and the ovipositor sheaths longer, 1.4 times as long as the thorax; they may represent a distinct species.

Torymus geranii (Walker)

(Japanese name : Kuritama-onagakobachi)

Callimome ***geranii*** Walker, 1833, Ent. Mag. 1: 121.
Torymus cynipedis Boheman, ***1834,*** Svensk. Vet.-Akad. Handl. 54: 342.
Torymus elegantulus Yasumatsu, 1955, Shinrin Boeki News 4: 100, **nomen nud.**
Torymus elegantulus Yasumatsu, 1958, Report appl. Res. Ministry Agr. Forest., Tokyn, 1958 p. 38, figs. p. 40, **nomen nud.**
Torymus *cingulatus* Eady, 1959, Entomologist's mon. Mag. 94 : 265 (nec Nees, 1834).
Torymus cingulatus: Askew, 1961, Trans. Soc. Brit. Ent. 14: 260 (nec Nees, 1834).
Torymus elegantulus: Pak, 1963, Publ. Divis. Prot., Bureau Forest., Ministry Agr. Forest., Seoul (1) : 2, **nomen nud.**
Torymus cynipedis: Graham, 1969, Proc. R. ent. Soc. Lond. (B) 38: 66.
Torymus geranii: Bouček and Graham, 1978, Entomologist's Gaz. 29: 227.

Dr. Askew kindly sent us nine female specimens reared from Cynipid oak galls in England. The Japanese specimens examined agree well with them, except that the ovipositor sheaths in females of the first and second generations are about as long as the body, and that the males have the hind femora usually brownish yellow, rearly darker without metallic reflections.

MATERIAL EXAMINED. Numerous specimens reared or swept from the following localities : Hokkaido : Hamatonbetsu ; Nukabira ; Apoi-dake ; Sapporo ; Shimamatsu; Chitose ; Tomakomai ; Mori ; Okushiri. Honshu: Urawa and Ogose, Saitama-ken ; Kodaira, Tokyo-to ; Ôyama, Kanagawa-ken ; Ojiya, Niigata-ken; Nagawa-mura, Nagano-ken ; Futagoyama, Ishikawa-ken ; Shizuoka-shi ; Tamba-Sasayama, Hyogo-ken. Kyushu : Fukuoka-shi ; Chojabaru, Kuju, Oita-ken. We have also seen two females reared from galls of *D. kuriphilus* and *Trichagalma serratae* (Ashmead) in Suweon, Korea, by J. C. Paik.

DISTRIBUTION. Japan (Hokkaido, Honshu, Shikoku, Kyushu); Korea; Europe.

BIOLOGY. A common parasite in Cynipid oak galls in Japan, such as *Biorhiza weldi* Yasumatsu and Masuda on *Quercus mongolica* and Q. *dentata, Trichagalma serratae* (Ashmead), *Cynips* sp. on Q. *dentata*, *Neuroterus* **sp. on Q.** *serrata*, and some other Cynipids on leaves of *Quercus* spp. This species seems to be less common in galls of *D. kuriphilus*. It has at least two generations in Japan.

Megastigmus nipponicus sp. n.

(Japanese name: Kurinotakara-mon-onagakobrtchi)

Megastigmus japonicus Yasumatsu, 1955, Shinrin Boeki News 4: 100 (nec ***Megastigmus japonicus*** Ashmead, 1904), **nomen nud.**

Megastigmus japonicus Yasumatsu, 1958, Report appl. Res. Ministry Agr. Forest., Tokyo, 1968 p. 38, figs. p. 42 (nec Ashmead, 1904), **nomen nud.**

Megastigmus japonicus: Pak, 1963, Publ. Divis. Prot., Rureau Forest., Ministry Agr. Forest., Seoul (1) : 2 (nec Ashmead, 1904), **nomen nud.**

Female. Head light brownish yellow with face lemon yellow; vertex with a large rectangular green area, which is rarely confined to the ocellar triangle. Scape at apex dorsally and pedicel dorsally, more or less darkened; flagellum dark brown. Thoracic dorsum bluish green to dark green, sometimes with golden or bronzy reflections; sides of thorax brownish yellow; in darker specimens thorax extensively greenish, only pronotum laterally and tegulae yellowish ; in light specimens metallic area restricted to mesoscutum posteriorly, scutellum, axillae, and propodeum medially. All legs yellowish; hind coxae in darker specimens infuscate basally. Gaster mainly yellowish brown, more or less darker dorsally. Hairs on thorax pale. Venation pale brownish yellow ; stigma without cloud below (rarely with faint cloud). Body length 1.8-3.0 mm.

Head in dorsal view about 1.6 times as broad as long, a little broader than mesoscutum ; temples about one-third as long as eyes, moderately rounded behind eyes. Vertex convex, transversely striate, with bristles black. Lateral ocellus two-thirds as long as OOL, which is as long as the distance between the ocellus and the occipital carina. Occiput moderately emarginate. Head in frontal view 1.2 times as broad as high. Eyes separated by 1.2 times their height. Malar space nearly as long as half height of eye. Face radiately striate, covered with whitish hairs. Scape almost reaching anterior margin of median ocellus, a little longer than transverse diameter of eye; pedicel as Iong as or slightly longer than first funicle segment; flagellum about 1.25 times breadth of head, slightly increasing in breadth distally; first funicle segment twice as long as broad, seventh segment a little shorter than the first, slightly longer than broad; club a little longer than two preceding segments combined; area of micropilosity large, extending to base of club. Sensilla sparse and disposed in one row on each funicle segment in smaller specimens, becoming two rows on basal segments in larger specimens.

Thorax slender, twice as long as broad. Pronotum 1.3 to 1.4 times as broad as long, broadest at anterior one-third, transversely striate, with anterior flange weakly emarginate. Mid lobe of mesoscutum irregularly and transversely rugose anteriorly, more coarsely and somewhat reticulately rugose posteriorly ; side lobes transversely striate. Scutellum as long as broad, irregularly rugose, with five or six pairs of bristles; frenal furrow distinct, frenum longitudinally rugose. Dorsellum smooth. Propodeum about two-

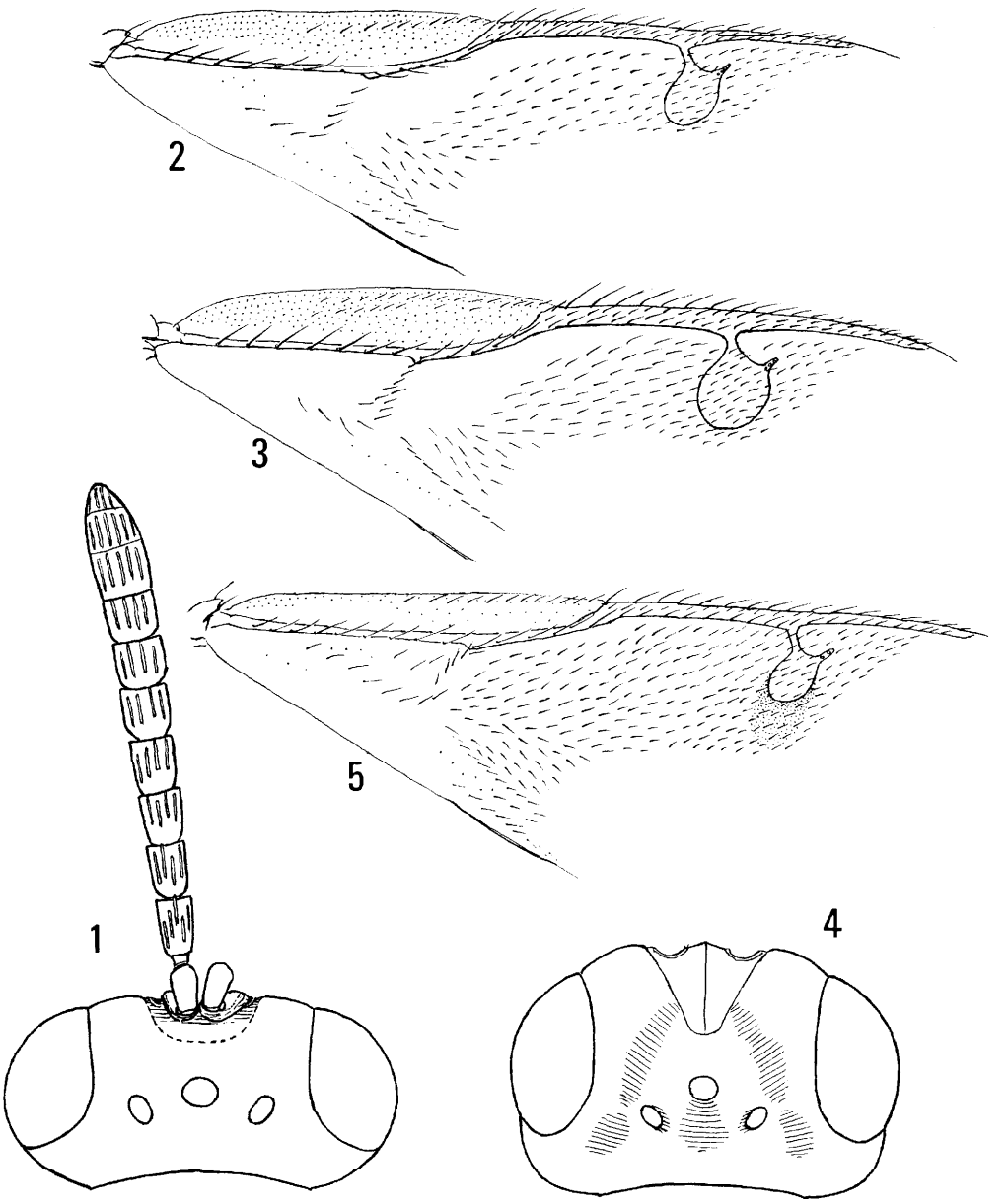


Fig. 1. *Torymus beneficus* Yasumatsu and Kamijo sp. n., ♀, head and antenna. **Figs. 2-3.** *Megastigmus japonicus* Yasumatsu and Kamijo sp. n. 2: ♀, forewing (part). 3: ♂, forewing (part). **Figs. 4-5.** *Megastigmus maculipennis* Yasumatsu and Kamijo sp. n. 4: ♀, head. 5: ♀, forewing (part).

thirds length of scutellum, about 0.75 times as long as distance between inner edges of spiracles, with a transverse carina at anterior two-fifths, to which weaker carinae extend from the anterior and posterior margins, sometimes carinae behind transverse carina very weak or absent and reticulate-punctate ; median carina usually present, interrupted or branched at the junction with transverse carina. Forewing (fig. 2) 2.6 times as long as broad; costal cell broad, its lower surface with dense pubescence, upper surface with a row of hairs in apical half; in some smaller specimens costal cell less broad, with sparser hairs below; basal cell bare, open in basal half ; speculum developed, closed below; marginal vein a little shorter than half length of costal cell, as long as postmarginal; stigma1 vein (not including stigma) short, only slightly longer than breadth of marginal vein; stigma oval, about 1.3 times as long as broad.

Gaster as long as, or shorter than thorax. Hind margins of first and second tergites shallowly emarginate medially. Ovipositor sheaths a little shorter than gaster and thorax combined, or 1.5 to 1.7 times as long as thorax.

Male. Differs from female as follows: Metallic area on thoracic dorsum bluish green, usually with a golden tinge. Flagellum usually dark brown dorsally and lighter ventrally. Club nearly as long as three preceding segments combined. Forewing (fig. 3) about 2.4 times as long as broad; costal cell much broader, usually with two rows of hairs in apical two-thirds of upper surface ; basal cell with a few hairs apically; stigma large, about 1.2 times as long as broad; in smaller specimens, sometimes costal cell normal, its lower surface with sparser hairs and upper surface with a row of hairs in distal half. Gaster shorter, depressed. Body length 1.5–3.2 mm.

TYPE MATERIAL. Holotype (♀) (Type No. 2141, Kyushu Univ.), Ina, Nagano-ken, em. 4. vii. 1963, ex *D. kuriphilus*, (K. Kamijo). Paratypes. Hokkaido : Hamatonbetsu, 2 ♀4♂, em. vii. 1975, ex *Biorhiza weldi*, (K. Kamijo) ; Tsubetsu, 1♀1♂, em. 27. vii. 1977, ex Cynipid galls on Q. *dentata*, (K. Kamijo) ; Apoidake, 5♀5♂, em. 14. vii. 1959, 1 ♀4♂, em. 20. vii. 1963, ex galls of *Andricus* sp., 7♀5♂, em. 22. vii.-1. viii. 1963, ex Cynipid galls on Q. *dentata*, 3 ♀, em. l-5. viii. 1963, ex *B. weldi*, (all K. Kamijo) ; Sapporo, 1♀, 2. ix, 1966 (K. Kusigemati) ; Ishikari-cho, 2♀1♂, em. viii. 1975, ex Cynipid galls on Q. *dentata*, (K. Kamijo) ; Sôbetsu, 1♀1♂, em. 28. **viii. 1973, ex** *D. kuriphilus*, (K. Kamijo) ; Mori, 1♀3♂, em. iv-v. 1975, ex *D. kuriphilus*, 3♂, em. iii. 1978, 6♀7♂, em. 15-22. vii. 1978, ex Cynipid galls on Q. *dentata*, (K. Kamijo) ; Gamushi, 6 ♀, em. 21-24. vii. 1958, ex galls of *Andricus* sp. (K. Kamijo) ; Hakodate, 7 ♀4♂, em. 4. ix. 1967, 1♀2♂, em. iv-v. 1975, 7 ♀, em. iv. 1977, 1 ♀5♂, em. 15. vii. 1978, all ex *D. kuriphilus*, (K, Kamijo) . Honshu : Misawa, Aomori-ken, 11♀12♂, em. 6-13. v. 1977, ex *D. kuriphilus*, (P. W. Schaefer) ; Kuji, Iwate-ken, 5 ♀7♂, em. iv. 1977, ex *D. kuriphilus*, (P. W. Schaefer) ; Rikuzen-Takada, Iwate-ken, 5 ♀4♂, em. 17. iii. 1978, ex *D. kuriphilus*, (P. W. Schaefer) ; Nihonmatsu, Fukushima-ken, 1♀1♂,

em. 18. iii. 1978, ex *D. kuriphilus,* (P. W. Schaefer) ; Ami, Ibaragi-ken, 2♂, em. 29. vi. 1972, ex *D. kuriphilus, (S.* Nakagaki) ; 11♀ 5♂, with same data as holotype; Oshimizu, Ishikawa-ken, 1♀ , em. 25. ix. 1975, ex *D. kuriphilus,* (I. Togashi) ; Minoo, Osaka-fu, 1♂, em. 25. vi. 1959, ex *D. kuriphilus,* (K. Kamijo). Kyushu : Fukuoka-shi, 1♀2♂, em. 17. vi.-7. vii. 1976, ex *D. kuriphilus, (Y.* Murakami) ; Hikosan, Fukuoka-ken, 11 ♀, em. 7. ix. 1958, ex *D. kuriphilus,* (K. Kamijo) ; Kirishima-yama, Kagoshima-ken, 2 ♀ , 26. v. 1966 (K. Kusigemati).

ADDITIONAL MATERIAL. Suweon, Korea, 28, em. 21. vii. 1975, ex *D. kuriphilus,* (J. C. Paik).

DISTRIEUTION. Japan (Hokkaido, Honshu, Shikoku, Kyushu); Korea.

BIOLOGY. A common parasite of *D. kuriphilus* and in Cynipid oak galls such as *Biorhiza weldi, Andricus* spp. on leaves of Q. *dentata* and Q. *mongolica,* and a Cynipid in twigs of Q. *dentata.* This species overwinters as a mature larva in the gall. It has at least two generations per year.

M. nipponicus sp. n. is closely allied to *M. dorsalis* (F.), from which it differs in the characters of the forewing as follows: costal cell usually broader, its underside with dense pubescence, basal cell open in proximal half, cloud below stigma absent, and male stigma usually large; in addition, sculpture on mid lobe of mesoscutum coarser and more irregular.

Megastigmus maculipennis sp. n.

(Japanese name : Ômon-onagakobachi)

Megastigmus maculipennis Yasumatsu, 1955, Shinrin Boeki News 4: 101, **nomen nud.**

Megastigmus maculipennis Yasumatsu, 1958, Report appl. Res. Ministry Agr. Forest., Tokyo, 1958 p. 38, figs. 43, **nomen nud.**

Megastigmus maculipennis: Pak, 1963, Publ. Divis. Prot., Bureau Forest., Ministry Agr. Forest., Seoul (1) : 2, **nomen nud.**

Very close to *M. nipponicus* sp. n. but differs as follows:

Female. Body brownish ; vertex with faint green spots (fig. 4), occasionally these spots almost absent. Scape short, not reaching median ocellus, slightly shorter than transverse diameter of eye. Thorax with following parts green-bronze: pronotum medially, mid lobe of mesoscutum, inner corners of axillae, scutellum, and median panel of propodeum. All legs yellowish brown. Forewing (fig. 5) : costal cell normal, its lower surface with hairs stronger and sparser, with two or three irregular rows of hairs in basal half anteriorly; basal cell with three to nine hairs apically, in larger specimens almost closed below; speculum reduced; stigma1 vein slender, distinctly longer than breadth of marginal vein; stigma usually with cloud below. Ovipositor sheaths shorter, 1.3 to 1.5 times as long as thorax. Body length 1.9-3.2 mm.

Male. Differs from female as follows: Vertex with a large, rectangular green area. Basal cell almost closed below, with several hairs dorsally. Body length 1. 7-2.5 mm.

TYPE MATERIAL. Holotype (♀) (Type No. 2142, Kyushu Univ.), Aburayama, Fukuoka-shi, Kyushu, em. 25-27. ix. 1976, ex *D. kuriphilus* collected on 5. ix. 1976 (Y. Murakami). Paratypes. Honshu: Yorii, Saitama-ken, 1♀, em. 29. vi. 1977, ex *D. kuriphilus*, (T. Nambu) ; Mt. Komayama, Kanagawa-ken, 4 ♀, 11–29. vi. 1964, ex *D. kuriphilus*, (Y. Murakami) ; Minoo, Osaka-fu, 1 ♀, em. ix. 1959, ex *D. kuriphilus*, (K. Kamijo). Kyushu : Fukuoka-shi, 5 ♀3♂, em. vi-vii. 1976, 2 ♀7♂, em. ix-x. 1976, 1♂, em. ii. 1977, all ex *D. kuriphilus*, (Y. Murakami) ; Fukuoka-shi, 1♀3♂, em. 9-12. vi. 1976, 1♂, em. viii. 1976, ex *Andricus* sp. (Y. Murakami) ; Mt. Tonbo, Fukuoka-ken, 1♀, em. x. 1976, ex *Neuroterus* sp. on *Q. serrata*, (Y. Murakami) ; Hikosan, Fukuoka-ken, 6 ♀1♂, em. 7, ix. 1958, 6 ♀3♀, em. 1. vii. 1959, ex *D. kuriphilus*, (K. Kamijo) ; Nagasaki, 2 ♀, 1923 (T. Ishii) ; Kagoshima, 1♀, 4. v. 1969, 2 ♀, 1. v. and 15. v. 1970, 4 ♀, 27. vi. 1970 (K. Kusigemati).

DISTRIBUTION. Japan (central and southern Honshu, Shikoku, Kyushu) ; Korea.

BIOLOGY. Reared from *D. kuriphilus* and galls of *Andricus* sp. on *Quercus* sp. and *Neuroterus* sp. on Q. *sewata*. This species has at least two generations a year.

M. maculipennis sp. n. is also close to *M. dorsalis* (F.), from which it differs in having the speculum of the forewing reduced, scape slightly shorter than transverse diameter of eye, female vertex with several green spots, and green area on thorax with a strong bronzy tinge.

Ormyrus punctiger Westwood

(Japanese name : Kuroashi-tamayadorikobachi)

Ormyrus *punctiger* Westwood, 1832, Philos. Magaz. 1: **127.**
Ormyrus *nigritibialis* Yasumatsu, 1955, Shinrin Boeki News 4: *101*, **nomen nud.**
Ormyrus *nigritibialis* Yasumatsu, 1958, Report appl. Res. Ministry Agr. Forest., Tokyo, 1958 p. 38, figs. p. 44, **nomen nud.**
Ormyrus *nigritibialis*: Pak, 1963, Publ. Divis. Prot., Bureau Forest., Ministry Agr. Forest., Seoul (1) : 2, **nomen nud.**

We have seen six females and one male specimens collected in France, which were kindly sent to us by Dr. Askew, and a pair of specimens taken at Praha in 1974 by one of us (K. K.). Some of the Japanese specimens examined agree well with the European. However, most of the Japanese are brighter in colour: gaster mainly bluish green, fore tibiae yellowish brown, sometimes with a metallic external stripe dorsally, hairs on thoracic dorsum often pale ; and further, in the female, the anterior punctate areas of the third to fifth tergites are usually concealed by the preceding tergite. But they may be within the range of variation of *punctiger*.

MATERIAL EXAMINED. Numerous specimens from the following localities : Hokkaido : Engaru ; Tsubetsu ; Nukabira ; Apoi-dake ; Bibai ; Sapporo ; Teine ; Ishikari-cho ; Chitose ; Tomakomai ; Mori ; Okushiri. Honshu : *Ogose*, Saitama-

ken ; Yokohama ; Hiratsuka, Kanagawa-ken ; Nagoya-shi ; Minoo, Osaka-fu ; Kobe ; Wakayama-shi. Kyushu: Fukuoka-shi. Korea : Suweon.

DISTRIBUTION. Japan (Hokkaido, Honshu, Shikoku, Kyushu) ; Korea ; Europe.

BIOLOGY. This species has been reared from various Cynipid oak galls in Europe. It has been reared in Japan from galls of *D. kuriphilus*, *Biorhiza weldi*, *Andricus oblongus* Monzen, and other several undetermined Cynipids on oaks.

Ormyrus *flavitibialis* sp. n.

(Japanese name : Kiashi-tamayadorikobachi)

Ormyrus *flavitibialis* Yasumatsu, 1955, Shinrin Boeki News 4: 101, **nomen nud.**

Ormyrus flavitibialis Yasumatsu, 1958, Report appl. Res. Ministry Agr. Forest., Tokyo, 1958 p. 38, figs. p. 45, **nomen nud.**

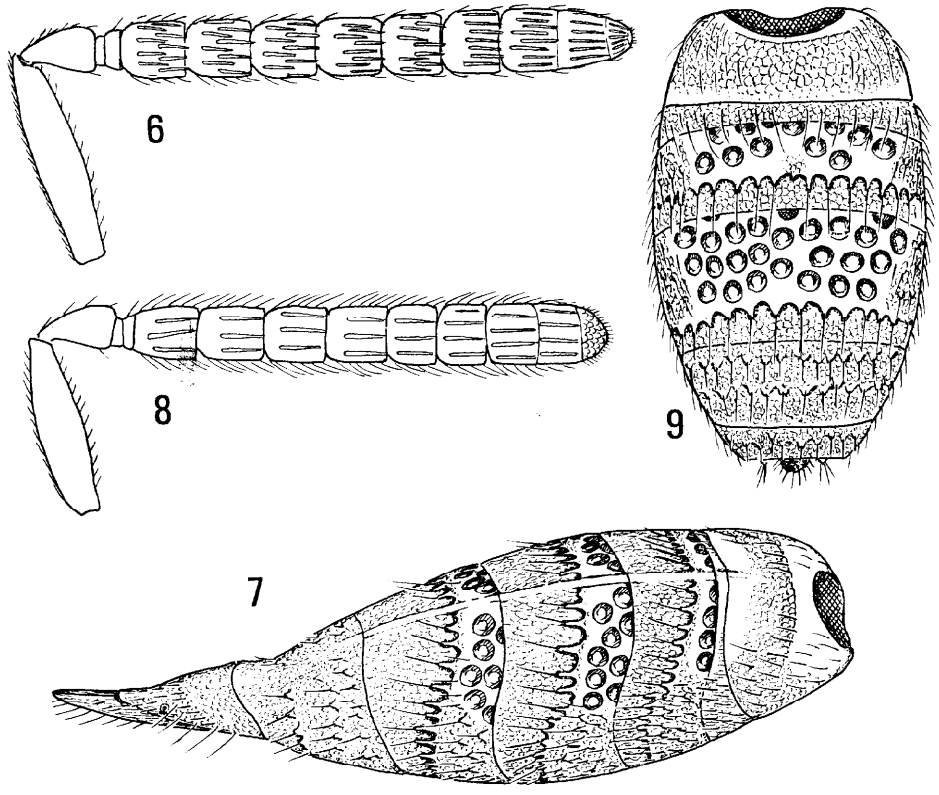
Ormyrus *flavitibialis*: Pak, 1963, Publ. Divis. Prot., Bureau Forest., Ministry Agr. Forest., Seoul (1) : 3, **nomen nud.**

Female. Bluish green : face with bronzy reflections; scape dark green, brownish basally; pedicel and flagellum blackish; third to fifth tergites with anterior punctate area brownish; sixth and seventh tergites sometimes bronzy. Coxae and hind femora concolorous with thorax; fore and mid femora more or less infuscate with metallic reflections, becoming lighter apically; tibiae and tarsi yellowish brown, sometimes fore and mid tibiae dorsally, and hind ones extensively darker. Hairs on thoracic dorsum pale. Wings subhyaline ; venation brownish yellow. Body length 2.5-4.3 mm.

Head slightly narrower than thorax, in dorsal view 2.1 times as broad as long; temple less than one-third length of eye. POL more than 2.6 times as long as OOL, which is as long as the diameter of the lateral ocellus. Head in front view 1.3 times as broad as high. Malar space about 0.4 times height of eye. Eyes separated by a little more than their height. Antennae (fig. 6) inserted well above level of ventral margins of eyes ; scape reaching anterior margin of median ocellus; combined length of pedicel and flagellum equal to breadth of head; pedicel nearly twice as long as broad, a little longer than first funicle segment; second anellus nearly three times as broad as long; first three funicle segments equal in length and breadth, slightly longer than broad, sixth segment a little shorter than the first, transverse; club with sutures not oblique.

Thorax 1.26 times as long as broad. Mesoscutum about 1.7 times as broad as long, transversely and finely imbricate. Scutellum a little longer than broad (20.5 :18), sculptured anteriorly as in mesoscutum, aciculate posteriorly; its posterior flange rounded apically. Dorsellum distinctly and longitudinally sculptured, with median area smooth and polished. Propodeum one- third length of scutellum, longitudinally sculptured ; submedian carinae sharp, archedly divergent posteriorly; space between them narrow, smooth and polished, with a few carinae anteriorly and with a pair of distinct pits at poste-

rior corners. Inner spur of hind tibia curved, 1.6 times as long as maximum breadth of the tibia, and as long as dorsal length of basitarsus. Forewing 2.5 times as long as broad; basal cell bare, broadly open below, its lower surface with a row of hairs; speculum large, closed below, its lower surface with only several scattered hairs; relative lengths of sm : m : pm : s as 36 : 24 : 5 : 2.5.



Figs. 6-9. *Ormyrus flavitibialis* Yasumatsu and Kamijo sp. n. 6: ♀, antenna. 7: ♀, gaster. 8: ♂, antenna. 9: ♂, gaster.

Gaster (fig. 7) 1.7 to 2.0 times as long as thorax, 2.4 to 2.7 times as long as broad, with distinct median carina dorsally; first tergite with anterior smooth area occupying half length of the tergite, area behind this weakly reticulate, becoming smooth posteriorly; second tergite very short medially; third to fifth tergites with anterior punctate area usually visible, area between posterior row of punctures and band of longitudinal tubercles narrow and almost smooth ; sixth tergite punctulate-reticulate medially, more minutely so posteriorly, with two or three irregular rows of triangle tubercles laterally; the seventh as long as, or slightly longer than high in lateral view. Ovipositor sheaths nearly half as long as seventh tergite in dorsal view.

Male. Differs from female as follows : Antennae (fig. 8) with funicle seg-

ments covered with rather long, dense hairs ; club rounded apically, with second suture weakly oblique; the last segment covered with dense pubescence. Sensilla sparser, disposed in one row on each funicle segment. Gaster (fig. 9) a little longer than thorax, 1.6 times as long as broad; first tergite reticulate in posterior two-thirds ; third and fourth tergites with anterior punctate area usually long, area between posterior row of punctures and band of longitudinal tubercles short. Body length 1.2 ~ 2. 0 mm.

TYPE MATERIAL. Holotype (♀) (Type No. 2143, Kyushu Univ.), Mt. Ôyama, Kanagawa-ken, em. 19. iv.-18. v. 1964, ex galls of *T. serratae,* (*Y.* Murakami). Paratypes. Honshu: ***Ogose,*** Saitama-ken, 2 ♀, em. vii. 1977, ex galls of ***D. kuriphilus***, (T. Nambu) ; Urawa, Saitama-ken, 5♀3♂, em. iii. 1979, ex Cynipid galls on *Q.* ***sewata,*** 1♂, em. iii. 1979, ex *Neuroterus* sp. (S. Usuba) ; Tokyo, 2♀1♂, em. 1960, ex galls of *T.* ***sewatae, (T.*** Nambu) ; 4♀4♂, with same data as holotype.

ADDITIONAL MATERIAL. South Korea, 3 ♀, em. 10. v. 1960, ex undetermined Cynipid galls.

DISTRIBUTION. Japan (Honshu, Kyushu) ; Korea.

BIOLOGY. Reared from ***D. kuriphilus***, and from galls of *Trichagalma* ***sewatae*** (Ashmead), *Neuroterus* sp. on *Quercus* ***sewata,*** and an undetermined Cynipid on ***Q. serrata.***

This species seems to be very close to 0. *nitidulus* (F.) (=*tubulosus* Fonsc.). We have seen one female of *nitidulus* (6. 7 mm in body length) collected at Budapest, Hungary, on 20. iv. 1901 by S. Matsumura, from which the new species differs in the female in having the second anellus strongly transverse, the sixth funicle segment slightly transverse, the lower surface of the forewing speculum almost bare, the propodeum with the area between the submedian carinae narrow, almost smooth and polished, the first five tergites bluish green, except for punctate areas, and the last tergite at most slightly longer than high.

Eurytoma brunniventris Ratzeburg

(Japanese name : Tamayadori-katabirokobach

Eurytoma brunniventris Ratzeburg, 1852, Ichn. Forstinsect. 3 : 221.
Eurytoma brunniventris: Claridge and Askew, 1960, Entomophaga 5: 145.

MATERIAL EXAMINED. Numerous specimens reared from following localities : Hokkaido : Hamatonbetsu ; Apoi-dake ; Bibai ; Ishikari-cho ; Teine-yama; Mori. Honshu : Oshaka, Aomori-ken ; Ojiya, Niigata-ken ; Chiyoda-mura, Ibaragi-ken; Urawa and Ogose, Saitama-ken ; Tokyo ; Yokohama and Komayama, Kanagawa-ken ; Narashino, Chiba-ken ; Futaba, Yamanashi-ken ; Minoo, Osaka-fu; Kamiogo, Hyogo-ken. Kyushu : Fukuoka-shi ; Kuju, Oita-ken. We have also seen three females from Suweon, Korea. and 13 females and six males from England, which were kindly sent to us by Dr. Askew.

DISTRIBUTION. Japan (Hokkaido, Honshu, Shikoku, Kyushu) ; Korea ; Europe.

BIOLOGY. A common parasite in various Cynipid oak galls. Reared in Japan from galls of *Andricus* spp., *Biorhyza weldi*, *D. kuriphilus*, *Neuroterus* spp., and *Trichagalma serratae*.

Eurytoma setigera Mayr

(Japanese name : Togeaslli-katabirokobachi)

Eurytoma setigera Mayr, 1878, Verh. zool.-bot. Ges. Wien 28: 330.
Bruchophagus setigerus: Ferrière, **1950**, Mitt. schweiz. ent. Ges. 23: 402.
Eurytoma setigera : Kalina, 1970, Studia Ent. Forst. 1: 116, 119.

The Japanese specimens examined agree well with the original description and with the diagnostic characters given by Ferrière (1950) and Kalina (1970).

MATERIAL EXAMINED. Hokkaido : Okushiri, **2** ♀, em. **25.** vii. 1958, ex Cynipid galls on Q. *serrata*. Honshu : Chiyoda-mura, Ibaragi-ken, 1 ♀, em. iv. 1978, ex *D. kuriphilus, (Y.* Murakami) ; Seto, Aichi-ken, 1 ♀1♂, em. 29. iii. 1978, ex *D. kuriphilus*, (P. W. Schaefer) ; Nose-cho, Osaka-fu, 19 ♀8♂, em. iii. 1978, ex *D. kuriphilus*, (F. Komai) ; Minamiawa, Awaji-shima, 3 ♀2♂, em. *23.* iii. 1978, ex *D. kuriphilus*, (P. W. Schaefer). Kyushu: Fukuoka-shi, 6♂, em. 24-30. iv. 1976, 18 ♀, em. 29. iv.-7. v. 1976, 9 ♀5♂, em, iv-v. 1978, all ex *D. kuriphilus, (Y.* Murakami) ; Fukuoka-shi, 1♀, em. *24-27.* vi. 1976, ex galls of *Andricus* sp., (Y. Murakami) ; Kanayama, Fukuoka-ken, 2 ♀1♂, em. 21. iv.-2. v. 1977, ex *D. kuriphilus*, (T. Nakamura) ; Hikosan, Fukuoka-ken, 2 ♀5♂, em. 28. iv.-8. v. 1966, ex *D. kuriphilus, (Y.* Murakami) ; Okuchi, Kagoshima-ken, 2 ♀, em. 26. iii. 1978, ex *D. kuriphilus*, (P. W. Schaefer).

DISTRIBUTION. Japan (Hokkaido, Honshu, Kyushu) ; Central Asia; Europe.

BIOLOGY. Murakami (1979) records this species from *D. kuriphilus*. It has been also reared in Japan from galls of *Andricus* sp. and an undetermined Cynipid on leaves of *Quercus serrata*. In southern Japan this species seems to be a common parasite in galls of *D. kuriphilus*.

Eurytoma schaeferi **sp. n.**

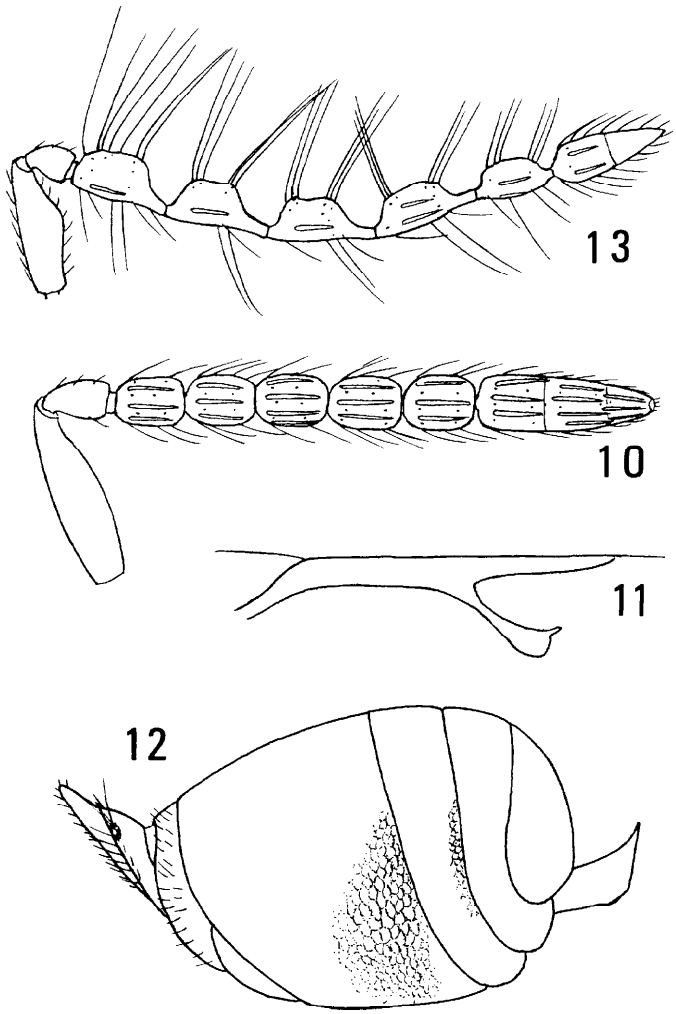
(Japanese name : Schaefer-katabirokobachi)

Female. Body black: scape yellowish brown, sometimes darker at apex dorsally ; pedicel yellowish brown, darker dorsally; flagellum dark brown to blackish. Coxae usually black; hind femora more or less infuscate ; remainder of legs brownish yellow; sometimes fore and mid femora, and occasionally hind tibiae, darker. Ovipositor sheaths yellowish brown. Body length 1.5-2. 2 mm.

Head in dorsal view a little broader than mesoscutum, 1.75 times as broad as long. OOL slightly longer than lateral ocellus. Eyes separated by nearly 1. 5 times their height. Head in front view 1.33 times as broad as high. Clyp-

eus not delimited, with anterior margin almost truncate. Malar space 0.65 times height of eye, alutaceous, with distinct malar sulcus. Clypeus, face, and lower half of frons, radiately striate; vertex shallowly and weakly punctate. Genae hardly margined posteriorly. Post genal lamella absent. Antennal scrobes not margined laterally. Antennae (fig. 10) with scape almost reaching level of vertex; pedicel slightly less than twice as long as broad, as long as first funicle segment; flagellum nearly as long as breadth of head, covered with rather long hairs; funicle segments equal in length and breadth, a little longer than broad. Sensilla disposed in one row on each funicle segment.

Thorax nearly 1.6 times as long as broad. Pronotum 2.2 times as broad



Figs. 10-13. *Eurytoma schaeferi* Yasumatsu and Kamijo sp. n. 10: ♀, antenna. 11: ♀, forewing venation. 12: ♀, abdomen. 13: ♂, antenna.

as long (length measured along sides). Mesoscutum nearly twice as broad as long. Scutellum less convex, a little longer than broad. Thoracic dorsum uniformly and shallowly punctate, covered with dense hairs. Dorsellum strongly transverse, usually smooth and polished. Propodeum coarsely and irregularly reticulate, with median groove narrow and shallow, delimited laterally by weak carinae in anterior two-thirds. Mesepisternum in lateral view sloping evenly to weak tooth in front of mid coxa. Fore coxa not carinate anteriorly, in lateral view its anterior and posterior edges parallel; mid coxa without lamella; hind tibia with nearly 10 spine-like hairs on dorsal surface. Forewing with speculum moderate in size ; basal cell hairy; marginal vein 1.6 to 2.0 times as long as stigma1 vein, and 1.2 to 1.4 times as long as postmarginal (fig. 11).

Petiole distinctly longer than broad (about 5 :4), broadest at anterior flange. Gaster (fig. 12) about as long as thorax; fourth tergite very long, more than 2.5 times as long as third tergite ; fifth tergite concealed by the fourth; last tergite short, weakly erect, usually slightly shorter than ovipositor sheaths in dorsal view.

Male. Differs from female as follows: Antennae (fig. 13) with scape fully reaching level of vertex, swollen medially, 2.7 to 3.0 times as long as broad; pedicel half as long as first funicle segment; flagellum 1.5 times breadth of head; first four funicle segments equal in length, with distinct petiole, fifth segment slightly shorter than preceding segment, with very short petiole. Gastral petiole projecting distinctly beyond tips of hind coxae, usually more than three times as long as broad. Gaster much shorter than thorax. Body length 1.5-l. 9 mm.

TYPE MATERIAL. Holotype (♀) (Type No. 2144, Kyushu Univ.), Teineyama, Hokkaido, em. 14. vii. 1958, ex galls of *Andricus* sp. on Quercus *mongolica*, (K. Kamijo). Paratypes. Hokkaido: Chimikeppu, Kitami, 1♂, 20. vii. 1977 (K. Kamijo) ; Aizankei, 1♀, 3. viii. 1966 (K. Kamijo) ; Apoi-dake, 1♀, 22. viii. 1957 (T. Kumata), 3 ♀1♂, em. 14. vii. 1959, ex galls of *Andricus* sp., 1♂, 3. viii. 1967 (K, Kamijo) ; Yubari-dake, 1♂, 3. viii. 1975 (K. Kamijo) ; Tomakomai, 1 ♀, 23. vi. 1959 (K. Kamijo) ; Sapporo, 2 ♀, 21. viii. 1959 (K. Kamijo) ; 4 ♀1♂, with same data as holotype; Mori, 1♀, em. iii. 1978, 3 ♀, em. 17-18. vii. 1978, ex galls of *Andricus* sp. (K. Kamijo) ; Shimamaki-mura, 1♀, 17. viii, 1976 (K. Kamijo). Honshu: Kuji, Iwate-ken, 1♀, em. 16. iii. 1978, ex *D. kuriphilus*, (P. W. Schaefer) ; Rikuzen-Takada, Iwate-ken, 2 ♀1♂, em. 17. iii. 1978, ex *D. kuriphilus*, (P. W. Schaefer) ; Haguroyama, Sado, 1♀ , 27. vi. 1958 (H. Abe). Kyushu: Tsushima, 1♀, 11. vi. 1965 (H. Takada) ; Hikosan, Fukuoka-ken, 1♀, em. 7. ix. 1958, ex *D. kuriphilus*, (K. Kamijo). Satsunan Is.: Tokunoshima, 1♀, 6. v. 1959 (K. Kamijo).

DISTRIBUTION. Japan (Hokkaido, Honshu, Kyushu, Satsunan Is.).

BIOLOGY. Reared from galls of *Andricus* sp. on leaves of *Quercus mongolica*

and of *D. kuriphilus*. This species has at least two generations per year.

E. schaeferi sp. n. may be separated from other species of *Eurytoma* by the following combination of characters : clypeus and face radiately striate; genae hardly margined posteriorly; malar space alutaceous, with distinct malar sulcus ; fore coxae in profile with anterior and posterior edges parallel; umbricate punctations on vertex and thoracic dorsum shallow; in female, gastral petiole distinctly longer than broad, and fourth tergite more than 2.5 times as long as third tergite.

Sycophila variegata (Curtis)

(Japanese name : Kiiro-katabirokobachi)

Decatoma variegata Curtis, 1831, British Entomology p. 345.
Eudecatoma variegata: Claridge, 1959, Trans. Soc. Brit. Ent. 13: 158.
Eudecatoma uariegata: Ko, 1971, Korean J. Ent. 1 : 25.
Sycophila variegata: Bouček, 1977, Acta ent. Jugosl. 13. Suppl. p. *17*.

The Japanese specimens examined well fit the interpretation of this species given by Claridge (1959), except that the basal cell of the forewing is more or less hairy. This species is new to Japan.

MATERIAL EXAMINED. Hokkaido : Mori, 2 ♀, em. viii. 1973 and v. 1975, ex *D. kuriphilus,* (K. Tate) ; Hakodate, 3 ♀, em. 4. ix. 1967, 1 ♀, em. v. 1977, all ex *D. kuriphilus,* (K. Kamijo) ; Okushiri, 1 ♀, em. 21. vii. 1958, ex Cynipid galls on leaves of Q. *serrata,* (K. Kamijo). Honshu: Urawa, Saitama-ken, 2 ♀2 ♂, em. ii. *1979, ex Neuroterus* sp. on *Q. serrata, (S.* Usuba) ; Minoo, Osaka-fu, 2 ♀ 2 ♂, em. 1-4. vi. 1959, ex Cynipid galls on Q. *serrata,* 1 ♀ 1 ♂, em. 25. vi. 1959, 2 ♀5 ♂, em. 4-11. vi. 1960, ex *D. kuriphilus,* (K. Kamijo). Kyushu: Fukuoka-shi, 2 ♀4 ♂, em. vi. 1976, ex *D. kuriphilus, 2* ♀4 ♂, em. 9-14. vi. 1976, ex *Andricus* sp. on *Quercus* sp., *3* ♀ *38,* em. **21.** v.-5. vi. 1977, ex *Neuroterus* sp. (Y. Murakami) ; Hikosan, Fukuoka-ken, 2 ♀, em. 7. ix. 1958, ex *D. kuriphilus,* (K. Kamijo) ; Tsushima, 2 ♀, 11. vi. 1965 (H. Takada) ; Amami-Bshima, 1 ♀, *1. v. 1959* (K. Kamijo). Korea: Susan, 1 ♂, em. 17. ii. 1978, ex *D. kuriphilus,* (H. P. Lee).

DISTRIBUTION. Japan (Hokkaido, Honshu, Kyushu, Satsunan Is.) ; Korea ; Europe.

BIOLOGY. Reared in Japan from galls of *D. kuriphilus, Andricus* sp., *Neuroterus* spp. and an undetermined Cynipid on Q. *serrata.* This species seems to have at least two generations a year.

Eupelmus urozonus Dalman

(Japanese name : Kuritama-himenagakobachi)

Eupelmus urozonus Dalman, 1820, Svensk Vet.-Akad. Handl. 41: 378.
Eupelmus urozonus: Yasumatsu, 1955, Shinrin Boeki News 4: *100*.
Eupelmus urozonus: Yasumatsu, 1958, Report appl. Res. Ministry Agr. Forest., Tokyo, 1958 p. 39.

MATERIAL EXAMINED. Numerous specimens reared or swept from the

following localities : Hokkaido : Aizankei ; Apoi-dake ; Bibai ; Ishikari-cho ; Muroran ; Sôbetsu; Mori ; Esashi ; Shimamaki-mura ; Okushiri ; Hakodate. Honshu: Aomori ; Kuji and Rikuzen-Takada, Iwate-ken ; Ogose and Yorii, Saitama-ken ; Kodaira, Tokyo- to ; Maebashi, Gunma-ken ; Nakatsugawa, Gifu-ken ; Minoo and Nose-cho, Osaka-fu ; Kyoto; Minamiawa, Awaji-shima. Shikoku: Shiratori, Kagawa- ken. Kyushu : Fukuoka-shi ; Ichinomiya, Kumamoto-ken. Satsunan Is.: Kurio, Yakushima. We have also seen seven females from Susan, Korea, one female from Wien, Austria, and one female from England; the latter two were kindly sent to us by Dr. Bouček.

DISTRIBUTION. Japan (Hokkaido, Honshu, Shikoku, Kyushu, Satsunan Is.) ; Korea; Central Asia; Europe; North Africa.

BIOLOGY. This species has a very wide host range. It has been reared in Japan from the following hosts: *D. kuriphilus*, galls of several undetermined Cynipids on oaks, Cecidomyiid galls on *Artemisia* sp. and *Ligustrum obtusifolium*, pupae of *Ptycholomoides aeriferana* H.-S. (Tortricidae), and *Nycteora pseudasiatica* Sugi (Noctuidae).

Cynipencyrtus flavus Ishii

(Japanese name: Tamabachi-tohikobachi)

Cynipencyrtus *flavus* Ishii, 1928, Bull. Imp. Agr. Exp. Sta., Japan 3: 107.
Cynipencyrtus bicolor Ishii, 1928, Bull. Imp. Agr. Exp. Sta., Japan 3: 108.
Cynipencyrtus flavus: Tachikawa, 1978, Trans. Shikoku Ent. Soc. 14: 69.

C. *flavus* and C. *bicolor* were originally described from Nagasaki, Kyushu, by Ishii; Tachikawa (1978) found both to be synonymous.

MATERIAL EXAMINED. Honshu: Urawa, Saitama-ken, 2 ♀, em. iii. 1979, ex galls of an undetermined Cynipid on Q. *serrata*, (S. Usuba).

DISTRIBUTION. Japan (Honshu, Shikoku, Kyushu).

BIOLOGY. Tachikawa (1978) records *Andricus* sp. on *Quercus serrata*, a Cynipid on Q. *serrata*, and *D. kuriphilus* as hosts of this species.

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Komai, University of Osaka Prefecture ; Dr. Z. Bouček, Commonwealth Institute of Entomology, British Museum (Nat. Hist.), London ; Mr. J. C. Paik, Institute of Agricultuarl Sciences, Suweon, Korea ; Dr. H. Takada, Kyoto Prefectural University ; Mr. K. Tate. Dônan Branch, Hokkaido Forest Experiment Station, Hakodate ; Mr. N. Yashiro, Ehime University. We are also grateful to Dr. E. E. Grissell, U. S. National Museum, Washington, D. C., for his kindness in sending us Japanese material reared from galls of *D. kuriphilus* on loan and copies of Mayr's papers.

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