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OF THE GENUS COSMOPTERIX FROM JAPAN  
(Lepidoptera, Cosmopterigidae)

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ON A NEW SUBSPECIES AND AN UNRECORDED SPECIES  
OF THE GENUS *COSMOPTERIX* FROM JAPAN\*

(Lepidoptera, Cosmopterigidae)

By

Hiroshi Kuroko

In this paper the author added two species of the genus *Cosmopterix* to the Japanese fauna, thus making the total number of the species five in Japan.

I wish to express my sincere gratitude to Prof. Keizō Yasumatsu of Kyushu University for his kind direction; to Prof. Dr. E. M. Hering of the Berlin Zoological Museum for the gift of valuable European specimens for comparison and for his kind advice. I wish to thank Dr. Akira Kawada and Mr. Toshio Kumada of Hokkaido University for the gift of valuable specimens so as to publish them.

***Cosmopterix scribaiella japonica*** subsp. nov.

(Pl. 4, figs. 2, 4 &amp; 7)

♂♀. 8-10 mm. Head and thorax : olivaceous bronzy-fuscos, sometimes brassy-fuscos, with three white lines, face silvery-bronzy. Palpi bronzy-fuscos lined with white. Antennae bronzy-fuscos, beneath whitish, above dotted and lined with white base to 3/5, 4 or 2 apical joints white, 5 or 7 black, 1 white, 1 black, 1 white.

Abdomen : dorsal side bronzy-fuscos with olive, sometimes yellow speckled ; ventral side silvery-white; anal tuft of male ochreous-white.

Forewings : olivaceous bronzy-fuscos, sometimes brassy-fuscos, a fine white oblique subcostal line from base to about 1/3, median and subdorsal lines placed in an oblique series beneath its posterior part, dorsal edge white from near base to about 1/4; costal edge whitish yellow from 1/3 to band ; a moderate yellow orange or yellowish postmedian band margined anteriorly by a vertical

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pale golden-metallic fascia, followed above middle by a black dot, posteriorly by two pale golden-metallic spots, edged with a few black scales, upper with white cilia on costa, lower larger, between these a yellow orange or yellowish projection extends from band, rather long and slightly broad at middle; from this a white line along termen to apex; cilia pale fuscous. Hindwings and cilia pale fuscous.

Male genitalia : brachia nearly triangular and pointed at apex; costal projection slightly geniculate ; valva trigonate ; saccus absent ; aedoeagus bulbed.

Female genitalia : ostium ovate ; signa narrow triangular plates, about  $80\mu$  in length.

Distribution : Japan (Honshu, Kyushu).

Holotype : ♂, Mt. Hikosan, N. Kyushu, 8 June 1956 (H. Kuroko).

Allotype : ♀, the same data with the holotype.

Paratypes : 1 ♂, Mt. Kujū, Ōita Pref., 16 Aug. 1955; 1 ♀, 22 Aug. 1955; 1 ♂, 24 Aug. 1955 ; Hikosan, 2 ♂♂, 8 June 1956 ; 1 ♂, 10 June 1956; 1 ♂, 22 June 1956 ; 1 ♂, 1 ♀, Sakai, Honshu, 6 June 1958; 4 ♀♀, 9 June 1958 (H. Kuroko). The above types are deposited in the collection of the Entomological Laboratory, Kyushu University. The following paratypes were bred by Dr. A. Kawada in Tokyo, from *Phragmites communis* Trin. and are deposited in the National Institute of Agricultural Science. 1 ♂, 24 May 1929; 2 ♀♀, 17 May 1938; 3 ♀♀, 18 May 1938 ; 1 ♂, 1 ♀, 20 May 1933 ; 1 ♂, 27 May 1938; 1 ♂, 31 May 1938.

This new subspecies differs from the nominate race of Europe in the following characters :

Possession of a whitish yellow streak at costal edge before band.

2. Apical white line uninterrupted to yellow projection.

I bred the new subspecies from the larvae mining leaves of *Phragmites communis* Trin. (Jap. name : Yoshi). The larvae occurred two times in a year, namely from July to August and from September to the next spring. The summer mine is narrow and a longitudinal straight line, but the autumn mine is provided with cloud-like extent towards the apex. The adults emerged from the middle of May to June and in August, the summer form being smaller and having the forewing narrower than that of the spring form.

### ***Cosmopterix eximia* (Haworth)**

(Pl. 4, figs. 3, 5 & 6)

*Gracillaria eximia* Haworth, Lep. Brit., (4): 532, 1828.

*Glyphipteryx eximia* Stephens, Illstr. Haust., 4: 273, 1834.

*Cosmopterix eximia* Stainton, Trans. Ent. Soc. London, 3rd Ser. 1: 637-655, 1864; Nolcken, Stett. Ent. Zeit., 1869 : 287-289, 1869; Sorhagen, Berlin. Ent. Ztschr., 29 : 98-99, 1885; Meyrick, Hand. Brit. Lep. : 663, 1895; Rebel, in Staudinger-Rebel, Cat. Lep. Pal., 2: 185, 1901; Spuler, in Hofmann-Spuler, Schmett. Eur., 2: 389, 1910; Hering, Ent. Jahrb., 33/34: 113, 1924/25; Busck, Bull. Brooklyn Ent. Soc., 26 (5): 210, pl. 12, f. 16, 1931; Pierce & Metcalfe, Genitalia Tin. Lep. Brit. Isl.: 24, pl. 13, 1935.

♂♀. 8-9 mm. Head: lustrous bronzy, face silvery. **Palpi** silvery-white, terminal joint fuscous at ventral edge. Antennae black, beneath whitish from base to about 1/2, 4 apical joints white, 5 black, 1 white.

Thorax : bronzy-black; patadia, tegula and rather wide median line **metallic-silvery**.

Abdomen : dorsal side bronzy-fuscous, ventral side silvery-white, anal tuft of male ochreous white.

Forewings : bronzy-black, a pale violet-golden-metallic transverse fascia about 1/5, more or less oblique outwards; a yellowish orange postmedian band rather narrow, narrower at dorsal edge than costal edge or nearly same width, margined anteriorly by a vertical golden-metallic fascia followed a few black scales, posteriorly by a slightly oblique or vertical golden-metallic fascia, edged with a few black scales, with white cilia on costa; a short pale violet-silvery dash midway to apex, a white dash in apical cilia; cilia dark fuscous. Hindwings and cilia dark fuscous.

Male genitalia : brachia sigmoid, beak shaped, apical point hooked; rather short costal projection broadened near apex ; valva trigonate ; aedoeagus bulbed.

Female genitalia : ostium ovate ; signa lobed, with a median rib, length 80  $\mu$ .

Distribution : Japan (Hokkaido, Shikoku, Kyushu), Europe, Asia Minor.

Specimens examined : 1♂, Mt. Hikosan, N. Kyushu, 18 Aug. 1954; 1♂, 13, 10-14. July 1955; 1♂, 30 July 1955; 3♀♀, 16 Aug. 1955 (H. Kuroko), bred from larvae mining leaves of *Boehmeria nipononivea* Koidz.; 1♂, 9 June 1956 (H. Kuroko), bred from larva mining leaf of *Humulus japonicus* Sieb. et Zucc.; 1♀, Sapporo, Hokkaido, 3 July 1956; 3♂♂, 26 Aug 1956 (T. Kumada), bred from larvae mining leaves of *Humulus Lupulus* Linn. var. *cordifolius* (Miq.) Maxim.; 1♀, Sugitate, Shikoku, 11 June 1956 (M. Okada); 1 ex. Kagoshima, S. Kyushu, 20 Apr. 1958 (T. Saigusa).

Host plants :

MORACEAE: *Humulus Lupulus* Linn. (Jap. name : Hoppu), *H. Lupulus* Linn. var. *cordifolius* (Miq.) Maxim. (Jap. name : Karahanasô), *H. japonicus* Sieb. et Zucc. (Jap. name : Kanamugura).

URTICACEAE: *Boehmeria nipononivea* Koidz. (Jap. name : Karamushi).

This species was identified by careful comparison with a pair of European specimens which were sent to me from Prof. E. M. Hering. The larva of this species is known as a leaf-miner of *Humulus Lupulus* Linn. in Europe. The digitate mines by the larvae are commonly found on the leaves of *Boehmeria nipononivea* Koidz., but are rarely found on the leaves of *Humulus japonicus* Sieb. et Zucc., on Mt. Hikosan. On the other hand, the author has discovered the mined leaves of the above cited host plants at Takeda, Ôita Prefecture, and Izashiki, Kagoshima Prefecture.

### Explanation of Plate 4

Fig. 1. *Cosmopterix scribaiella* Zeller, right forewing.

Figs. 2, 4 & 7. *Cosmopterix scribaiella japonica* subsp. nov., showing right forewing, male and female genitalia.

Figs. 3, 5 & 6. *Cosmopterix eximia* (Haworth), showing male adult, male and female genitalia.

