

## Two New Species of *Ethelurgus* Foerster from Japan (Hymenoptera: Ichneumonidae)

Kanetosi KUSIGEMATI

(Entomological Laboratory)

Received for Publication September 10, 1982

### Introduction

The genus *Ethelurgus* Foerster is a moderate-sized group of the tribe Gelini in the subfamily Gelinae. It has been represented by about five known species which are mostly in the Holarctic region, but only one of the species is described also from the Neotropic region. So far as the author is aware, no species of this genus has hitherto been known to occur in Japan. Recently the author has examined many specimens bred from the puparia of Syrphidae collected in Hokkaido and Kyushu. All of them are new to science, and will be described herein. The species of *Ethelurgus* have been known as solitary internal parasites of the puparia of aphidphagous Syrphidae. The holotype of the new species are preserved in the collection of the Entomological Institute, Hokkaido University, Sapporo.

### Genus *Ethelurgus* Foerster

*Tolmerus* Foerster, Verh. Naturh. Ver. Rheinlande 25: 177, 1868 (name preocc. by Loew, 1849). [Type-species: *Phygadeuon sodalis* Taschenberg].

*Ethelurgus* Foerster, Verh. Naturh. Ver. Rheinlande 25: 180, 1868. [Type-species: *Hemiteles* (*Ethelurgus*) *lonicerae* Viereck (= *Hemiteles syrphicola* Ashmead)].

*Nuneches* Foerster, Verh. Naturh. Ver. Rheinlande 25: 186, 1868. [Type-species: *Phygadeuon sodalis* Taschenberg].

*Zamicrotoridea* Viereck, Bul. Connecticut Geol. Nat. Hist. Surv. 22: 340, 1917. [Type-species: *Hemiteles* (*Zamicrotoridea*) *orbiformis* Viereck (= *Hemiteles syrphicola* Ashmead)].

This genus was put under a detailed discussion by H. Townes (1970). The Japanese species can be distinguished by the following key: —

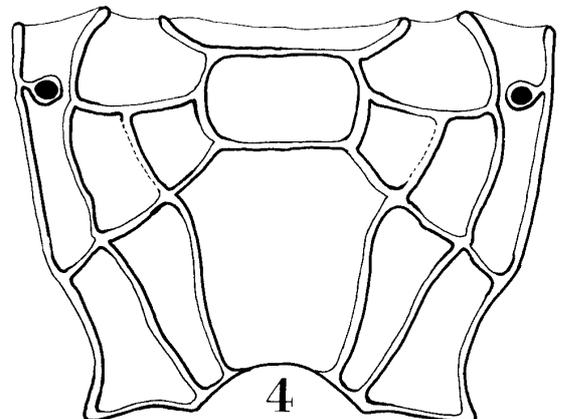
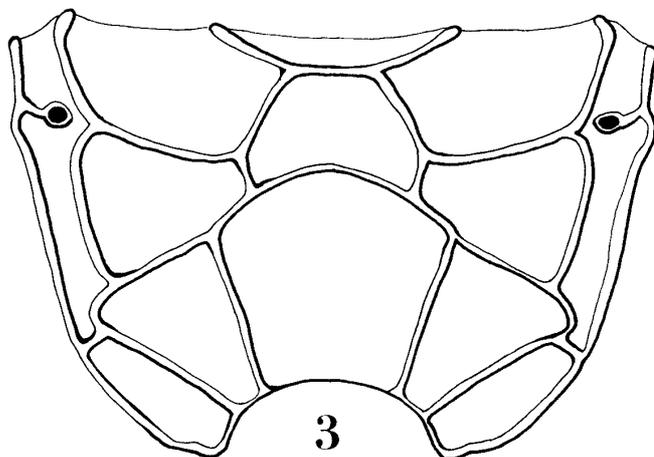
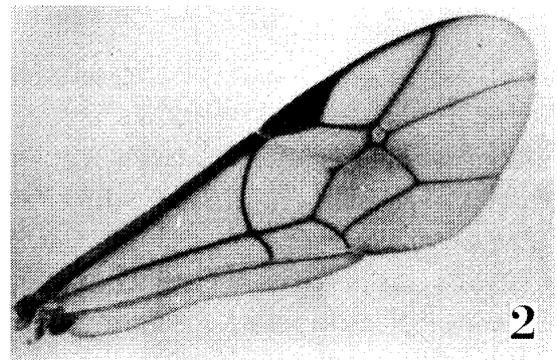
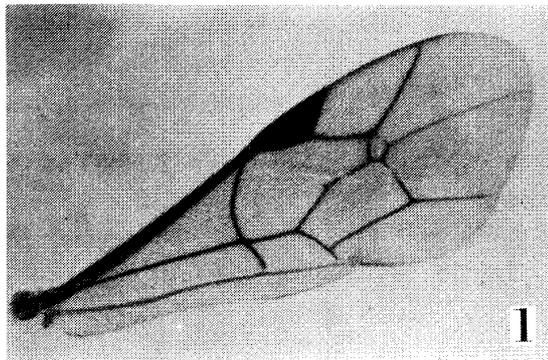
### Key to the Japanese species of *Ethelurgus*

1. Frons not mat on upper 2/3. Mesoscutum polished, densely and weakly punctate on median lobe, very finely and sparsely punctate on lateral lobes. Petiolar and 3rd lateral areas of propodeum transversely striate. Postpetiole not striate. Legs reddish brown in female. . . . .1. *episyrrhicola*, sp. nov.
- Frons weakly mat on upper 2/3. Mesoscutum weakly mat, strongly and densely punctate wholly. Petiolar and 3rd lateral areas of propodeum rugose. Postpetiole longitudinally

striate. Legs dark brown in female, pale-yellow to yellowish brown in male. ....  
 .....2. *kumatai*, sp. nov.

1. *Ethelurgus episyrrhicola*, sp. nov.

♀. Face wide, about 1.6 times as wide as high, rather strongly convex centrally, weakly and densely punctate, the punctures being weaker and sparser laterally; clypeus polished, weakly convex, wide, about 2.3 times as wide as high, with weak and sparse punctures; apex of clypeus impressed next to the margin, the apical margin being thin, truncate, and wanting median tooth; malar space  $5/7$  as long as basal width of mandible; clypeal fovea small but strongly impressed; mandible wide, moderately tapering towards apex, finely and sparsely punctate, with upper tooth a little longer than the lower one; temple rather narrow, weakly swollen, with strong and rather sparse punctures; occipital carina strong and complete, the dorsal median part weakly arched upward, the lower part weakly sinuate and the lower end of genal carina joining oral carina near base of mandible; frons weakly concave basally, polished and impunctate on lower  $1/3$ , weakly convex dorsally, weakly and sparsely punctate on upper  $2/3$ ; distance between lateral ocelli and eyes about 1.1 times as long as diameter of an ocellus. Antennae setaceous, with 27 segments; 1st flagellar segment 3.1 times as long as wide at apex and a little shorter than the 2nd one. Pronotum polished, strongly and transversely striate with strong punctures; transverse groove behind collar of pronotum without a median dorsal longitudinal ridge; epomia absent; mesoscutum polished, strongly and densely punctate on median lobe, finely and sparsely punctate on lateral lobes; notauli distinct, reaching basal  $1/2$ ; scutellum weakly concave, very sparsely haired, without lateral carina; mesopleurum transversely and strongly striate on lower  $1/2$ , weakly and



Figs. 1 and 2. Right fore wings, female: 1. *Ethelurgus episyrrhicola*, sp. nov.; 2. *E. kumatai*, sp. nov.  
 Figs. 3 and 4. Areolations of propodeum, female: 3. *E. kumatai*, sp. nov.; 4. *E. episyrrhicola*, sp. nov.

rather sparsely punctate below subtegular ridge; speculum polished and smooth; postpectal carina incomplete, with a wide interruption in front of each middle coxa; sternaulus strongly impressed, extending to basal  $5/7$ ; metapleurum polished, weakly convex, strongly and reticulately rugose; juxtacoxal carina strong and complete. Propodeum (Fig. 3) polished, strongly and completely areolated; areola small, about  $3/5$  as long as wide; basal margin of areola straight; 1st lateral area with strong and moderately dense punctures; basal area and areola smooth; 2nd lateral area with a strong longitudinal carina; petiolar area narrow, strongly and transversely striate, about 1.7 times as long as wide; 3rd lateral area strongly and transversely striate, separated from petiolar area by a strong median longitudinal carina; apical transverse carina of propodeum not forming a distinct sublateral crest; propodeal spiracle small and subcircular. Wings (Fig. 1) with nervulus postfurcal by about  $2/7$  of its own length; stigma large, about 2.8 times as long as wide; radius emitted from basal  $3/5$ ; 2nd recurrent vein inclivous, with two bullae; nervellus strongly inclivous, intercepted at its lower  $1/5$ . Hind femur slender, about 4.5 times as long as wide in lateral view. Abdomen stout and polished; 1st tergite rather stout, about 1.7 times as long as wide at apex; spiracle of 1st tergite situated near apical  $1/3$ ; median dorsal carinae of 1st tergite distinct, reaching about  $1/2$  of postpetiole; apex of 1st sternite in front of the spiracle; postpetiole polished, not striate, with a few weak punctures; 2nd tergite longitudinally and moderately strongly striate on basal  $1/2$ , weakly and sparsely punctate on apical  $1/2$ , about 1.1 times as long as wide at base and about 1.1 times as long as the 3rd one; 3rd and following tergites finely and sparsely punctate; epipleurum of 2nd tergite moderately wide, 3.7 times as long as wide, with sparse and strong punctures; ovipositor slender, compressed, with a distinct nodus, the apical part being weakly decurved; ovipositor sheath short,  $2/5$  as long as hind tibia.

Black. Mandible dark brown, paler apically; clypeus and malar space weakly tinged with dark brown; basal three segments of maxillary palpus and labial palpus dark brown; apical two segments of maxillary palpus yellowish brown; scape blackish; pedicel dark brown; flagellum dark brown, the four basal segments yellowish brown. Tegula dark brown. Legs yellowish brown to light reddish brown; hind femur light reddish brown, blackish brown apically; hind tibia infusate, with a indistinct and wide yellowish brown band on median part; hind tarsus infusate; all tibial spurs pale-yellow. Abdomen black; apex of 1st to 5th tergites tinged with yellowish brown; 6th and 7th tergites yellowish medially and black laterally. Ovipositor sheath infusate. Wings subhyaline.

Length: Body 5.1 mm., forewing 4.4 mm.

♂. Unknown.

Holotype (♀): Uearata, Kagoshima-shi, Kyushu, 18-xii-1962, bred from *Episyrphus balteatus* (DeGeer) by K. Kusigemati.

Host: *Episyrphus balteatus* (DeGeer) (Syrphidae, Dip.).

Distribution: Japan (Kyushu).

This species is readily distinguished from any other congeneric species by mesoscutum which is not mat. Furthermore, this species resembles the European species *E. platygaster* (Schmiedeknecht, 1897), but it may be clearly differentiated from *platygaster* by the complete areolation of the propodeum, by the strong median dorsal carinae of the 1st tergite and by the postpetiole without striae.

## 2. *Ethelurgus kumatai*, sp. nov.

♀. Face about 1.5 times as wide as high, rather strongly convex centrally, mat, with weak

and dense punctures; clypeus subpolished, weakly convex, wide, 2.3–2.5 times as wide as high, more sparsely punctate than in face; apex of clypeus impressed next to the margin, the apical margin being thin, truncate, and without median tooth; malar space about  $8/9$  as long as basal width of mandible; clypeal fovea small but strongly impressed; mandible rather wide, weakly tapering towards apex, finely and rather densely punctate, with upper tooth a little longer than the lower one; temple rather narrow, weakly swollen, weakly and rather densely punctate, the punctures a little sparser towards eye margin; occipital carina strong and complete, the dorsal median part strongly arched in  $\Delta$ -shaped, the lower end connected with oral carina near base of mandible; frons weakly concave, polished and impunctate on lower  $1/3$ , and weakly convex, mat, with fine and dense punctures on upper  $2/3$ ; distance between lateral ocelli and eyes about as long as diameter of an ocellus. Antennae weakly clavate, with 24–26 segments; 1st flagellar segment 2.7–3.0 times as long as wide at apex and about 1.1 times as long as the 2nd one. Pronotum rather strongly and obliquely striate, the postdorsal part being strongly and rather sparsely punctate; transverse groove behind collar of pronotum without a median dorsal longitudinal ridge; epomia absent; mesoscutum mat, strongly and densely punctate wholly; notauli distinct, reaching basal  $2/5$ – $1/2$ ; scutellum rather strongly convex, polished, very sparsely punctate, without lateral carina; mesopleurum transversely and strongly striate, and strongly punctate on anteroventral corner; sternaulus strongly impressed, extending to basal  $5/8$ ; speculum very finely striate except for polished and smooth posterior  $1/3$ ; postpectal carina incomplete, with a wide interruption in front of each middle coxa; metapleurum polished, weakly convex, rather strongly rugose; juxtacoxal carina strong and complete. Propodeum (Fig. 4) strongly and completely areolated; areola small, about  $3/5$  as long as wide; basal margin of areola weakly to strongly arched; 1st lateral area strongly punctate; 2nd lateral area longitudinally or loosely striate; petiolar area wide, 1.2–1.4 times as long as wide, reticulately rugose; 3rd lateral area more coarsely and reticulately rugose than in petiolar area, sometimes incompletely confluent with petiolar area; areola with a few weak longitudinal striae; basal area polished and smooth; propodeal spiracle small and subcircular. Wings (Fig. 2) with nervulus postfurcal by  $1/4$ – $1/3$  of its own length; 2nd recurrent vein inclivous, with two bullae; stigma large, 3.0–3.2 times as long as wide; radius emitted from basal  $1/2$ ; nervellus strongly inclivous, intercepted at its lower  $2/7$ – $1/3$ . Hind femur slender, 4.1–4.3 times as long as wide in lateral view. Abdomen stout and polished; 1st tergite stout, about 1.4–1.5 times as long as wide at apex; spiracle of 1st tergite situated near apical  $3/7$ ; median dorsal carinae of 1st tergite strong, reaching  $1/2$ – $4/5$  of postpetiole; apex of 1st sternite in front of the spiracle, reaching about basal  $1/2$ ; postpetiole longitudinally and moderately strongly striate, the striae being not reaching to apex; 2nd tergite about  $4/5$  as long as wide at base and 1.0–1.2 times as long as the 3rd one, longitudinally and weakly striate on about basal  $2/3$ , and finely and sparsely punctate on about apical  $1/3$ , the punctures being weaker and sparser apically; 3rd and following tergites very finely and sparsely punctate; epipleurum of 2nd tergite rather narrow, 3.2–3.5 times as long as wide, with weak and sparse punctures; ovipositor slender, compressed, with a distinct nodus, the apical part being weakly decurved; ovipositor sheath short, about  $3/7$  as long as hind tibia.

**Black.** Scape and pedicel dark brown; flagellum dark brown, a little paler basally; mandible except for black apical teeth tinged with dirty-yellowish brown; maxillary palpus yellowish brown to dark brown, a little darker basally; labial palpus dark brown. Tegula dark brown, a little paler posteriorly. Legs yellowish brown to infusate; 2nd trochanters, bases of femora, front and middle tibiae and tarsi yellowish brown; hind tibia infusate, a little paler medially.

Abdomen black, extreme apex of each tergite tinged with yellowish brown; ovipositor sheath infusate. Wings subhyaline.

Length: Body 5.6–6.6 mm., forewing 4.6–5.6 mm.

♂. Face about 1.4 times as wide as high; malar space narrower than in female, about 1/2 as long as basal width of mandible; distance between lateral ocelli and eyes  $2/3$ – $7/9$  as long as diameter of an ocellus; frons subpolished on upper  $2/3$ . Antennae setaceous, with 26 segments; 1st flagellar segment 3.0–3.1 times as long as wide at apex and 1.1–1.2 times as long as the 2nd. Mesoscutum more weakly mat than in female; mesopleurum more weakly striate than in female; metapleurum strongly and coarsely punctate on central and dorsal portions, and rugose on ventral and posterior portions. Wings with nervellus postfurcal by  $1/5$ – $1/3$  of its own length; nervellus intercepted at its lower  $2/9$ . Hind femur a little more slender, 4.6 times as long as wide in lateral view. Abdomen more slender than in female; 1st tergite about 1.8 times as long as wide at apex; 2nd tergite  $8/9$  as long as wide at base and 1.1–1.3 times as long as 3rd one; striae of postpetiole and 2nd tergite weaker than in female.

Black. Mandible except for apical teeth, palpi and tegula pale-yellow; scape and pedicel pale-yellow ventrally, dark brown dorsally; flagellum infusate, a little paler basoventrally. Front leg pale-yellow to yellowish brown, the femur a little darker. Middle leg pale-yellow to yellowish brown; coxa and trochanters pale yellow. Hind leg yellowish brown to dark brown; sometimes coxa except at apex blackish brown; tibia with a indistinct infusate band on apical part. Apical margin of each tergite a little more widely tinged with yellowish brown than in female.

Length: Body 6.1–6.5 mm., forewing 4.5–4.7 mm.

Holotype (♀) and paratypes (4♀♀ & 2♂♂): Eniwa, Hokkaido, 30-vi-1962, bred from *Syrphus torvus* Osten-Sacken (Syrphidae, Dip.).

Distribution: Japan (Hokkaido).

This species is very closely related to the preceding species, *E. episyrrhicola*, sp. nov., but differs from the latter by the mat frons and mesoscutum, by the rugose petiolar area of the propodeum, by the densely punctate scutellum, by the blackish legs, etc. as mentioned in the key.

### Summary

Two new species, *Ethelurgus episyrrhicola* and *E. kumatai*, are described on the basis of material bred from the puparia of Syrphidae. This is the first record of the genus from Japan. A key to the species is given.

### Acknowledgements

The author wishes to express his sincere thanks to Dr. T. Kumata of the Hokkaido University, Sapporo, for his kindness in offering valuable material. Thanks are also due to Mr. K. Ôhara of the Kyushu University for his kind determination of Syrphidae. Gratefull acknowledgement is made to Prof. A. Nagatomi of the Kagoshima University, for his constant encouragement and assistance.

### References

- 1) Dalla Torre, C. G.: Catalogus Hymenopterorum Hucusque description et synonymicus III, Ichneumonidae,

- p. 10–1141 (1901–1902)
- 2) Jussila, R.: Ichneumonidae from Hardangervidda. *Fauna Hardangervidda* **2**, 1–50 (1973)
  - 3) Krombein, K. V., Hurd Jr. P. D., Smith, D. R. and Burks, B. D.: Catalog of Hymenoptera in America North of Mexico, 2735 pp (1979)
  - 4) Oehlke, J. and Townes, H.: Schmiedeknecht Ichneumonidentypen aus der Kollektion des Museum Rudolstadt (Hymenoptera: Ichneumonidae). *Beitr. Ent.* **19**, 396–412 (1969)
  - 5) Perkins, J. F.: On the type species of Foerster's genera (Hymenoptera: Ichneumonidae). *Bull. Brit. Mus. (Nat. Hist.) London Ent.* **11**, 385–483 (1962)
  - 6) Townes, H.: The genera of Ichneumonidae, part 2. *Mem. Amer. ent. Inst.* **12**, 1–537 (1970)