

## Taxonomical Review on a Japanese Group Having Degenerated Hind Wings of the Lamiine Genus *Neosybra* (Coleoptera, Cerambycidae), with Description of a New Subspecies

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**Abstract** A Japanese group having degenerated hind wings of the lamiine genus *Neosybra* BREUNING, 1939 is taxonomically reviewed. As a result, two species, *N. mizoguchii* (HAYASHI, 1956) and *N. hachijoensis* (HAYASHI, 1961), are independently treated: the former is rather primitive and contains three subspecies, *m. mizoguchii* from southernmost Kyushu, *m. nobozakiensis* subsp. nov. from northwestern Kyushu and *m. depressa* (MAKIHARA, 1980) from the Danjo Islands, and the latter is much more derivative and contains two subspecies, *h. hachijoensis* from the Izu Islands and *h. tokaraensis* (MAKIHARA, 1977) from the Northern Ryukyus.

*Neosybra mizoguchii* (HAYASHI, 1956), one of the cerambycid groups having degenerated hind wings, and its relatives inhabit several small islands and limited capes of southwestern and central Japan. The taxonomical status became stable by MAKIHARA (1992 a), who transferred the group to *Neosybra* BREUNING, 1939 and classified it into three species, though the group had been considered as a member of *Palausybra* GRESSITT, 1956 after HAYASHI (1961) and was treated as comprising two species by KUSAMA and TAKAKUWA (1984).

In the summer of 2014, taking advantage of many materials collected at Nobozaki Cape of northwestern Kyushu offered by Messrs. Shoichi IMASAKA and Masaharu NODA of Nagasaki Pref., I was obliged to review this group to examine the taxonomical status of Nobozaki population. According to the results, it became clear that this group is closely related to the group of Japanese *Neosybra* species having normal hind wings and comprises two species, and Nobozaki population is valid as a new subspecies.

In the following paragraphs, I am going to make a taxonomical description of this group.

### Group of *Neosybra mizoguchii*

*Ropica*: HAYASHI, 1956: 41 (part.); KOJIMA & HAYASHI, 1969: 103 (part.).

*Palausybra*: HAYASHI, 1961: 22 (part.); MAKIHARA, 1977: 53; 1980: 58; HAYASHI, 1984: 88.

*Palausybra?*: KUSAMA & TAKAKUWA, 1984: 388.

*Neosybra*: MAKIHARA, 1992a: 75; 1992b: 158, 549; 2007: 292, 534.

This group comprises two species: *Neosybra mizoguchii* (HAYASHI, 1956) from southernmost and northwestern Kyushu and the Danjo Islands off Northwest Kyushu, and *N. hachijoensis* (HAYASHI, 1961) from the northern Ryukyus and the Izu Islands off central Honshu. It differs from the two Japanese species having the normal hind wings, *Neosybra cribrella* (BATES, 1873) and *N. ryukyuensis* BREUNING et OHBAYASHI, 1964, evidently in the following characters: body surface coarsely punctate; elytra raised and shortened, broadened to behind the middle, longitudinally carinate at least on the posterior area, with humeri more or less sloping; hind wings degenerated and abbreviated; antenna thicker and shorter.

### Key to Species

1. Pronotum clothed with dense yellowish pubescence except for discal area, decorated with apparent maculations. Elytra almost flat or depressed on antero-dorsal aspect, often without distinct longitudinal carinae in basal portion; humeri rather weakly sloping; lateral sides from behind middle gently arcuately convergent apicad; each apex gently parabolical, or with inner angle broadly rounded. Antenna thinner; scape long, somewhat cylindrical or weakly inflated; 3rd segment about as long as, or slightly longer than 4th. Median lobe of male genitalia gently curved at apical one-fourth. .... *mizoguchii*
- Pronotum clothed with sparse or minute yellowish pubescence except for discal area, not decorated with apparent maculations. Elytra raised on dorsal aspect, with 4 pairs of somewhat distinct longitudinal carinae; humeri rather strongly sloping; lateral sides from behind middle straightly convergent apicad; each apex parabolical. Antenna thicker; scape short, fully inflated; 3rd segment apparently longer than 4th. Median lobe of male genitalia more or less suddenly curved at apical one-fourth. .... *hachijoensis*

#### *Neosybra mizoguchii* (HAYASHI, 1956)

This species is classified into three subspecies, each of which can be rather easily distinguished mainly by the characters of elytra, antennae, and dorsal plate of median lobe of male genitalia.

### Key to Subspecies

1. Elytra usually decorated with a vague pale yellow large macula on basal disc, and with black maculae before and behind the macula; each apex gently parabolical; beneath without reticulation. Antenna shorter, barely exceeding elytral apex in male, not quite reaching in female. Median lobe of male genitalia with ventral plate rather straightly narrowed to apex. .... *depressa*
- Elytra without basal large whitish yellow macula; each apex with inner angle broadly rounded; beneath decorated with reticulation. Antenna longer, exceeding elytral apex by 8th to 10th segment in male, by 10th to 11th in female. Median lobe of male genitalia with ventral plate arcuately narrowed to apex. .... 2
2. Elytra somewhat coarsely punctate, usually with indistinct carinae; basal disc with a pair of carinae or slight swellings; a pair of whitish yellow maculae just before middle distinct. Median lobe of male genitalia with dorsal plate triangular and dully pointed at the tip. .... *mizoguchii*
- Elytra very coarsely punctate, without carinae though often recognized in apical portion; basal disc almost flat or with a pair of vague swellings; a pair of whitish yellow maculae just before middle usually indistinct or very small. Median lobe of male genitalia with dorsal plate parabolical and narrowly rounded at the tip. .... *nobozakiensis* subsp. nov.

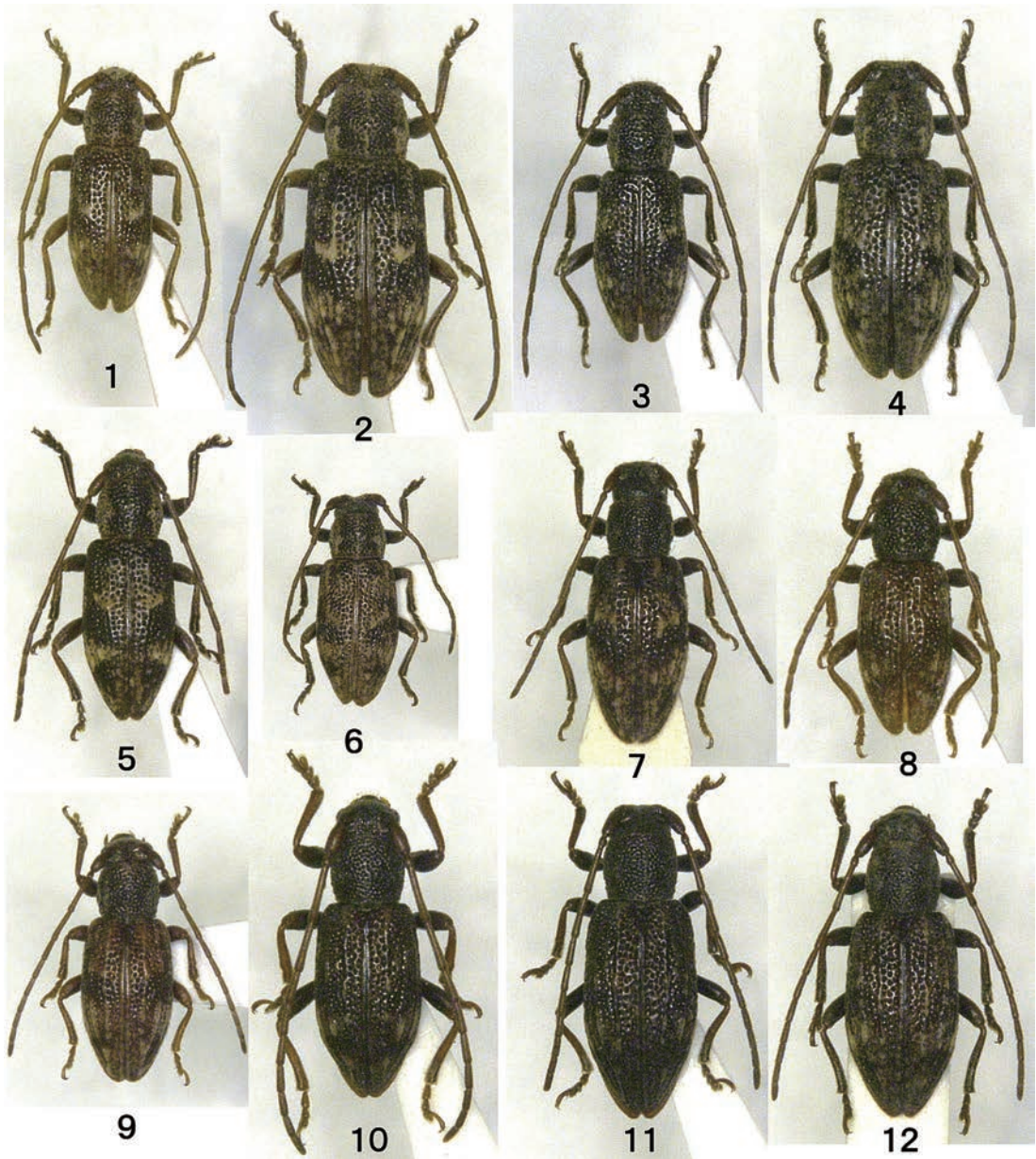
#### *Neosybra mizoguchii mizoguchii* (HAYASHI, 1956)

(Figs. 1, 2, 13, 21)

*Ropica mizoguchii* HAYASHI, 1956: 41, pl. 9, fig. 2 (type locality: Sata Cape, southernmost Kyushu); KOJIMA & HAYASHI, 1969: 104, pl. 31, fig. 18; HAYASHI, 1984: 88, pl. 17, fig. 28.

*Palausybra? mizoguchii*: KUSAMA & TAKAKUWA, 1984: 388, pl. 55, figs. 412, 412a.

*Neosybra mizoguchii*: MAKIHARA, 1992: 75; 1992 b: 44, 159, 234 (fig. 6), 550; 2007: 292, 534, pl. 44, figs. 13, 14.



Figs. 1–12. Species and subspecies of the group of *Neosybra mizoguchii*. — 1–6, *N. mizoguchii*; 7–12, *N. hachijoensis*. — 1, *N. mizoguchii mizoguchii*, ♂; 2, ditto, ♀; 3, *N. m. nobozakiensis* subsp. nov., ♂, holotype; 4, ditto, ♀, paratype; 5, *N. m. depressa*, ♂; 6, ditto, ♀; 7, *N. hachijoensis tokaraensis*, ♀, from Kuroshima Is., Ohsumi Isls.; 8, ditto, ♂, from Akuseki Is., Tokara Isls.; 9, ditto, ♀, from Nakanoshima Is., Tokara Isls.; 10, *N. h. hachijoensis*, ♂, from Mikura Is., Izu Isls.; 11, ditto, ♀, from same locality; 12, ditto, ♀, from Hachijo Is., Izu Isls.

Elytra usually with indistinct carinae though rarely apparent, with a pair of carinae or slight swellings just behind base; basal disc clothed with whitish to yellowish pubescence on near front margin and lateral sides though middle area is clothed with dark pubescence except for sutures; a pair of whitish yellow maculae just before middle distinct; each apex with inner angle broadly rounded; beneath brown, decorated with reticulation. Antenna long, exceeding elytral apex by 8th to 9th in male, by 10th to 11th in female; scape long and cylindrical; 3rd segment just as long as 4th. Median lobe of male genitalia thin in apical portion; dorsal plate triangularly convergent to apex which is dully pointed; ventral plate parabolical at apex in dorsal view. Body length: 5.6–8.6 mm.

*Specimens examined.* Sata Cape, Kagoshima Pref.: 1 ♀, 10.VII.1986, K. MORI leg.; 1 ♂, 1 ♀, 18.IV.1989\*, K. MORI leg.; 1 ♀, 16.V.1989\*, K. MORI leg.; 1 ♂, 1 ♀, V.1993\*, Y. MATSUMOTO leg.; 2 ♀♀, 15.IV.2014\*, K. MORI leg. (\*: date emerged from dead branch.)

*Distribution.* Sata Cape, Kagoshima Pref., southernmost Kyushu.

***Neosybra mizoguchii nobozakiensis* subsp. nov.**

(Figs. 3, 4, 14, 22)

*Palausybra? mizoguchii:* KUSAMA & TAKAKUWA, 1984: 388, pl. 55, fig. 412b.

Dorsal surface more coarsely punctate than in other subspecies. Elytra without carinae though often recognized in apical portion; basal disc almost flat or with a pair of vague swellings just behind base, sparsely clothed with whitish to yellowish pubescence on almost all over; a pair of whitish yellow maculae just before middle usually indistinct or very small; each apex with inner angle broadly rounded; beneath brown, apparently decorated with reticulation. Antenna slender, exceeding elytral apex by 9th to 10th in male, by 11th in female; scape rather long, cylindrical; 3rd segment about as long as 4th. Median lobe of male genitalia usually thin in apical portion; dorsal plate parabolically convergent to apex which is rounded; ventral plate parabolical at apex in dorsal view. Body length: 5.6–7.7 mm.

*Type series.* Holotype, ♂, Nobozaki Cape, Nagasaki Pref., 5.VII.2014, S. IMASAKA leg. Paratypes: 5 ♂♂, 5 ♀♀, same data as the holotype; 9 ♂♂, 4 ♀♀, same locality as the holotype, 12.VII.2014, M. NODA leg.; 2 ♂♂, 2 ♀♀, ditto, 12–13.VII.2014, Y. IDE leg.; 1 ♂, 3 ♀♀, ditto, 19.VII.2014, Y. YAMAMOTO leg.

*Type depositories.* The holotype and some paratypes are deposited in the collection of the Kanagawa Prefectural Museum of Natural History, Odawara. The remainder paratypes are preserved in the private collections of Messrs. S. IMASAKA, M. NODA, H. FUJITA and K. AKITA.

*Distribution.* Nobozaki Cape, Nagasaki Pref., northwestern Kyushu.

*Ethymology.* The subspecific name is given after the place where all the type specimens were collected.

***Neosybra mizoguchii depressa* (MAKIHARA, 1980)**

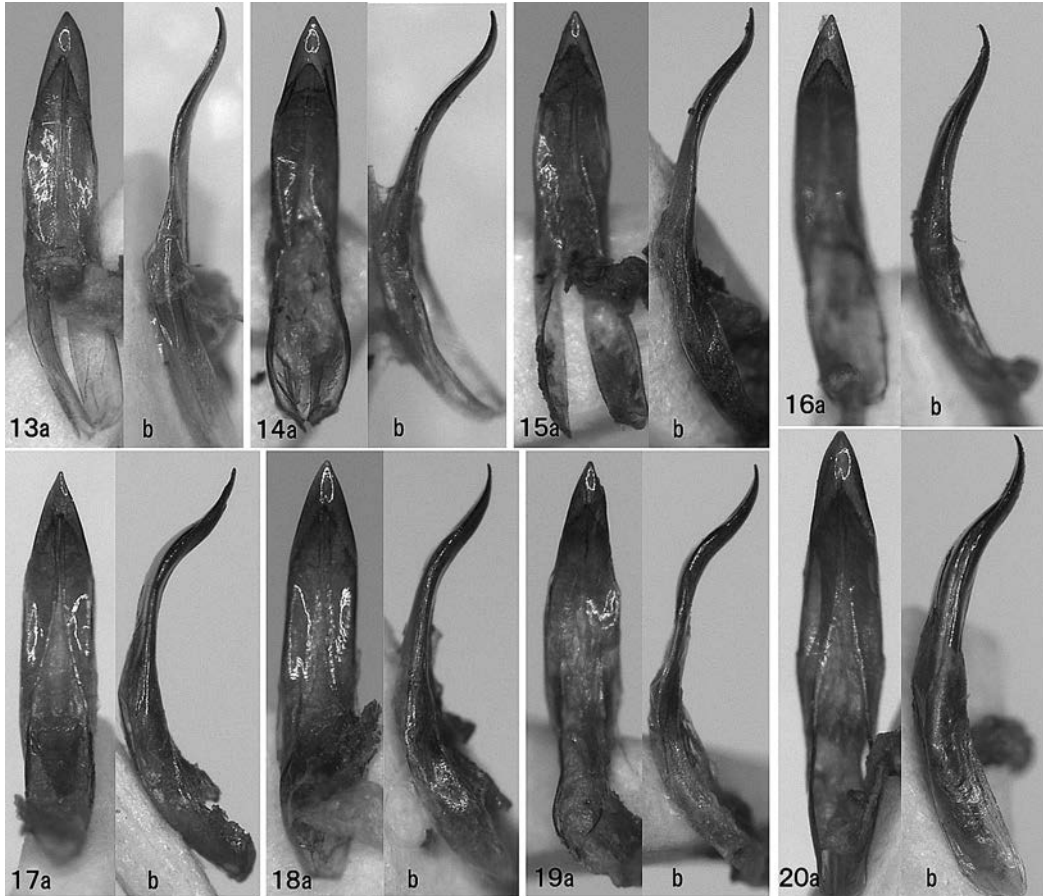
(Figs. 5, 6, 15, 16, 23, 24)

*Palausybra tokaraensis depressa* MAKIHARA, 1980: 58, figs. 22, 25A (type locality: Meshima Is., Danjo Isls.); HAYASHI, 1984: 88.

*Palausybra? hachijoensis depressa:* KUSAMA & TAKAKUWA, 1984: 388.

*Neosybra tokaraensis depressa:* MAKIHARA, 1992 a: 75; 1992 b: 159, 550; 2007: 535, pl. 44, fig. 17.





Figs. 13–20. Median lobe of male genitalia of the group of *Neosybra mizoguchii*. — 13, *N. mizoguchii mizoguchii*; 14, *N. m. nobozakiensis* subsp. nov., holotype; 15, *N. m. depressa*, from Meshima Is., Danjo Isls.; 16, ditto, Oshima Is., Danjo Isls.; 17, *N. hachijoensis tokaraensis* from Kuroshima Is., Ohsumi Isls.; 18, ditto, from Nakanoshima Is., Tokara Isls.; 19, *N. h. hachijoensis* from Hachijo Is., Izu Isls.; 20, ditto, from Mikura Is., Izu Isls. — a, dorsal view; b, lateral view. Scale: 0.5 mm.

Elytra with more or less indistinct carinae, with a pair of short longitudinal carinae or feeble swellings just behind base; basal disc usually decorated with a vague pale yellow large macula on the middle, and with more or less distinct black maculae before and behind the macula; each apex gently parabolical; beneath pale yellowish brown or brown, without reticulation. Antenna short, barely reaching elytral apex in male though not quite reaching in female; scape weakly inflated; 3rd segment slightly longer than 4th; 5th to 11th sometimes with grayish pubescence. Median lobe of male genitalia thicker than in two former subspecies; dorsal plate triangularly convergent to apex which is very narrowly rounded; ventral plate rather straightly narrowed to apex. Body length: 5.3–7.3 mm.

*Specimens examined.* 1 ♂, Meshima Is., Danjo Isls., 4.VI.1984, T. TSUTSUMI leg.; 1 ♂, 1 ♀, ditto, 14.VI.2002, K. ADACHI leg.; 1 ♂, 1 ♀, Oshima Is., Danjo Isls., 14.VI.2002, K. ADACHI leg.

*Distribution.* Meshima Is. and Oshima Is., Danjo Isls., Nagasaki Pref., off northeastern Kyushu.

*Notes.* This subspecies is surely intermediate between *N. mizoguchii* and *N. hachijoensis*, especially in the antennae and male genitalic features. The respective population of Meshima Is. and Oshi-



tions on the middle; beneath light brownish yellow to brown, without reticulation. ....  
 ..... *tokaraensis*

***Neosybra hachijoensis hachijoensis* (HAYASHI, 1961)**

(Figs. 10–12, 19, 20, 27–28)

*Palausybra hachijoensis* HAYASHI, 1961: 22, pl. 5, fig. 11 (type locality: Hachijo Is., Izu Isls.); KOJIMA & HAYASHI, 1969: 103, pl. 31, fig. 13; HAYASHI, 1984: 88, pl. 17, fig. 26.

*Palausybra? hachijoensis hachijoensis*: KUSAMA & TAKAKUWA, 1984: 389, pl. 55, figs. 413, 413a.

*Neosybra hachijoensis*: MAKIHARA, 1992 a: 75; 1992 b: 44, 159, 234 (fig. 7), 550; 2007: 292, 535, pl. 44, fig. 15.

Elytra brown to black; a pair of 1st carinae behind base often partially brownish, much lowly carinate; surface usually sparsely clothed with whitish yellow pubescence, so scattered with indistinct small spots, and with a pair of large vague blackish maculations on the middle; beneath dark brown, decorated with reticulation. Lateral lobes of tegmen of male genitalia relatively short. Body length: 5.3–7.5 mm.

*Specimens examined.* 3 ♂♂, 3 ♀♀, Sato, Mikura Is., Izu Isls., 12–14.VI.2010, M. TAKAKUWA leg.; 1 ♂, 1 ♀, Kurosakitakao, Mikura Is., Izu Isls., 4.VII.2010, M. TAKAKUWA leg.; 1 ♂, Sueyoshi, Hachijo Is., Izu Isls., 11.VII.1975, H. FUJITA leg.; 1 ♀, ditto, 11.VII.1975, M. TAKAKUWA leg.; 1 ♂, ditto, 26.VII.1980, M. TAKAKUWA leg.; 1 ♀, Mitsune, Hachijo Is., V.2000 (emerged), T. KINOSHITA leg.

*Distribution.* Mikura Is. and Hachijō Is., Izu Isls., off central Honshu.

*Notes.* The respective population of Hachijō Is. and Mikura Is. more or less differs in the following characters: elytra dark brown to black in the latter, whereas brown to dark reddish brown in the former; antenna in the latter exceeding by 9th to 10th elytral apex in male, and barely so or apparently not reaching in female whereas that in the former barely exceeding or reaching in male, and barely reaching or apparently not in female; median lobe of male genitalia in the latter apparently much thicker than that in the former, somewhat allied to the one of Nakanoshima Is., Tokara Isls., whereas that in the former is closely allied to the one of Kuroshima Is., Ohsumi Isls.

***Neosybra hachijoensis tokaraensis* (MAKIHARA, 1977)**

(Figs. 7–9, 17, 18, 25, 26)

*Ropica mizoguchii*: YOKOYAMA, 1966: 58. (nec HAYASHI, 1956).

*Palausybra tokaraensis* MAKIHARA, 1977: 53, figs. 27, 28 (type locality: Kuroshima Is., Ohsumi Isls.); HAYASHI, 1984: 88.

*Palausybra? hachijoensis tokaraensis*: KUSAMA & TAKAKUWA, 1984: 388, pl. 55, figs. 413b, 413c.

*Neosybra tokaraensis tokaraensis*: MAKIHARA, 1992 a: 75; 1992 b: 159, 234 (fig. 8), 550; 2007: 292, 535, pl. 44, fig. 16.

Elytra yellowish brown to blackish; a pair of 1st carinae behind base brownish, more distinct; surface clothed with whitish yellow pubescence and densely scattered with many small spots, though with a pair of large blackish maculations on the middle; beneath light brownish yellow to brown, without reticulation. Lateral lobes of tegmen of male genitalia relatively long. Body length: 5.7–7.3 mm.

*Specimens examined.* 1 ♂, Akuseki Is., Tokara Isls., 4.VII.1990, H. KAMEZAWA leg.; 1 ♀, ditto, 5.VII.1990, H. KAMEZAWA leg.; 1 ♀, Nakanoshima Is., Tokara Isls., 21.VI.1988, H. FUJITA leg.; 1 ♂, ditto, 23.VI.1988, H. FUJITA leg.; 1 ♂, ditto, 21–23.VI.1988, H. FUJITA leg.; 1 ♀, Kuroshima Is., Osumi Isls., 6.VII.1978, H. FUJITA leg.; 1 ♂, ditto, 9.VII.1978, H. FUJITA leg.

*Distribution.* Kuroshima Is., Ohsumi Isls., Nakanoshima Is. and Akuseki Is., Tokara Isls., the northern Ryukyus.

*Notes.* The respective population of Kuroshima Is. and Tokara Isls. somewhat differs in the shape of median lobe of male genitalia, though only a few of both specimens are examined.

### Acknowledgements

I am sincerely grateful to Messrs. Shoichi IMASAKA and Masaharu NODA of Nagasaki Pref., who gave me the opportunity to examine the interesting materials used in the present paper. Hearty thanks are also due to Japanese coleopterists Dr. M. HASEGAWA, Messrs. H. FUJITA, K. ADACHI, K. MORI, Y. NAMEDA, K. HAYASHI and Y. IDE who kindly proposed or loaned me the valuable materials regarding this study, and Drs. N. OHBAYASHI and J. YAMASAKO who gave me valuable comments on the related genera of *Neosybra*.

### 要 約

高桑正敏：日本産ヒメアヤモンチビカミキリ属 *Neosybra* (鞘翅目カミキリムシ科フトカミキリ亜科) の後翅が退化したグループの分類学的再検討。——— 長崎県野母崎からの本グループの1員の再発見を機に、本グループの分類学的再検討を行ったところ、1新亜種を含む次の2種3亜種を認めた。サタサビカミキリ *Neosybra mizoguchii* (HAYASHI, 1956), 九州佐多岬亜種 *N. m. mizoguchii*, 九州野母崎亜種 *N. m. nobozakiensis* TAKAKUWA, subsp. nov., 男女群島亜種 *N. m. depressa* (MAKIHARA, 1980), ハネナシチビカミキリ *Neosybra hachijoensis* (HAYASHI, 1961), 伊豆諸島亜種 *N. h. hachijoensis*, 北琉球亜種 *N. h. tokaraensis* (MAKIHARA, 1977)。

前種は、上翅基部が平滑または陥没、触角はより細く、雄交尾器中央片は緩やかに反るなどのより原始的な形質を示すのに対し、後種は上翅が隆起し、触角はより太く、雄交尾器中央片は端1/4部分で急に反るなどのより派生的な形質を示す。前種に含めた男女群島亜種は、両種の中間的な形質も併せ持つとともに、女島産と男島産とで形態差が認められる。同様に、後種の2亜種も産地により形態差が見られる。

サタサビカミキリ新亜種である九州野母崎亜種は、名義タイプ亜種である九州佐多岬亜種に対して上翅は点刻がより大きく、基部後方の1対の隆起が不明瞭、中央直後の1対の白黄紋は不明瞭あるいはごく小さいこと、ならびに雄交尾器中央片の背片の先端が放物線状なことで、また男女群島産とは上翅斑紋や雄交尾器の特徴のほか、触角がより長いことで容易に区別できる。

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## Errata

The error was found in the following paper.

BI, W.-X., & N. OHBAYASHI, 2014. Notes on the tribe Xylosteini (Coleoptera, Cerambycidae) with descriptions of one new genus and three new species from China. *Elytra, Tokyo*, (n. ser.), **4** (1): 5–16.

Please correct the following sentence in the key of p. 7, line 7–11 from top:

- 4 Antennae rather thick; distance between antennal cavities wider than the inter-ocular distance; fifth segment of male protarsus inflated apically. .... 5
- Antennae thin; distance between antennal cavities narrower than the interocular distance; fifth segment of male protarsus normal, not inflated. .... *Chiangshunania* BI et N. OHBAYASHI, gen. nov.
- as follows:
- 4 Antennae thin; distance between antennal cavities narrower than the interocular distance; fifth segment of male protarsus inflated apically. .... 5
- Antennae rather thick; distance between antennal cavities wider than the interocular distance; fifth segment of male protarsus normal, not inflated. .... *Chiangshunania* BI et N. OHBAYASHI, gen. nov.

(Wen-Xuan BI and Noboru OHBAYASHI)