Pacific Insects 2 (3): 263–267 October 10, 1960

AN UNUSUAL NEW NEMATOCERA FROM JAPAN (DIPTERA), AND A NEW FAMILY NAME[1]

By D. Elmo Hardy[2] and Akira Nagatomi[3]

A strikingly different Japanese fly which fits intermediate between the families Bibionidae and Scatopsidae has recently come to our attention. This specimen was sent to Dr. Alan Stone, at the United States National Museum, who determined it as a *Corynoscelis*, possibly *eximia* Boheman. This fly is mycetophilid-like in general appearance, with an eye bridge similar to that found in sciarids. The lack of tibial spurs and the shortened coxae make it very unlike either of these families. Dr. Alan Stone has pointed out to the senior author, in correspondence, that *Corynoscelis* Boheman (1858, Ofvers. Vetensk. Akad. Forh. Stockholm **15**: 56) is preoccupied by *Corynoscelis* Burmeister (1847, Handb. Ent. **5**: 126). We are proposing the new name *Hyperoscelis* to replace *Corynoscelis* Boheman. This will require that the family name Hyperoscelidae replace the name Corynoscelidae.

Enderlein (**1936**: 56) established the family *Corynoscelidae* for *Corynoscelis* Boheman, *Synneuron* Lundström, and *Ectaetia* Enderlein. Dr. Edwin F. Cook, University of Minnesota, has informed the senior author, in correspondence, that *Ectaetia* does not belong in Corynoscelidae. Roger Tollet (**1959**: 144) has treated Corynoscelidae as a "Fam. nov." and includes *Synneuron* Lundström, *Corynoscelis* Boheman and *Canthyloscelis* Edwards with three subgenera: *Canthyloscelis*, *Araucoscelis* Edwards, and *Chiliscelis* Tollet.

The Hyperoscelidae are differentiated from the Scatopsidae by having the radial sector forked, rather than simple; the radial sector and vein M_{1+2} fused for a considerable distance beyond the base of Rs, rather than not fused beyond this point; by the costa extending beyond the apex of vein R_{4+5} and almost to the apex of the wing, rather than ending well before apex and at or near the apex of the radial sector; also, by having the palpi 3–4 segmented, rather than 1 segmented. The details of the wing venation, head, and body shape, legs, and antennae differ strikingly from those of Bibionidae. For a comprehensive comparison with related families, refer to Tollet (1959). The family contains 10 known species which are very limited in distribution: Two from Northern Europe, 4 from Chile and Patagonia, 3 from New Zealand, and 1 from Japan. The known distribution of the species is given in the key below.

---

1. Published with the approval of the Director of the Hawaii Agricultural Experiment Station as Technical Paper No. 487.

2. University of Hawaii, Hawaii Agricultural Experiment Station.
3. Faculty of Agriculture, Kagoshima University, Kagoshima, Japan.

KEY TO GENERA AND SUBGENERA OF HYPEROSCELIDAE ADAPTED FROM DUDA (1929) AND TOLLET (1959)

1. Radial sector not united with vein R_1, vein M_2 connected with M_1 (*Hyperoscelis*, fig. 1a), or just slightly interrupted at its base (*Canthyloscelis*). Anal vein present. Hind femur club-shaped. Antenna 16 segmented (fig. 1, c). Eyes separated below antennae 2

Radial sector jointed with R_1 for a short distance. Vein M_2 widely interrupted at its base. Anal vein absent. Legs slender, hind femur not clavate. Antenna 12 segmented. Eyes joined beneath antennae ..... **Synneuron** Lundström

(*S. annulipes* Lundström from Finland, the only known species)

2. Claws simple, not broadened basally or toothed. Vein M_2 connected with M_1 and m-cu crossvein present (fig. 1, a). Antennae about 2/3 as long as thorax, segments closely joined; segment 3 slightly wider than long..... **Hyperoscelis** new name

(two known species: *eximia* Boheman from Northern Europe; and *insignis* n. sp. from Japan)

Claws dentate, thickened basally. Vein M_2 interrupted at base. Crossvein m-cu absent, vein M_{3+4} and Cu_1 jointed for a short distance at bases. Antennae as long as head and thorax combined, segments loosely jointed; 3rd segment 2× longer than wide ..... **Canthyloscelis** Edwards..... 2a

2a. Two ocelli present. Head capsule distinctly prolonged beyond lower margins of eyes. Antennae of ♂ simple. Abdominal segments 5–7 of ♂ largely membranous; terga greatly reduced. R_{4+5} not thickened. Anal vein short ..... **Canthyloscelis** sens. str.

(3 known species: *antennata* Edwards, *claripennis* Edwards, and *nigricoxa* Edwards; all from New Zealand)

Three ocelli present. Head not extended beyond lower eye margin. Abdominal terga not reduced. R_{4+5} strongly thickened. Anal vein reaching wing margin although slightly interrupted at base 2b

2b. Male antennae pectinate ..... **Canthyloscelis** (**Araucoscelis**) Edwards

(one known species: *pectinata* Edwards, from Patagonia)

Antennae simple in both sexes ..... **Canthyloscelis** (**Chiliscelis**) Tollet

(3 known species: *apicata* Edwards, *pictipennis* Edwards, and *valdiviana* Tollet; from Patagonia and Chile)

Genus **Hyperoscelis** new name

The name comes from the Greek *Hyperos*, club or pestle; plus *skelis*, leg. The name is neuter. This genus has been commonly treated in the subfamily Corynoscelinae under the family Scatopsidae (see Edwards 1922 and Duda 1929) but these flies are very different from the scatopsids and actually appear to fit intermediate between this family and the bibionids.

Type of the genus: *Corynoscelis eximia* Boheman. The type is in the Swedish Museum of Natural History, Stockholm.

Hyperoscelis insignis Hardy and Nagatomi n. sp. Figs. 1, a–d, f, g and h.

The species at hand would seem to fit Duda's redescription of the only previously known species of this genus, *Corynoscelis eximia* Boheman (Duda **1929**: 57), in most respects but differs in several details. The senior author has had an opportunity to compare the specimen from Japan with a specimen of *eximia* from Tuovilanlaks, Finland (Lundström collection), which was loaned by Dr. Edwin Cook, University of Minnesota, who, in turn, had borrowed the specimen from Dr. Richard Frey, Helsinki, Finland. It is obvious that the two are distinctly different species. *H. insignis* differs from *eximia* in the following respects: The palpi are 4 segmented, not 3. The mesonotum is predominantly yellow, with 3 shining black marks as in figure 1, d; in *eximia* the mesonotum is entirely polished black. The humeri, the anterior 3/4 of the upper edge of each mesopleuron, and the side of the scutellum of *insignis* are yellow, also the propleura are yellow except for a dark brown to black spot below each humerus; rather than the humeri, entire propleura, and sides of scutellum being black, and only a small yellow spot present on each mesopleuron surrounding the spiracle. The front and middle coxae are yellow, except for a slightly brownish tinge at the bases of the segments; rather than all coxae being predominantly black. Each abdominal tergum of *insignis* has a small yellow median spot at base; this is lacking in *eximia*. The wing markings are somewhat similar in the two species but the brown discoloration in the costal cell and in cell R_1, and also the brown spot at the apex of the wing are much darker, more distinct in *insignis*. In *insignis* vein R_{2+3} ends in the costa very near the apex of vein R_1; rather than ending a considerable distance beyond the tip of R_1. Vein R_{4+5} is distinctly longer than the portion of radial sector from the fork of M_{1+2} to the forking of R_{2+3} and R_{4+5} (fig. 1, a); rather than slightly shorter than this portion of Rs. The male genitalia differ as in figures 1, h and 1, j.

Male: *Head* rather small but probably typical in shape for members of this genus. From a lateral view compound eyes occupy approximately anterior 3/5 of head. Ocelli moderately large but not situated on a distinct prominence. Occiput entirely black, faintly dusted with gray pollen and rather thickly covered with fine yellow pile. Eyes sparsely covered with short, yellow pile. Eyes joined on front for a distance about equal to 4 rows of eye facets. Face slightly protruberant beyond margins of eyes, dark brown, rather densely brown pubescent, and thickly covered with short, yellow pile, especially on lower 1/3. Face equal in width to about 3 rows of eye facets. Segment 1 of palpus dark brown to black; segment 2 yellow, tinged faintly with brown; segments 3 and 4 entirely yellow and approximately equal in length. Scape brown, tinged lightly with yellow; pedicel yellow, faintly tinged with brown. Flagellum dark brown to black, more distinctly blackened on apical portion; entire antenna densely yellow pubescent. Segments of flagellum approximately equal in length, as in fig. 1, c. *Thorax* entirely polished, predominantly black on sides, yellow on dorsum and with 3 broad, black spots extending down mesonotum as in fig. 1, d. Scutellum yellow in median portion, brown to black around margins as seen from a dorsal view; lateral portions of scutellum yellow; i.e., portion of thorax from scutellum to wing base yellow. Metanotum well developed, conspicuous, not at all hidden by scutellum, and about 2× longer than scutellum; entirely dark brown to black except for a small yellow spot on each side behind lateral margins of scutellum. Halteres pale yellow. *Legs* predominantly yellow, polished brown to black on basal 3/4 of hind coxa, on apical 3/5 of hind femur, and discolored with brown on apical 2/3 of hind tibia. Hind femora

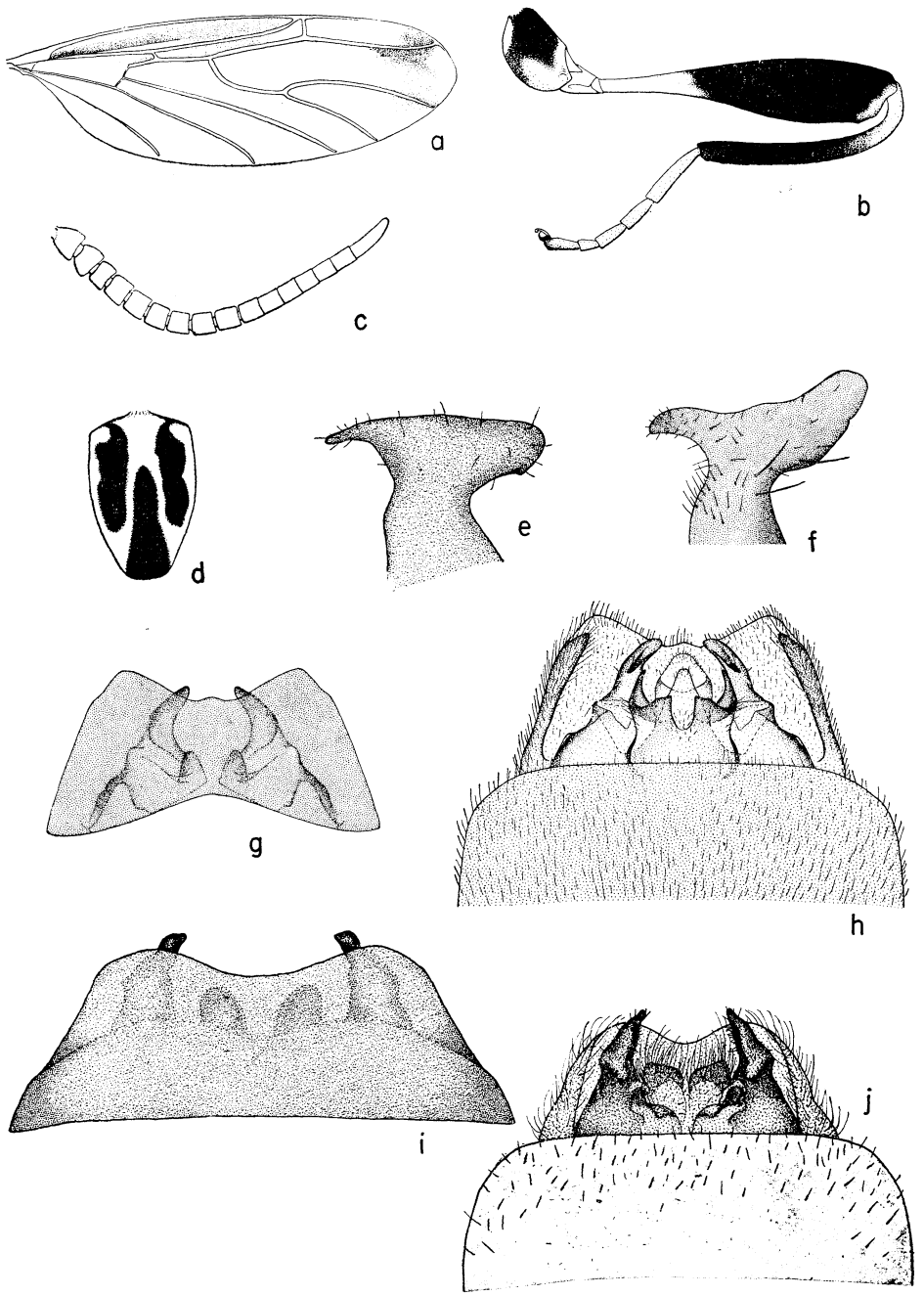

Fig. 1. a–d, f, g and h, *Hyperoscelis insignis* n. sp. a, wing; b, hind leg; c, antenna; d, thorax, dorsal view (head is situated at the lower margin of this figure); f, ♂ clasper, lateral view; g, ♂ genitalia, dorsal; h, ♂ genitalia, ventral. e, i and j, *H. eximia* (Boheman). e, ♂ clasper, lateral; i, ♂ genitalia, dorsal; j, ♂ genitalia, ventral.

strongly clavate, and hind tibia very noticeably curved at base (fig. 1, b). All tibiae slightly produced at apex below; this is more pronounced on hind and front legs. Basitarsus about 2/3 longer than segment 2. Pulvilli absent and empodium large, pad-like, densely pubescent. Tarsal claws black, strongly curved. *Wings* 3× longer than wide with venation and markings as in fig. 1, a. Subcostal vein is weak and evanesces about 1/2 way to wing margin. Veins R_1 and R_{2+3} almost fuse at apices. Base of vein M_{1+2} thickened for about 3/5 its length from base of Rs to junction with M_{3+4}, lower 2/5 of vein rather faint, narrow, almost obliterated. Wing thickly covered with brown macrochaeta. *Abdomen* with 7 visible segments, predominantly shining black, rather thickly yellow pilose; extreme lateral margins of terga yellow and each has a small, yellow, median spot near base of segment. Posterior border of tergum 7 yellow. Sterna 1–6 yellow, sternum 7 dark brown to black, yellow on posterior border. Tergum 7 about equal in length to 6. Abdomen almost straight-sided, slightly expanded posteriorly. Tergum 8 rather distinctly lobate on posterior lateral margins (fig. 1, g), not rounded on sides with a gentle concavity in middle of posterior margin as in *eximia* (fig. 1, i). Each clasper is evenly tapered to a sharp point at apex (fig. 1, g); and roughly T-shaped as seen in lateral view, with dorsal and ventral lobes developed at apex (fig. 1, f; cf fig. 1, e). Other details of genitalia as in fig. 1, h (compare with fig. 1, j of *eximia*). Length: Body 5.75 mm; wings 7.4.

Holotype ♂ Hataganaru (Tazima), Japan, 26 May 1955 (E. Fujita). Female unknown. The type has been presented to the Entomological Laboratory, Kyushu University, Fukuoka, Japan.

Hyperoscelis eximia (Boheman) is known only from Finland with the exception of the specimens from near Bucharest, Roumania, recorded by Mik (**1900**: 72).

REFERENCES CITED

Duda, O. 1929. In Lindner, die Fliegen der palaearktischen Region. Scatopsidae **5**: 62, 3 pls.

Edwards, F. W. 1922. Preliminary notes on a new genus of Scatopsid flies from New Zealand. Ann. Mag. Nat. Hist. ser. 9, **9**: 267–9.

Enderlein, G. 1936. Die Tierwelt Mitteleuropas. Bd. 6, Lief. 2, Ins. **3**: 56.

Mik, J. 1900. Dipterologische Miscellen. Wien. Ent. Zeit. **19**: 71–3.

Tollet, R. 1959. Note systématique sur les Corynoscelidae fam. nov. (Diptera) du globe et description d'un Corynoscelidae nouveau de l'hemisphere austral. Soc. R. Ent. Belg., Bull. Ann. **95**: 132–53.

RECENT LITERATURE ON PACIFIC INSECTS

(Continued from page 262)

Gatenby, J. B. and S. Cotton. 1960. Snare building and pupation in *Bolitophila luminosa*. Roy. Soc. New Zea., Trans. **88** (1): 149–56, 2 figs., 4 pls.

Giles, E. T. 1958. Dermaptera from the Three Kings Islands, N. Z., with the description of a new species of *Brachylabis* Dohrn (Labiduridae). Red. Auckland Inst. **5**: 43–8, 1 pl.