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Two New Species of the Genus *Ochyromera* (Coleoptera: Curculionidae) from Japan[1)]

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Abstract. Two new species of the genus ***Ochyromera*** are described from Japan: 0. ***pieridis*** sp. n and 0. ***rectirostris*** sp. n. The former was captured on leaves of *Pieris japonicus* of the family Ericaceae, and the latter was collected from leaf-litter in winter, and from tree foliage by sweeping. Revised key to Japanese species is provided for including two new species.

Key words: Taxonomy, Coleoptera, Curculionidae, ***Ochyromera,*** new species, Japan.

Introduction

The genus ***Ochyromera*** Pascoe comprises small to medium sized weevils characterized by the great fore femora armed each with a large triangular tooth and the antennae consisting of seven segments in the funicle. This genus belongs to the tribe Ochyromerini (=Endaeini) of the subfamily Tychiinae (Morimoto, 1962; Clark ***et al.,*** 1977) or Curculioninae in a broad sense of recent line (Kuschel, 1982, Zherichen & Egorov, 1990), including about 30 species from the Oriental and Far East part of the Palaearctic Regions. One species of this genus was introduced accidentally into the United States (Warner, 1961). The number of species are, however, expected to increase far more than twice according to the on-going revision of the Oriental species by the first author, and this genus will become one of the largest genera in this tribe alike the genus ***Endaeus*** Schoenherr.

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1) Contribution from the Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka (Ser. 5, No. 10).

The biology of these weevils is poorly known and the only knowledge is summarized as follows. Weevils of this genus are abundant in the mountain area of warm to subtropical region in the South-east Asia. They have a wide range of host plants on records utilizing 9 genera in 6 plant families (Table 1), and consistency of their association with host plants have never been observed. This feature has also been observed throughout the other genera of the tribe Ochyromerini as noted for African component (Oberprieler, 1993). The larvae of *Ochyromeru* are known to develop in various organs of living plants, such as seeds, fruit, flowers and leaves (Table 1) and pupate in the soil in the leaf-mining species as 0. *miwai,* or in the infested tissue in such seed- and fruit-feeders as 0. *suturalis*, *0. ligustri* and *O. artocarpi.*

Japanese fauna of this genus was rather well investigated in the recent revision of nine species (Kojima & Morimoto, 1996), but two additional new species were recently obtained, one on the leaves of *Pierisjaponicus* by the third author and the other from leaf-litter in winter, and from tree foliage by Mr. Kannô. The discovery of the former new species on *P. japonicus* is unexpected because this tree is common and well explored by many coleopterists especially in the central part of Japan around the type locality.

Table 1. Summary of host plants of the genus *Ochyromera**. Abbreviations used in this table are as follows: flower cone (flc), leaf (l), seed (s) and fruit (f).

Plants	Larval host	Adults collected on
PODOCARPACEAE		
Podocarpus macrophylla	*0. japonicus (flc)*	*0. japonicus*
MORACEAE		
Artocarpus integrifolia	*0. artocarpi* (f)	
Ficus sp.		*O.bryanti*
THEACEAE		
Stewartia monadelpha		*O. horikawai*
ERICACEAE		
Pieris japonica		*O.pieridis*
EBENACEAE		
Diospyros kaki	*O. miwai* (l)	*O. miwai*
OLEACEAE		
Fraxinus lanugirosa	*0. suturalis (s)*	*0. suturalis*
Ligustrum japonicum	*0. ligustri (s)*	*0. ligustri*
L.lucidum		*O. ligustri*
L. amurense		*O. ligustri*
Syringa spp.		*O. ligustri*

*Data developed from: Marshall (1926), Miwa (1940), Warner (1961) and Kojima & Morimoto (1996) except 0. *pieridis. 0. horikawai* and 0. *bryanti* from present study.

Terminology in this work is mostly of ordinal usage except the dorsal arm providing attachment of gland of spermatheca called as *ramus* followed after Spett & Lewitt (1928) and ***rectal ring (fig.*** 15, rr) is used in illustration for rectal sclerite followed after Kuschel (1964). In most species of ***Ochyromera*** as well as other members of Ochyromerini, the bursa copulatrix is more or less sclerotized on ventral wall as termed here ***bursa copulatrix patch*** (fig. 14, bcp), for the first time.

Descriptions of new taxa

Ochyromera pieridis Kojima & Morimoto, sp. nov.
(Figs. l-3, 16, 17)

Female. Length: 3.2-4.3 mm. Derm reddish brown, antennae and legs a little paler, metasternum and most ventral sclerites blackish; clothed with fine recumbent setae.

Head densely and finely punctate; forehead between eyes about half as wide as base of rostrum, with median fovea. Eyes weakly convex from outline of head. Rostrum 1.1- 1.2 times as long as pronotum, arcuate; dorsum parallel-sided from base to antenna1 insertion, and then weakly widening toward apex. Antennae inserted a little before middle of rostrum; scape barely not reaching eye when retracted, as long as total length of funicle; funicle with first segment as long as second, third 3/5 times as long as second, fourth to seventh subequal in length, a little shorter than third, seventh almost as long as broad; club twice as long as broad.

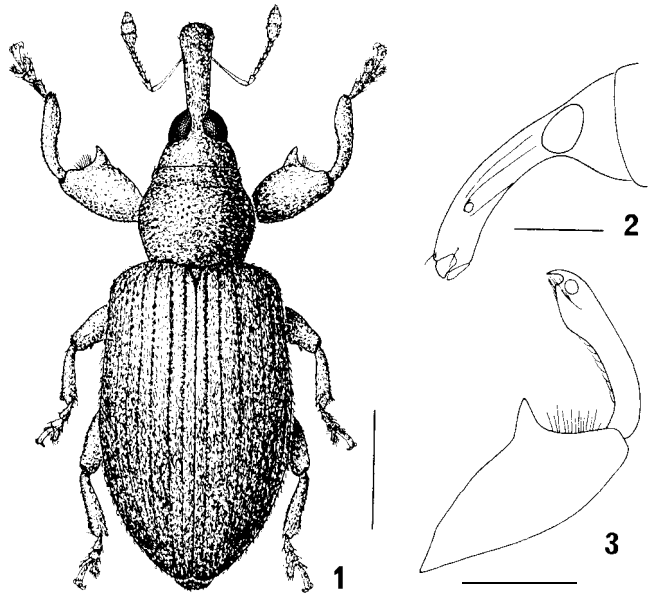
Prothorax 1.1-1.2 times as wide as long, rounded laterally, widest a little before middle, shortly subparallel-sided to apex from subapical constriction; dorsum with small punctures, punctures becoming weaker anteriorly, interspace between them finely and densely punctured, each small puncture bearing a subrecumbent stouter setae and each fine one bearing a fine recumbent seta. Scutellum tongue-shaped, a little longer than broad. Elytra 1.6 times as long as wide, widest in middle or often a little behind middle; striae densely punctate and weakly impressed; intervals much wider than striae, weakly convex, each interval arranged with a row of subrecumbent stouter setae in middle. Pygidium exposed obliquely in apical part. Legs with fore femora armed with a usual triangular tooth, with erect setae beyond it; fore tibiae curved on basal 2/3 and dilated internally on apical 1/3.

Prosternum with coxae located on middle, submarginal sulcus very close to anterior margin of coxae.

Stemite 8 with apodeme long. Spermatheca with distinct ramus.

Male. Unknown.

Materials examined. Holotype, female (Type No. 3071, Entomol. Lab., Kyushu Univ.), JAPAN, Honshu, Kanagawa Pref., Hakone-machi, Oowakudani, 13.viii.1997, M. Horikawa leg. Paratypes. JAPAN: Honshu. 1 female, same locality as the



Figs. 1-3. *Ochyromera pieridis* sp. n., female.- 1, Habitus; 2, head, lateral view; 3, fore femur and tibia. Scales line = 1 mm for fig. 1 and 0.5 mm for figs 2 &3.

holotype, 1. viii. 1997, M. Horikawa leg. 7 females, same data as the holotype. Shikoku. 1 female, Ehime Pref., Kajigamori-rindô, Nanokawagoe, 20. vii. 1997, K. Kume leg.

Distribution. Japan (Honshu, Shikoku).

Biological note. The third author found these weevils on the leaves of *Pieris japonicus* (Asebi in Japanese) of the family Ericaceae, but this plant was not confirmed to be host of this species.

Comments. This species is very similar to 0. *binotutu* Kojima & Morimoto from Japan, but distinguishable from it by the slenderer proportion of body form and the absence of a pair of flecks on basal parts of elytra. The latter feature is present even in the teneral adult materials of 0. *binotutu* as far as we examined.

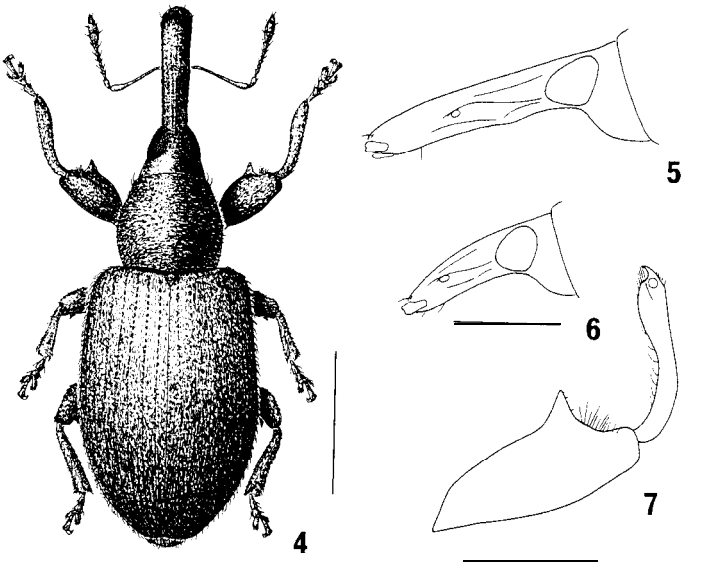
By the present discovery of this species, four species of congener, 0. *binotutu* Kojima & Morimoto, 0. *hiramatsui* Kojima & Morimoto, 0. *horikuwui* Kojima & Morimoto and 0. *pieridis* sp.n., are known to occur around the Hakone area, Honshu distinct of Japan. They are considered to be related to each other by having the following common features: derm reddish to yellowish brown, the length of rostrum different in sexes, longer than pronotum in female and antennae with 2nd funicular segment almost as long as 1st. The former three species have also been known from Kii Peninsula of Honshu and Shikoku,

and the third species also from Kyushu in addition. Therefore, present new species will be discovered another areas because *Pieris japonicus* has wide distribution in southern Japan.

Ochyromera rectirostris Kojima & Morimoto, sp. nov.
(Figs.4-7, 8-15)

Male. Length: 2.7-3.1 mm. Integument dark brown, tibiae often paler, antenna1 scape and funicle, and tarsi yellowish brown; clothed with fine recumbent brownish to dark setae.

Head finely punctate; forehead between eyes a little narrower than half as wide as base of rostrum. Eyes oblong-ovate, weakly convex from outline of head. Rostrum robust, dorsal contour weakly curved and ventral one straight, tapered anteriorly in lateral view, a little shorter than pronotum; dorsum with five rows of carinae, of which median one ending a longitudinal fovea just before middle; antenna1 scrobe contiguous on ventral, forming distinct ridge, which extends anteriorly, in middle. Antennae inserted a little before middle of rostrum; scape reaching eye when retracted, a little longer than total length of funicle; funicle with first segment twice as long as broad, second a little shorter



Figs. 4-7. *Ochyromera rectirostris* sp. n. — *4,* Habitus; 5, 6, head, lateral view (5, female; 6, male); 7, fore femur and tibia. Scales line = 1 mm for fig. 4 and 0.5 mm for figs 5-7.

than first, third and fourth subequal in length, 3/5 times as long as second, five to seventh progressively become long, seventh longer than broad; club about twice as long as broad.

Prothorax a little wider than long, widest at basal 1/3, with subapical constriction faintly; dorsum punctate weakly, punctures becoming smaller anteriorly, interspace between them finely punctate, each puncture bearing a subrecumbent stouter seta and each fine one bearing a fine recumbent seta. Scutellum tongue-shaped, a little longer than wide, clothed with greyish setae. Elytra 1.5 times as long as wide, widest in middle; striae subconfluently punctate and weakly impressed; intervals much wider than striae, flat; each interval arranged with a row of subrecumbent dark stouter setae in middle. Pygidium exposed in apical part. Legs with fore femora armed with a usual triangular tooth, with erect setae beyond it; fore tibiae curved on basal half and dilated internally on apical half.

Prosternum with coxae located a little behind middle, submarginal sulcus closer to anterior margin of prosternum than that of coxae. Venter with basal two ventral sclerites faintly depressed in middle, fifth much densely pubescent than those of preceding two sclerites in middle.

Aedeagus with paired spiculate sclerites and a long flagellum bistalked at base in internal sac.

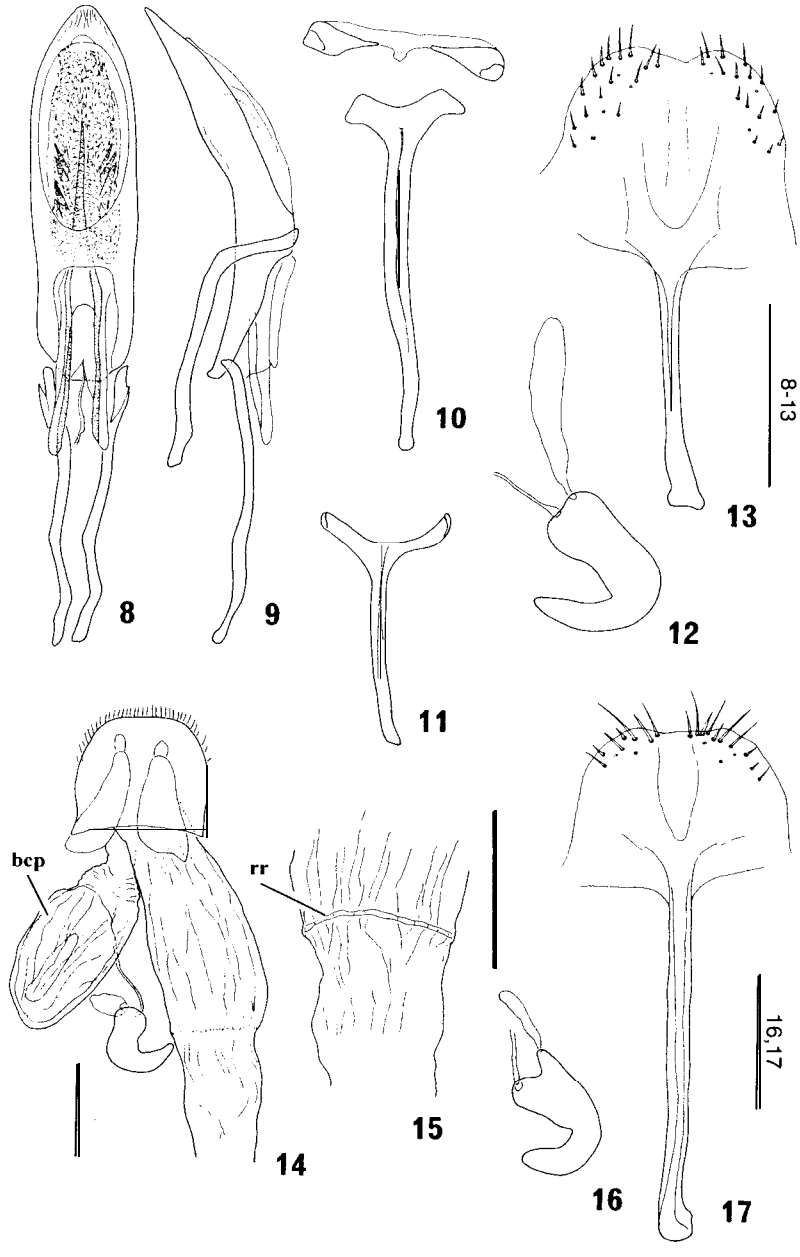
Female. Length: 3.2-3.8 mm. Like the male except eyes hardly convex from outline of head, rostrum longer than pronotum (13: 10), nearly straight in profile, antennae with first funicular segment a little more than twice as long as broad, venter with basal two ventral sclerites not depressed in middle, fifth evenly clothed with setae as preceding two ones. Sternite 8 with apodeme a little longer than bladal part. Spermatheca with ramus indefinitely.

Materials exnmined. Holotype, female (Type No. 3072, Entomol. Lab., Kyushu Univ.), JAPAN, Honshu, Mie Pref., Kisei-chô, Nishiki, 1. ii. 1997, K. Kannô leg. Paratypes. JAPAN: Honshu. 1 male, same data as holotype. 1 male and 2 females, Mie Pref., Owase-shi, Mikizaki, 3. xi. 1997, K. Kannô leg.

Distribution. Japan (Honshu: Mie Pref.).

Biological notes. Mr. Kannô obtained some of these weevils from leaf-litter. They are considered to be overwintered adults since they were collected in winter season, in February. He also collected this species from tree foliage by sweeping, but the host plant is unknown.

Comments. This new species is somewhat similar to the preceding new species, but the color is darker than 0. *pieridis,* antenna1 scape is longer than funicle and second funicular segment is shorter than first. The hardly curved rostrum and median carina between antenna1 scrobes on ventral side are characteristic among congeners.



Figs. 8-17. Male and female genitalia. — S-15, ***Ochyromeru rectirostris*** sp. n.; 16, 17, 0. *pieridis* sp; 8, 9, aedeagus (8, dorsal; 9, lateral); 10, sternites 8 and 9, male; 11, tegmen; 12, 16, spermatheca; 13, 17, sternite 8, female; 14, ovipositor (bcp: bursa coplatrix patch); 15, rectal ring (IT). Scale lines = 0.25 mm.

Revised key to the *Ochyromera* from Japan

l(8): Rostrum robust, not longer than pronotum in both sexes. Antennae with scape shorter than total length of funicle.

2(7): Integument reddish to dark reddish brown, antennae and legs a little paler, immaculate.

3(4): Rostrum nearly straight in profile. Antenna1 scape very short, nearly as long as basal three segments of funicle combined. Fore tibiae evenly curved and hardly dilated internally toward apex, and sharply angulated at inner apical corner. Length: 2.6-3.0 mm. Japan (Ryukyus).
..... 0. *ryukyuensis* Kojima & Morimoto

4(3): Rostrum curved in profile. Fore tibiae more or less dilated internally.

5(6): Fore tibiae dilated internally on apical half. Elytra with intervals arranged with a row of a little longer setae in middle. Length: 2.6-3.0 mm. Japan (Honshu, Kyushu). ..... 0. *nipponica* Kojima & Morimoto

6(5): Fore tibiae dilated internally near apex. Elytra with intervals arranged with a row of conspicuous, subrecumbent longer and stouter setae in middle. Length: 2.8-3.3 mm. Japan (Honshu, Shikoku). . . . . 0. *hirsuta* Kojima & Morimoto

7(2): Integument yellowish brown, with a dark median stripe along suture and pair of dark postmedian flecks on elytra. Length: 2.7-2.9 mm. Japan (Honshu, Kyushu). ..... 0. *japonica* (Roelofs)

8(1): Rostrum usually slender, at least longer than pronotum in female.

9(10): Fore tibiae hardly dilated internally toward apex, which is rounded at inner apical corner. Prothorax distinctly transverse, about 1.5 times as wide as long. Integument dark brown in colour, without maculation. Length: 3.7-4.5 mm. Japan (Ryukyus), Taiwan. ..... 0. *miwai* Kôno

10(9): Fore tibiae more or less dilated internally. Prothorax normally transverse, usually less than 1.3 times as wide as long.

1 1(14): Antenna1 scape longer than total length of funicle. First funicular segment longer than the second.

12(13): Fore femora constricted near base. Rostrum arcuately curved. Integument yellowish brown, with a dark median stripe on pronotum and elytra along suture, and three pairs of patches on elytra. Elytra oblongate, 1.6- 1.7 times as long as wide, subtruncate at apex. Length: 3.3-4.9 mm. Japan (Hokkaido, Honshu, Sado I., Kyushu, Tsushima), Russian Far East, Taiwan.
..... 0. *suturalis* Kojima & Morimoto

13(12): Fore femora not constricted near base. Rostrum nearly straight (female) or weakly curved in dorsal contour (male). Integument dark brown, immaculate. Elytra not oblong-ovate, 1.5 times as long as wide, rounded at apex. Length: 2.7-3.4 mm. Japan (Honshu). ..... 0. *rectirostris* sp. n.

14(11): Antenna1 scape as long as or a little shorter than total length of funicle. First funicular segment as long as the second.

15(20): Fore tibiae dilated internally near apex.

16(17): Body proportionally slender, elytra oblong-ovate, 1.6 times as long as wide. Integument reddish brown, without maculation. Length: 3.2-4.3 mm. Japan (Honshu, Shikoku). ..... 0. *pieridis* sp. n.

17(16): Body ovate, elytra usually 1.5 times as long as wide. Integument with maculation.

18(19): Integument yellowish brown, elytra with a little dark median stripe along suture. Length: 2.4-3.3 mm. Japan (Honshu, Kyushu).
..... 0. *horikawai* Kojima & Morimoto

19(18): Integument reddish brown, elytra with a pair of dark flecks at basis of fourth and fifth intervals. Length: 4.0 mm. Japan (Honshu, Shikoku).
..... 0. *binotata* Kojima & Morimoto

20(15): Fore tibiae dilated internally a little beyond middle. Body proportionally slenderer, elytra 1.65- 1.70 times as long as wide. Pronotum with a pair of dark longitudinal stripes and elytra with characteristic maculation. Length: 2.9-3.8 mm. Japan (Honshu). ..... 0. *hirumutsui* Kojima & Morimoto

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References

Clark, W. E., D. R. Whitehead & R. E. Warner, 1977. Classification of the weevil subfamily Tychiinae, with a new genus, new combination, and new synonym in Lignyodini (Col., Curc.). *Coleopt. Bull.,* **31**(1): 1-18.

Kojima, H. & K. Morimoto, 1996. The tribe Ochyromerini (Coleoptera, Curculionidae) of Japan II. Genus *Ochyromeru* Pascoe. *Jpn. J. Ent.,* **64**(3): *570-586.*

Kuschel, G., 1964. Insects of Campbell Islands. Coleoptera: Curculionidae of the subantarctic islands of New Zealand. *Pac. Ins. Monogr., 7: 416-493.*

Kuschel, G., 1982. Apionidae and Curculionidae (Coleoptera) from the Poor Knights Islands, New Zealand. *J. roy. Soc. New Zeal.*, **12**(3): 273-282.

Marshall, G. A. K., 1926. On new Curculionidae from the Oriental Region (Col.). *Ann. Mag. nat. His.*, (10)11: 1-16.

Miwa, Y., 1940. On a leafminer of Kaki-tree in Taiwan. *Taiwan Noujiho*, *36:* 184- *186.* (in Japanese)

Morimoto, K., 1962. Key to families, subfamilies, tribes and genera of the superfamily Curculionoidea of Japan excluding Scolytidae, Platypodidae and Cossoninae. *J. Fac. Agr., Kyushu Univ.*, 12: 21-66.

Oberprieler, R. G., 1993. New taxa of Ochyromerina from Africa, with comments on the subtribe and description of immature stages (Coleoptera: Curculionidae: Curculioninae: Tychiini). *J. Afr. Zool.*, **107**(3): 217-2.52.

Spett, G. & M. Lewitt, 1928. Versuch einer Verwertung des Receptaculum seminis als systematisches Merkmal bei den Chrysomeliden. *Arch. Naturg.*, *92: 96-142.*

Warner, R. E., 1961. The genus *Ochyromera* new to the western hemisphere, with a new species and additions to the Junk-Schenkling Coleopterorum Catalogus (Curculionidae: Prionomerinae, Endaeini). *Coleopt. Bull.*, 15: *12* 1- 124.

Zherichen, V. V. & A. B. Egorov, 1990. *Weevils of the Far East USSR. 164* pp., Vladivostok. (in Russian)