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Micropterigid Moths (Lepidoptera, Zeugloptera) from the Boso Peninsula in Central Japan, with Description of a New Species

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Abstract Two species of the family Micropterigidae are recorded from the Boso Peninsula, Central Japan. *Neomicropteryx kazusana* n. sp. is described and illustrated. The genital variation of *Paramartyria immaculatella* is also discussed.

Key words: Micropterigidae; *Paramartyria immaculatella*; genital variation; *Neomicropteryx*; new species.

Eight species of the *Sabatinca* group of the archaic family Micropterigidae have been known to occur in Japan (ISSIKI, 1953; MORIUTI, 1982). Two of them belong to the genus *Paramartyria* ISSIKI, 1931, and the other six to the genus *Neomicropteryx* ISSIKI, 1931. They are endemic to Japan and mainly distributed in the central to southern parts of Honshu, Shikoku, and Kyushu. Up to the present, no species has been recorded from the Boso Peninsula, Central Japan. Recently, I could obtain several specimens from that district. After examination, I recognized two species; one of them, belonging to *Neomicropteryx*, is new to science, and the other is *Paramartyria immaculatella* ISSIKI. The present paper provides a description of the new species and a discussion on the genital variation of *P. immaculatella*.

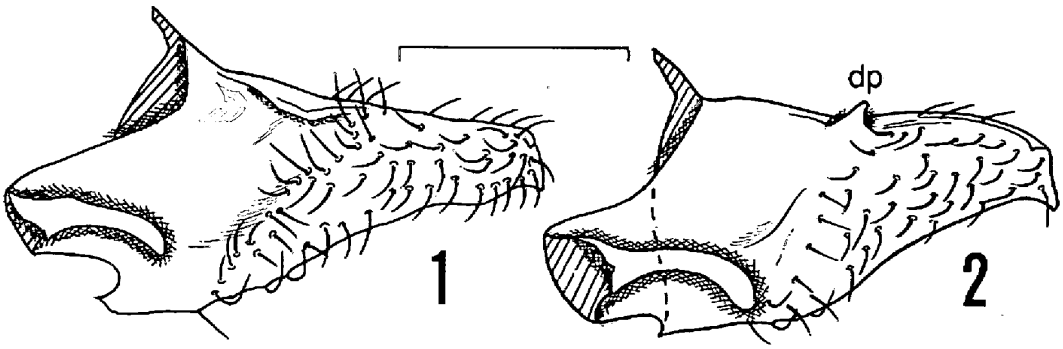
In describing the male and female genitalia, the terminology mainly follows those of KRISTENSEN (1984) and ISSIKI (1953), respectively.

Paramartyria immaculatella ISSIKI

(Figs. 1–2)

Paramartyria immaculatella ISSIKI, 1931, *Proc. zool. Soc. Lond.*, **1931**: 1002, figs. 1, 2 a, 3, 28 a, 29 b; ISSIKI, 1953, *Bull. Naniwa Univ.*, (B), **3**: 134; ISSIKI, 1971, *Icon. Het. Jap. Col. Nat.*, (Ed. 2), **1**: 5, pl. 1, fig. 3; MORIUTI, 1982, *Moths of Japan*, **1**: 42, **2**: 153, pl. 1, fig. 2, pl. 245, fig. 3.

Specimens examined. 3 ♂, 3 ♀, 10. V. 1990, Yomogi, Amatsu-kominato-cho, Chiba Pref., S. HASHIMOTO; 2 ♂, 2 ♀ preserved in 75% ethyl alcohol, 10. V. 1990, Yomogi, Amatsu-kominato-cho, Chiba Pref., S. HASHIMOTO; 1 ♂, 10. V. 1990, Fudago, Kimitsu-shi, Chiba Pref., S. HASHIMOTO; 2 ♂, 1 ♀, 14. V. 1983, Amami, Osaka Pref., S. HASHIMOTO; 4 ♂ preserved in 75% ethyl alcohol, 14. V. 1983,



Figs. 1–2. *Paramartyria immaculatella*, right gonopod, inner view. dp: dorsal process. Scale 0.25 mm.

Amami, Osaka Pref., S. HASHIMOTO; 1 ♂, 18. V. 1983, Izumi-katsuragi-san, Osaka Pref., S. HASHIMOTO.

Distribution. Japan (Honshu, Shikoku, Kyushu).

Remarks. *Paramartyria immaculatella* from the Boso Peninsula shows variation in the shape of the dorsal margin of the gonopod, on which the dull dorsomesally directed process (dp) is present (Fig. 2) or absent (Fig. 1). When present, the process is variable in size. Such a process was not seen in my specimens from the Kinki district. The condition without a dull process as in Fig. 1 is congruent with ISSIKI's (1931) description that the dorsal margin of the gonopod (his harpe) has an obtuse tooth before middle. In his redescription, however, KRISTENSEN (1976) described the presence of a blunt process on a dorsal edge and figured it based on a paratype collected by ISSIKI in the Kinki district (Iwawaki-san). Consequently, it may be a variation within a local population, but not among local populations.

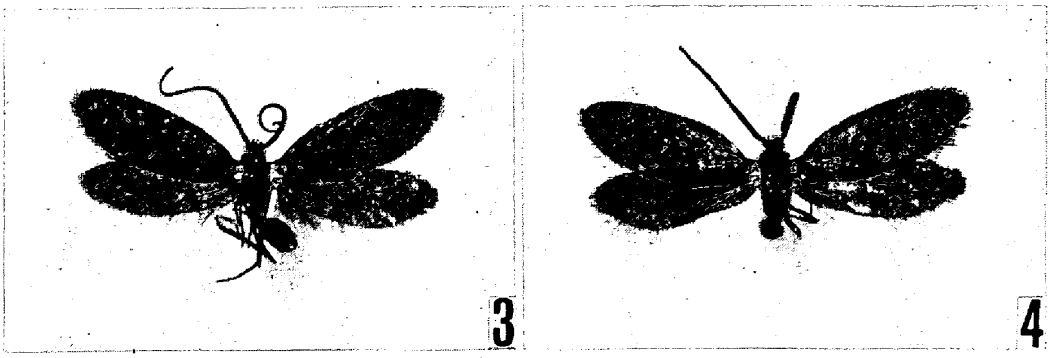
Neomicropteryx kazusana sp. nov.

(Figs. 3–17)

♂♀. Expanse 10–11 mm. Head covered with fuscous hairy scales; maxillary palpus fuscous. Antenna as long as forewing in male, about 7/8 in female, fuscous, scattered with blue scales proximally; each segment with hairy black scales around. Thorax fuscous, scattered with metallic blue scales on dorsum; legs pale glossy fuscous; femur scattered with blue and purple scales; tibial spurs yellowish brown. Abdomen covered with glossy fuscous scales.

Forewing: Crossvein Sc–R variable in position; a common stalk of R4 and R5 relatively long. Ground color dark metallic purple, scattered with golden and blue scales, especially remarkable basally. Cilia fuscous. Underside dull fuscous.

Hindwing: Terminal branch of Sc vestigial; a common stalk of R4 and R5



Figs. 3–4. *Neomicropteryx kazusana* n. sp. —— 3, Male, holotype; 4, female.

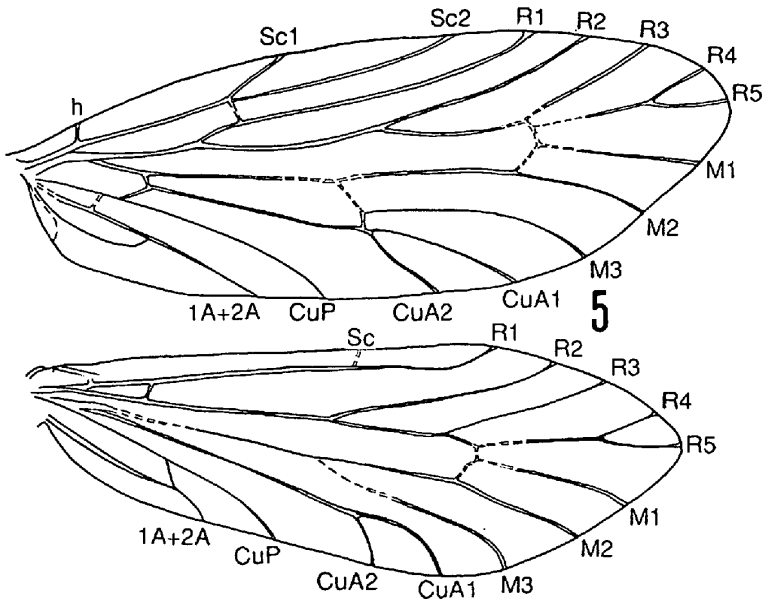
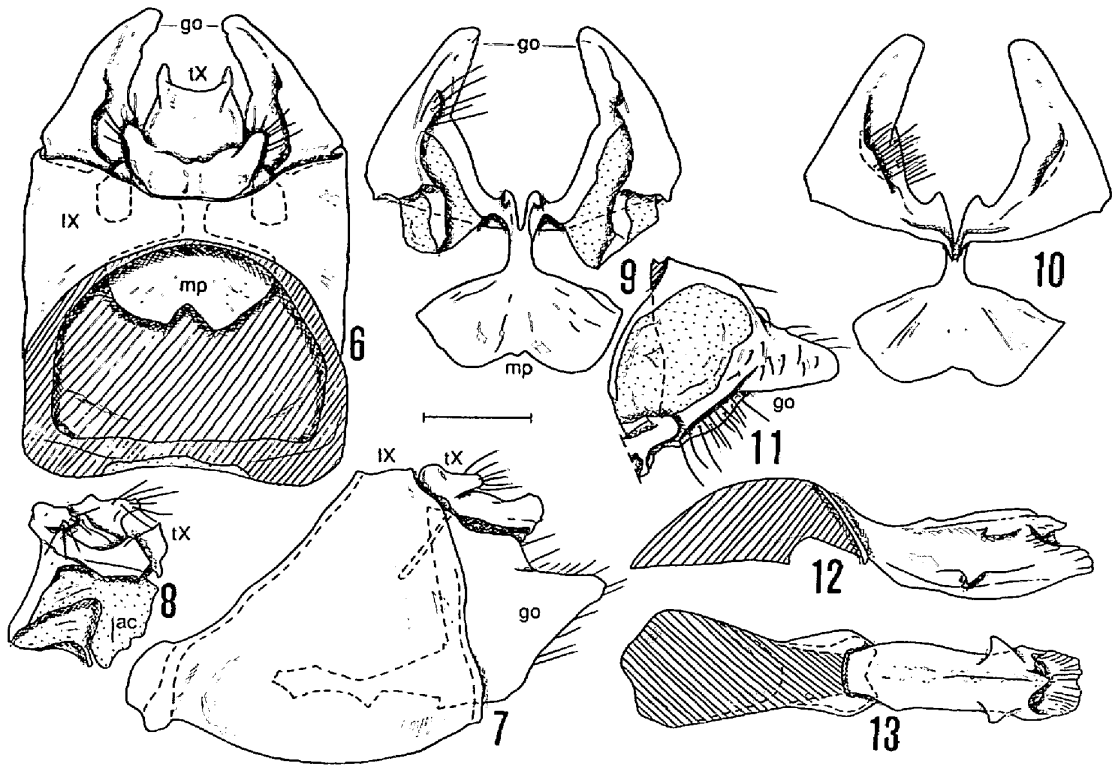


Fig. 5. *Neomicropteryx kazusana* n. sp., wing venation.

rather long. Ground color paler than forewing. Cilia and underside as in forewing.

Male genitalia (Figs. 6–13): Segment IX forming a complete ring, short (about 1/6 length of venter of segment IX) in dorsal midline, ventrally extending anteriorly beyond sternum VII; antero-lateral margin thickened. Gonopod almost triangular in lateral view, sparsely covered with hairs on dorsal and ventral margins and on inner surface beyond middle; dorsal margin slightly protruded before middle; inner surface with a broad median membranous area, a weakly sclerotized plate extending ventrally from dorso-basal margin, and a hooked process ventro-proximally; both gonopods fused with each other mid-ventrally to form a fan-shaped median plate (mp) expanding anteriorly. Tergum X (ISSIKI's tegumen) relatively small, dorso-proximally with a pair of finger-like protrusions (KRISTENSEN's tergum X lobes) towards latero-caudally which are covered with hairs, ventro-

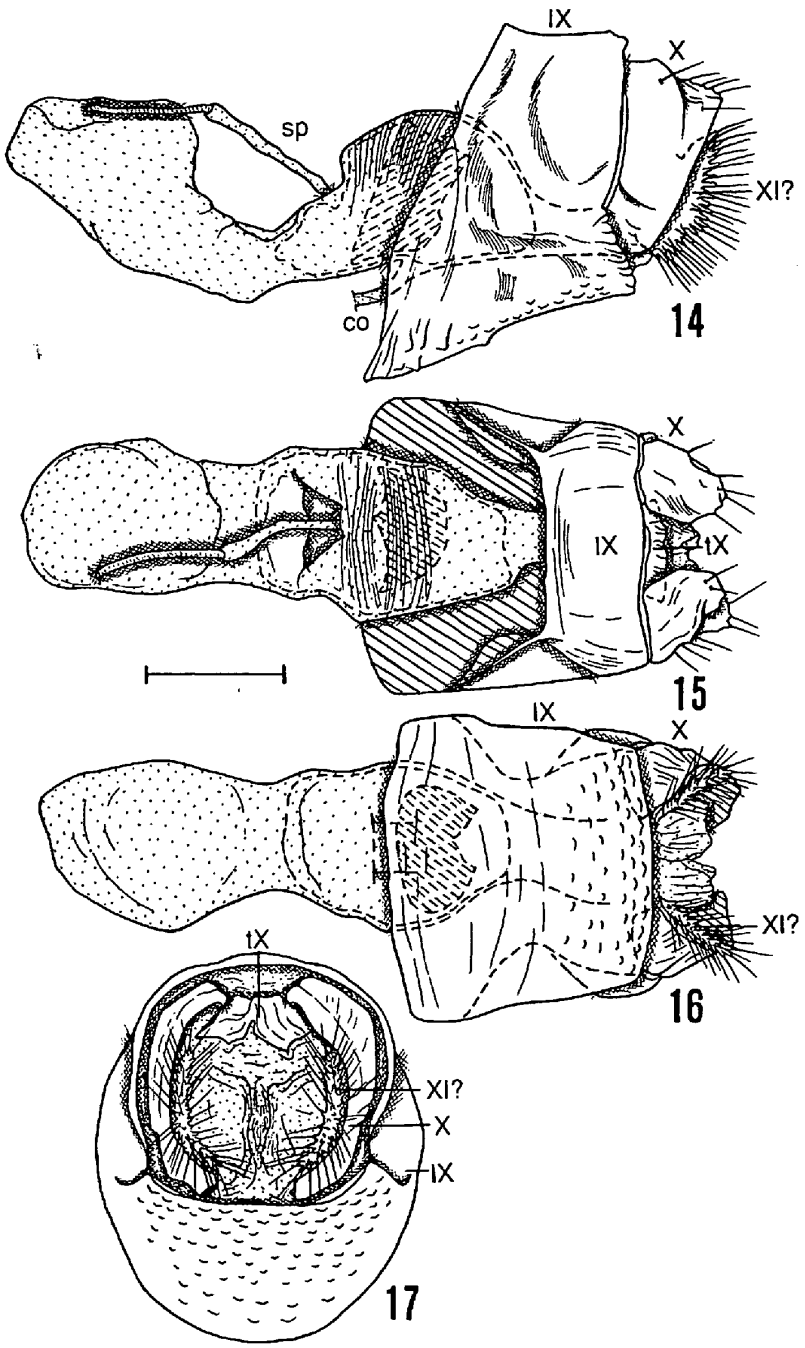


Figs. 6–13. *Neomicropteryx kazusana* n. sp., male genitalia. —— 6, Ninth and 10th segments, dorsal view; 7, 9th and 10th segments, lateral view; 8, 10th segment, latero-caudal view; 9, gonopod and median plate, dorsal view; 10, gonopod and median plate, ventral view; 11, right gonopod, inner view; 12, phallus, lateral view; 13, phallus, dorsal view. ac: anal cone; go: gonopod; mp: median plate; t: tergum. Segments denoted by Roman numerals. Scale 0.25 mm.

proximally with a pair of sclerite plates towards ventrally which are separable from tergum X by a thin sclerotised suture, and latero-caudally with a pair of vertical short processes (ISSIKI's uncus; KRISTENSEN considered that these processes are homologous with the anal cone sclerotizations of the Nearctic genus *Epimartyria*), which have some minute teeth at terminal margin and a hooked tooth ventro-caudally. Phallus (intromittent organ) consisting of phallobase and aedeagus; phallobase curved, with a sclerotized fold continuous with membranous phallocrypt; aedeagus slightly arched, apically folded densely, with dorsal and ventral ridges along midline, with a pair of triangular processes towards beneath on subventral region about middle, and with a pair of triangular horizontal processes on subdorsal region before apex.

Female genitalia (Figs. 14–17): Corpus bursae membranous as in Figs. 14–16, double-layered at posterior half, with a dorsal sclerotized cavity (papilla) after middle in which the spermathecal duct opens, with many wrinkles dorso-posteriorly, and with an internal sclerite which is similar to a part of the spermatophore of

Sabatinca viettei figured by MINET (1985, fig. 15); common oviduct wide. Segment IX forming a synscleritous ring, covered with many small protuberances on venter, and with a curved groove running from antero-dorsal to postero-lateral. Segment



Figs. 14–17. *Neomicropteryx kazusana* n. sp., female genitalia. —— 14, Lateral view; 15, dorsal view; 16, ventral view; 17, caudal view. co: common oviduct; sp: spermatheca; t: tergum. Segments denoted by Roman numerals. Scale 0.25 mm.

X consisting of a pair of lateral sclerites (ISSIKI's outerwalls), a pair of lateral lobes and a dorsal small sclerotized plate (tX of Figs. 15 & 17); lateral sclerites with some hairs on postero-dorsal parts, and their hind margins smooth; the lateral lobes (XI? of Figs. 14, 16–17; it is possible that these lobes are segment XI, because they are completely separated from the caudal margin of lateral sclerites of segment X by a membrane) being posterior to lateral sclerites, telescoped in the latter, and having many protrusions with an apical hair.

Holotype: ♂ (CBM-ZI 27890), 12. V. 1991, Megakura, Ichihara-shi, Chiba Pref., S. HASHIMOTO.

Paratypes: 5 ♂, 3 ♀, same data as the holotype; 2 ♀, 10. V. 1990, Fudago, Kimitsu-shi, Chiba Pref., S. HASHIMOTO; 33 ♂, 2 ♀, 27. IV. 1992, Orikisawa, Kimitsu-shi, Chiba Pref., S. HASHIMOTO; 12 ♂, 2 ♀, 8. V. 1992, Orikisawa, Kimitsu-shi, Chiba Pref., S. HASHIMOTO.

Type depository. Holotype and ten paratypes (registration numbers CBM-ZI 27891, 27892, and 28069–28076) are deposited in the Natural History Museum and Institute, Chiba, Japan, and the remaining paratypes are in my personal collection.

Other specimens examined. 5 ♂, 28. IV. 1991, Tashiro, Kimitsu-shi, Chiba Pref., K. OHGI; 4 ♂, 29. IV. 1991, Inokawa, Kimitsu-shi, Chiba Pref., K. OHGI. Preserved in 75% ethyl alcohol.

Distribution. Japan (Honshu).

Remarks. As indicated by ISSIKI (1953) and MORIUTI (1982), *Neomicropteryx* species are very similar to one another in appearance, so that it is difficult to distinguish them without examination of the male genitalia. The only exception is *N. nudata* ISSIKI, which is different from the others in the pale yellowish brown head. *Neomicropteryx kazusana* resembles *N. matsumurana* ISSIKI in the male genitalia, but differs from it in having the paired latero-caudal processes of segment X very short; in *matsumurana*, the processes are rather long. In the female genitalia, this species is distinguished from *N. nipponensis* ISSIKI, *N. bifurca* ISSIKI, and *N. elongata* ISSIKI, by the peculiar curved groove of segment IX and the smooth caudal margin of lateral sclerite of segment X.

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References

ISSIKI, S., 1931. On the morphology and systematics of Micropterygidae (Lepidoptera Homoneura)

of Japan and Formosa, with some considerations on the Australian, European, and North American Forms. *Proc. zool. Soc. Lond.*, **1931**: 999–1039.

ISSIKI, S., 1953. Micropterigoidea of Japan. *Bull. Naniwa Univ.*, (B), **3**: 133–140.

KRISTENSEN, N. P., 1976, A redescription of the male genital morphology of *Paramartyria immaculatella* (Insecta, Lepidoptera, Micropterigidae). *Steenstrupia*, **4**: 27–32.

——— 1984. Skeltomuscular anatomy of the male genitalia of *Epimartyria* (Lepidoptera: Micropterigidae). *Entomologica scand.*, **15**: 97–112.

MINET, J., 1985. Description de nouveaux *Sabatinca* néocalédonies et redéfinition du genre en fonction de considérations phylogénétiques (Lepidoptera, Micropterigidae). *Nouv. Revue Ent.* (N. S.), **2**: 285–297.

MORIUTI, S., 1982. Micropterigidae. *In* INOUE, H., *et al.*, *Moths of Japan*, **1**: 41–43, **2**: 153, pls. 1, 234–235, 245–246.

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