

論文 (Original Article)

Two new species and a new subspecies of Japanese Cerambycidae (Coleoptera)

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Abstract

Two new species and a new subspecies are described: *Semanotus yakushimanus* sp. nov. from Yakushima Is., *Mimectatina longipennis* sp. nov. from Hokkaido and *Monochamus alternatus endai* subsp. nov. from Japan and Korea.

Key words: New taxa, Cerambycidae, Japan, *Semanotus yakushimanus* sp. nov., *Mimectatina longipennis* sp. nov., *Monochamus alternatus endai* subsp. nov., Japanese pine sawer

Introduction

In the present paper, two new species and a new subspecies are described as follows: *Semanotus yakushimanus* sp. nov., from Yakushima Is., may be vicarious species of *S. japonicus* (Lacordaire) from N. Kyushu, Shikoku and Honshu; *Mimectatina longipennis* sp. nov., from Hokkaido, closely related to *M. fuscoplagiata* (Breuning) known from the middle of Honshu and to *M. variegata* Kusama et Takakuwa from the Kii Peninsula; *Monochamus alternatus* Hope from China, also distributed in Korea and Japan. As a detailed morphological study, the species can be classified into two sub-groups, Japan-Cheju group and China-Taiwan group. Therfore, the author described as the group of Japan and Korea, *Monochamus alternatus endai* subsp. nov.

Abbreviations

The abbreviations used in the present paper as follows: BWP - basal width of pronotum; PL - length of pronotum.

Subfamily Cerambycinae

Tribe Callidiini

Semanotus yakushimanus sp. nov.

(Japanese name: Yaku-sugi-kamikiri)

(Figs. 1A, 2A & 3A,A',B,B')

Semanotus japonicus: Makihara, 1988a, Forest Pests, 37(2):13-15;
Niisato, 1992, An illustr. guid to ident. longic. beetl. Japan, 509
(part).

Male. Body form moderately broad, subparallel-sided or gradually attenuated posteriorly. Color black; antennae, elytral suture, apices of elytra, legs, apices of abdominal

sternites, maxillary and labial palpi reddish brown; elytra with two pairs of dark orange yellow spots.

Head narrower than pronotum, coarsely punctate, clothed with suberect short hairs; apical segments of maxillary palpi slender, strongly broadened at apices. Antennae weakly longer than body; outer segments flattened, expanded; relative lengths of segments (%): - 9.0 : 2.7 : 8.6 : 10.9 : 10.0 : 10.0 : 9.0 : 8.6 : 8.1 : 6.3 : 8.1; first to third segments covered with densely long suberect hairs on ventral sides. Pronotum distinctly broader than long, constricted at base; sides obtusely rounded; apical portion so wide, PA/PB 1.19-1.25, broadest at near before middle; disc rather densely punctate, with three smooth longitudinal elevations; an oval one median reaching from middle to near base; a reversal sickle-shaped one on each side, covered with dense erect hairs on basal halves of lateral sides. Scutellum triangular with apex rounded; disc clothed with sparsely depressed hairs. Elytra wider than pronotum; surface densely but irregularly punctate, thinly clothed with shirt, depressed, dark pubescence and sparsely with erect hairs along suture; apices rounded. Legs long and pubescent. Abdomen somewhat coarsely punctate; sternites densely clothed with long suberect pubescence; fifth sternite distinctly longer than fourth; apex subtruncate. Male genital organ small and somewhat broad. Median lobe 2 mm long, with long median struts strongly curved in lateral view; ventral edge of median orifice bluntly pointed. Tegmen 2.5 mm long, without basal-piece; roof narrow in extent; lateral lobes slender and long, clothed with long setae at the apex; ringed part converged, obtusely angled in lateral view.

Body length, 16-20 mm.

Female. Unknown.

Distribution. Yakushima Is. of Kagoshima Pref.

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Host plant: *Cryptomeria japonica* D. Don.

Type specimens. Holotype. ♂ (Type No. 2, FFPRI), Miyanoura, Yakushima Is., Kagoshima Pref., 8-IV-1984, K. Takemura leg. Paratype 1♂, Jomon-sugi, Yakushima Is., on the tree trunk of the famous Yaku-Sugi (a variety of *Cryptomeria japonica*) named "Jomon-Sugi", I. Date leg.

Type depository. The holotype and paratype are preserved in the collection of the Forestry and Forest Products Research Institute (FFPRI), in Tsukuba, Ibaraki Pref., Japan.

Note. *Semanotus japonicus* (Lacordaire), the cryptomeria bark borer distributed in Honshu, Sado Is.,

and the elytral markings (Makihara, 1988b). The author investigated a number of specimens of the species gathered from various localities in Japan. As the result, the author cannot find out the differentiations of the male genitalia, maxillary palpi and the other characters in this species. On the other hand, the author recognized that cryptomeria bark borer specimens from Yakushima Island has different morphological characteristics in the male genitalia and the maxillary palpi from those in *Semanotus japonicus* and identified as a new species. This new species is distinguishable from *Semanotus japonicus* by the following characters.



Fig. 1. *Semanotus* spp. A: *Semanotus yakushimanus* sp. nov., ♂, 20mm. B: *S. japonicus*, ♂, 20mm.

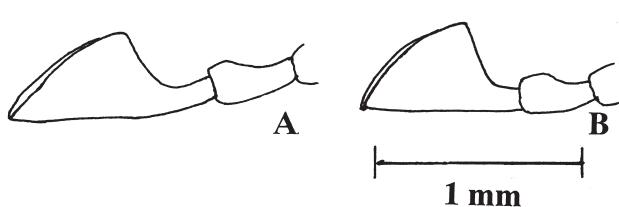


Fig. 2. Apical segments of maxillary palpi. A: *Semanotus yakushimanus* sp. nov. B: *S. japonicus*.

Oki Is., Kanmuri Is., Awajishima Is., Shikoku, Northern part of Kyushu (invaded from Western Honshu), is one of the major forest insect pest of Japanese cedar plantations. This species is well known to have high geographic and individual variability on the body color

Semanotus yakushimanus sp. nov. (Fig. 1A)

Apical edges of maxillary palpi strongly broadened (Fig. 2A); lateral sides of pronotum strongly swollen in apical halves; median lobe of male genital organ short, strongly curved with median struts (Fig. 3A, A'); tegmen with slender and long lateral lobes and somewhat short roof (Fig. 3B, B').

Semanotus japonicus (Lacordaire) (Fig. 1B)

Apical edges of maxillary palpi somewhat broadened (Fig. 2B); lateral sides of pronotum not so swollen in apical halves; median lobe of male genital organ long, with weakly curved median struts (Fig. 3C, C'); tegmen with very long lateral lobes and long roof (Fig. 3D, D').

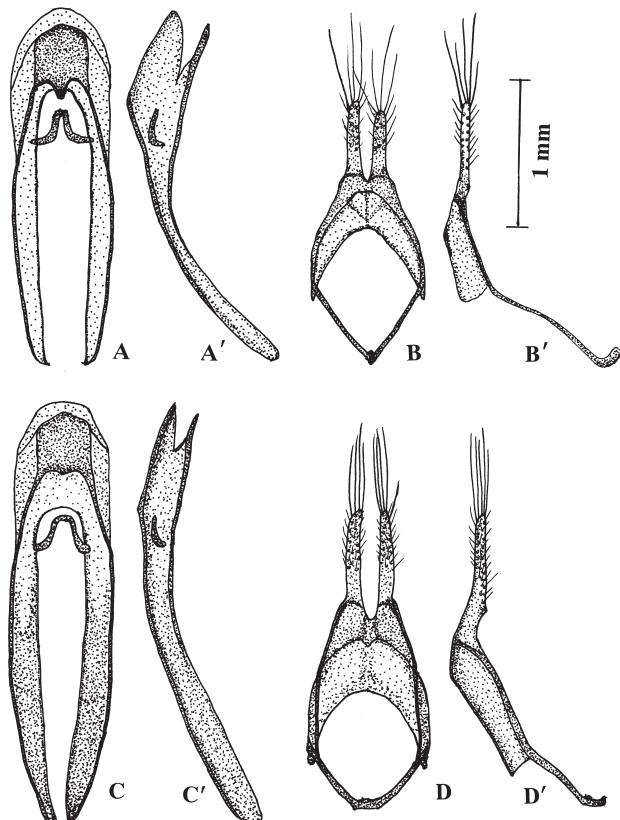


Fig. 3. Male genitalia of *Semanotus* spp. A,A',B,B': *S. yakushimanus* sp. nov. C,C',D,D': *S. japonicus*. A,A',C,C': Median lobes. B,B',D,D': Tegmen. A,B,C,D: Ventral view. A',B',C',D': Lateral view.

Subfamily Lamiinae Tribe Lamiini

Monochamus alternatus endai subsp. nov.

(Japanese name: Matsuno-madara-kamikiri)

(Figs. 4B,C & 5A',B',C')

Monochamus tesserula, Bates, 1873, Ann. Mag. nat. Hist., (4)12: 309; Matsushita, 1933, Jl. Fac. Agr. Hokkaido Imp. Univ., 34(2): 326 (part).

Monochamus alternatus ab. *coeruleogriseus* Breuning, 1944, Nov. Entomol., 14(2-4): 444.

Monochamus alternatus: Gressitt, 1951, Longicornia, 2: 393 (part); Hayashi, 1956, Entomol. Rev. Japan, 7(1): Sakamoto & Shima, 1965, Satsuma, 13: 106; Naomi & Naomi, 1977, Bull. Kumamoto Kontyu Dokokai, (22): 21; Kadokawa, 1977, Sukashiba, (7): 34; Hozumi, 1979, Kakocho, 31: 60; Toyama Entomol. Soc. ed., 1979, Ins. Toyama Pref., 431: 15; Shirohara, 1979, 1978 year's technical report of Kagoshima Pref. For. Expt. St., 188 (Okinoerabujima Is.); Kiyosawa et al., 1981, Atlas of longicorn beetles of Nagano Pref., 160; Nohira, 1982, Insects of Gifu Pref., 151; Kadokawa, 1983, Sukashiba, (20): 13 (Oki Is.); Morishima et al., 1984, Longicorn beetles of Tochigi Pref., 185; Kusama & Takakuwa, 1984, Longicorn-beetles Japan col., 429 (Hatsushima Is. of Shizuoka Pref., Awajishima Is., Iejimahonto s., Miyajima Is., Tsuwajijima Is. of Ehime Pref., Okinoshima Is. of Kochi Pref.,

Tsushima Is., Iki Is., Mawatashshima Is., Hiradojima Is., Amakusa Isls., Koshikijima Isls., Tanegashima Is., Yakushima Is., Izu Isls., Amami-Oshima Is., Okinawa Is., Ogasawara Isls.); Suda, 1985, Zoological fauna of Gunma Pref., 367; Ichikawa, 1988, Beetles of Shizuoka Pref., 6(2): 61; Takeda, 1988, Gekkan-Mushi, 214:5 (Sado Is.); Watanabe, 1989, The coleoptera of Miyagi Pref., Japan, 257; Numata, 1989, Ruriboshi, (13): 53; Enda, 1994, Forest insects, 149; Imasaka et al., 1994, Koganemushi, (56): 31 [Tsushima Is., Iki Is., Goto Isls. (Naka-dori-shima Is., Wakamatsu Is., Fukue Is.), Kurano-kojima Is., Hirado Is.]; Makihara et al., 1997, Trans. Iwate Entomol. Soc. Suppl. 1: 71; Makihara, 1997, Matsukuiumushi, 44 (Ogasawara Is., Izu Isls., Sado Is., Oki Is., Koshiki Is., Amakusa Is., Tanegashima Is., Iojima Is., Kakeromajima Is., Okinoerabujima Is., Amami Oshima Is., Okinawa Is., Miyakojima Is.); Nakamura et al., 1997, Insects of Hiroshima Pref., 467 (Daikokukanjima Is., Miyajima Is., Atadajima Is.); Ishikura, 1998, Yosegaki (88): 2565; Togashi, 1998, Ins. Ishikawa Pref., 211; Yoshimoto & Tajitsu, 1998, Forest Pests, 47(11):2 (Kakeromajima Is of Amami Isls.); Takahashi, 2001, Public. Kansai Coleopterists' Saloon (17): 46; Ogasawara et al., 2001, Longhorn beetles of Kagawa Pref., Shikoku, Japan, 54; Hirota et al., 2001, Cerambycid beetles of Hyogo Pref., Japan, 68; Azuma et al., 2002, Check list of the insect of the Ryukyu Islands. 254 (Tokara-Kuchinoshima Is., Tokara-Nakanoshima Is., Amami Oshima Is., Okinawa Is.); Morishima, 2003, Insects of Tochigi Pref. II: 352;

Male. Body form moderate-sized to large, slightly tapering posteriorly; integument dark reddish brown; pubescence pale reddish-brown, fulvous, gray to dark brown and pale white, brown patches elevated.

Head with front shallowly convex, shallowly, coarsely punctate, irregularly clothed with pale reddish-brown pubescence; genae elongate, divergent to subparallel. Antennae extending about five segments beyond elytra; basal segments irregularly asperate; apical segments rather densely clothed with very short, fulvous, recumbent hairs, segments III to X with apical sensory areas, usually more than twice as long as body; relative length of segments (%): 5.9; 1.0; 13.3; 11.0; 10.4; 9.8; 10.2; 9.5; 8.9; 8.0; 12.0. Pronotum shorter than broad; sides strongly tuberculate; tuberculates acute; apices subacute; apical and basal impressions rugose transversely; disk linearly callised; punctures vertically rugose; pubescence rather dense; middle usually with two longitudinal broken bands of recumbent, reddish-brown pubescence; prosternum transversely rugose, moderately pubescent; meso- and metasternum impunctate at middle, irregularly pubescent. Scutellum reddish-brown pubescent; apex rounded. Elytra about 2 times as long as broad; base with small, rounded asperites, particularly on humeral areas; basal punctures coarse, subconfluent, dense to apical one-fourth then becoming a little finer and sparser; pubescence mottled, dark brown elevated patches

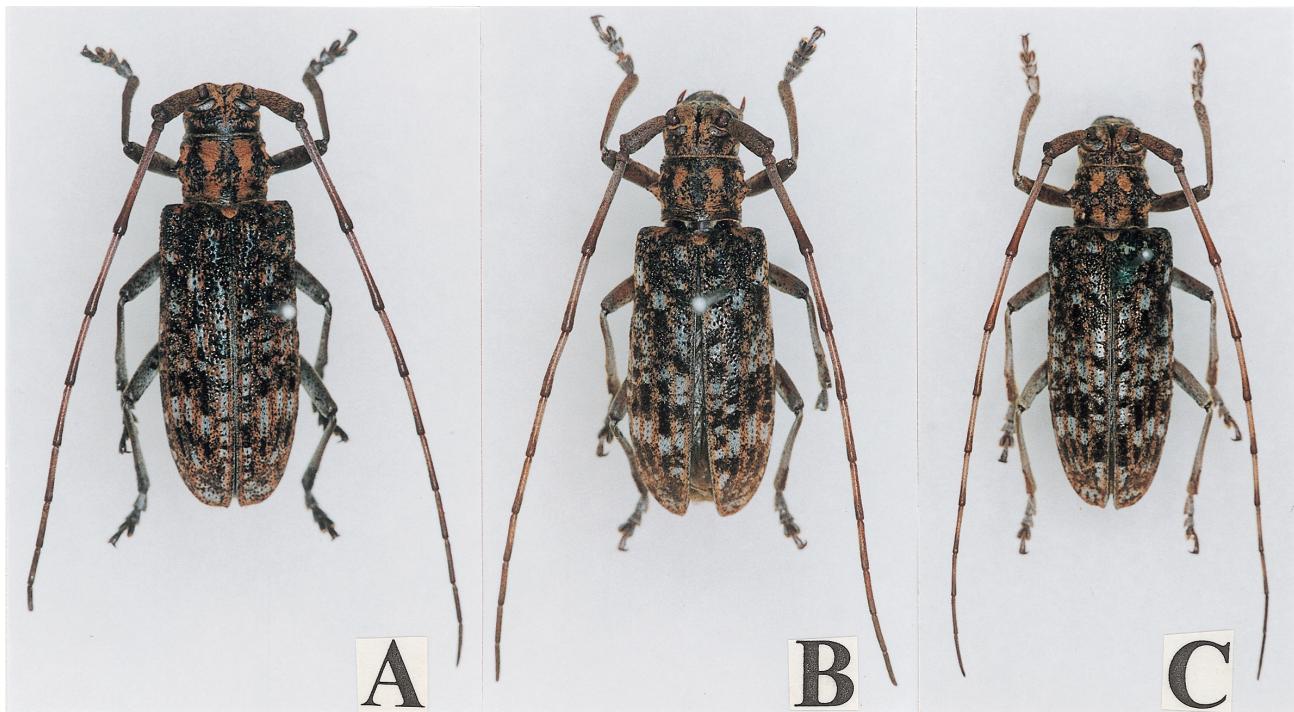


Fig. 4. *Monchamus alternatus* subsp. in female A: *M. alternatus alternatus*, Anhui, China, 23mm. B: *M. alternatus endai* subsp. nov., Cheju Is. of Korea, 22mm. C: ditto, Ibaraki Pref., Japan, 22mm.

not numerous; interspaces white and pale reddish-brown not elevated patches; apices rounded; very weakly dentate near end of suture. Legs finely fulvous pubescent. Abdomen minutely, sparsely punctate, finely pubescent; last sternite shallowly emarginate at apex, with dark brown tufts at sides spares. Male genitalia 2.5 mm in length. Lateral lobes of tegmen apart from each other.

Body length, 14-28 mm.

Female. Form similar to male, parallel-sided. Antennae slightly longer than elytra; relative length of segments (%): 8.4; 1.2; 16.6; 13.2; 11.4; 10.2; 8.9; 7.8; 7.4; 6.2; 7.9. Abdomen with last sternite truncate apex, apical tufts dense.

Body length, 15-27 mm.

Distribution. Honshu, Sado Is., Oki Is., Setouchi Isls., Izu Isls., Shikoku, Okinoshima Is., Kyushu, Iki Is., Tsushima Is., Hiradojima Is., Amakusa Is., Koshiki Isls., Tanegashima Is., Yakushima Is., Iwo Is. (Kagoshima Pref.), Amami Is., Kakeroma Is., Okinoerabujima Is., Okinawa Is., Miyako Is., Ogasawara Isls. (Transported with pine logs by constructions, Makihara, 1997); Cheju Is., Southern part of Korea (Imported from Japan).

Type specimens. Holotype ♂ (Type No. 1, FFPRI), Kukizaki T., Ibaraki Pref., Japan, vii.1995, H. Kitajima leg. Paratypes. [Akita Pref.] 53♂♂, 83♀♀, Akita City, vii-viii.2000, T. Goto leg. [Niigata Pref.] 1♀, Senami, 1.vii.1985, K. Baba leg.; 1♀, Senami, 3.vii.1985, K. Baba leg.; 1♀, Senami, 14.vii.1985, K. Baba leg.; 1♂, Senami, 16.vii.1985, K. Baba leg. [Chiba Pref.] 1♂, 1♀,

Tomisato, vi.1995, H. Kitajima leg. [Kanagawa Pref.] 1♂, Mt. Shida, 24.vii.1958, Y. Kato leg. [Kyoto Pref.] 1♂, Kurama, 7.vii.1947, A. Nobuchi leg. [Gifu Pref.] 1♂, 1♀, Yamagataiwa, Gifu City, 10.vii.1986, T. Nohira leg. [Wakayama Pref.] 1♀, Shingu City, vi.1975, N. Enda leg. [Kochi Pref.] 4♂♂, 3♀♀, Asakura-nishi T., Kochi City, 9.vi.2003, M. Takeuchi leg.; 4♂♂, 3♀♀, Asakura-nishi T., Kochi City, 17.vi.2003, M. Takeuchi leg. [Fukuoka Pref.] 1♂, Kurume City, 11.vi.1963, Y. Hagiwara leg.; 1♂, 1♀, Kurogi T., 24.vi.1969, Y. Hagiwara leg.; 1♀, Tsuyazaki T., 25.v.1978, J. Onagamitsu leg.; 1♂, Tsuyazaki T., 14.vi.1974, J. Onagamitsu leg.; 1♀, Kurogi T., 21.viii.1978, J. Onagamitsu leg.; 1♂, 1♀, Koga T., 17.vi.1979, J. Onagamitsu leg.; 1♂, 1♀, Hisayama T., 16.vii.1980, J. Onagamitsu leg.; 1♂, Genkai T., 22.vi.1995, J. Onagamitsu leg.; 1♀, Genkai T., 12.vi.1995, J. Onagamitsu leg.; 1♂, Ogori City, 2.x.1997, J. Onagamitsu leg. [Nagasaki Pref.] 1♀, Isahaya, 3.viii.1970, Y. Takizawa leg.; 1♂, Suwanoike, 25.vi.1971, Y. Takizawa leg. [Kagoshima Pref.] 1♀, Cape Sata, 28.v.1967, H. Makihara leg. [Sado Is.] 1♀, Aikawa T., 11.x.1988, H. Takeda leg. [Izu Isls.] 1♂, 1♀, Motomura, Niijima Is., 19.vi.2000, D. Tsuchiya leg.; 1♂, 1♀, Wakago, Niijima Is., 7.vii.2000, D. Tsuchiya leg.; 1♂, 1♀, Motomura, Niijima Is., 26.vi.2001, D. Tsuchiya leg.; 1♂, 1♀, Wakago, Niijima Is., 27.vii.2001, D. Tsuchiya leg.; 1♀, Shikine, Shikine Is., 16.vii.2001, D. Tsuchiya leg.; [Amakusa Is.] 2♀♀, Matsushima, 16, 17. VII. 2003, K. Nakamura leg. [Ogasawara Isls.] 1♀

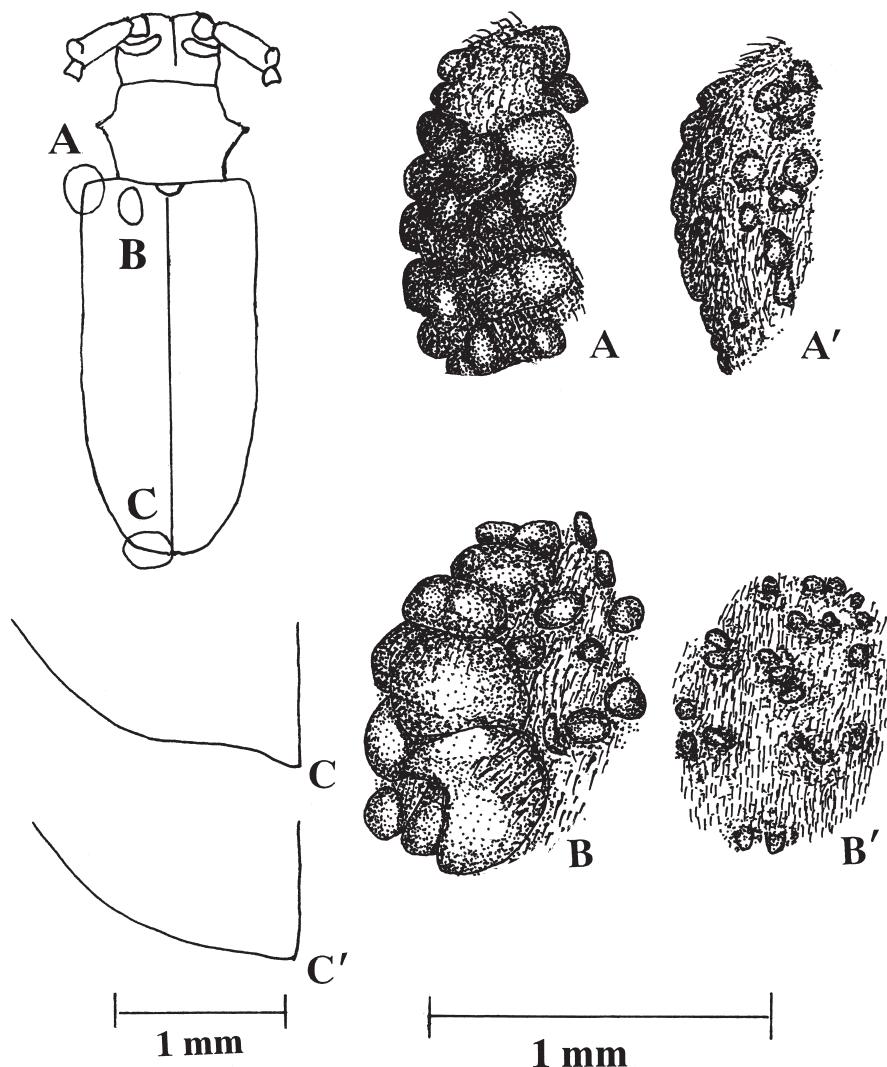


Fig. 5. Aspirates on elytral bases and dentations of elytral apices of *Monochamus alternatus* subsp.. A,B,C: *M. alternatus alternatus*. A',B',C':*Monochamus alternatus endai* subsp. nov.

♂, Kiyose, Chichijima Is., 18.vii.1935, M. Okabe leg.; 1♂, Chichijima Is., 3-6.vi.1982, H. Makihara leg.; 1♂, Mt. Coffee, Chichijima Is., 21-22.vi.1997, H. Makihara leg.; 1♂, Mt. Sakaigatake, Hahajima Is., 15-17.vi.1985, H. Makihara leg. [Tanegashima Is.] 1♂, Simonishime, Minamitane T., 15.vi.1982, K. Mori leg. [Yakushima Is.] 3♂♂, 1♀, Kurio, 27.vii.1975, H. Makihara leg. [Iojima Is. (Kagoshima Pref.)] 1♀, 14.v.1934, T. Esaki leg. [Okinawa Is.] 1♂, 1♀, Nago City, emerged from Pine tree, v.1989, N. Enda leg. [Miyako Is.] 1♂, 1♀, Hirara City, 15.v.2001, [Cheju Is. of Korea] 3♂♂, 1♀, emerged from Pine tree, vi.1991, N. Enda leg. [Korea] 1♂, 1♀, Pusan, 23.iii.1988, collected two larvae from Pine tree, emerged in vi.1988 at Tsukuba, N. Enda leg.

Type depository. The holotype is preserved in the collection of Forestry and Forest Products Research Institute (FFPRI), in Tsukuba, Ibaraki Pref., Japan. The paratypes are preserved in the collections of FFPRI and its Branch, which are Tohoku Research Center, Kansai

Research Center, Shikoku Research Center, Kyushu Research Center, Tama Forest Science Garden.

Note. *Monochamus alternatus* Hope, the Japanese Pine Sawyer that is characteristically pine (*Pinus*) feeder, is the major forest insect pest as the insect vector of *Bupresaphelenchus xylophilus* (Steiner and Buhrer Nickle, the Pine Wood Nematode which causes the Pine Wilt Disease (Kishi, 1995). A detailed morphological study of the species was carried out based on the specimens collected from various areas in Japan, Cheju Is. (Korea), China and Taiwan. As the conclusion of the comparison, the species can be classified into two subgroups, i.e. Japan-Cheju group and China-Taiwan group. The difference of these groups is regarded as subspecies rank. Late Dr. E. Breuning recognized and described ab. *coeruleogriseus* for Japanese *Monochamus alternatus* in 1944. However this scientific name is deemed to be infrasubspecific after the International Code of Zoological Nomenclature (Art. 45. 6. 2.) (International Commission

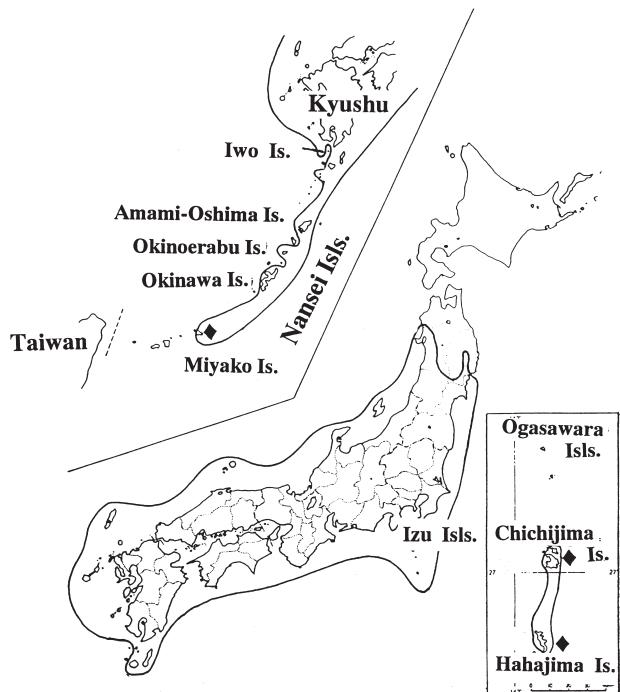


Fig. 6. Distribution map of *Monochamus alternatus* *endai* subsp. nov.

◆ : Areas transported with pine logs by constructions

on Zoological Nomenclature, 1999). *Monochamus alternatus* were originally described from Choushan Is. in China (Hope, 1842). The description of *Monochamus alternatus*, based on the specimen from China does not coincident with characteristic of the specimens from Japan and Cheju Is. The author, therefore distinguished and described a Japan-Cheju group as a new subspecies, *Monochamus alternatus endai* in the present paper.

This new subspecies is easily distinguishable from subsp. *alternatus* by the following points.

Monochamus alternatus endai subsp. nov.

Pronotum shorter than broad, BWP/PL about 1.2 in male; pronotum with two long and disconnected pale reddish-brown pubescent bands (Fig. 4B,C); elytral base with small, rounded asperites, distinct in humeral area (Fig. 5A',B'); apical area of elytra very weakly dentate near end of suture (Fig. 7C'); lateral lobes of tegmen apart from each other; distributed in Japan (from Miyako Is. of Nansei Isls. to Honshu) and Korea [southern part (Makihara, 1997 b) and Cheju Is.] (Figs. 6, 7).

Monochamus alternatus alternatus Hope

Pronotum slightly shorter than broad, BWP/PL about 1.1 in male; pronotum with two long and wide reddish-brown pubescent bands (Fig. 4A); elytral base with large, rounded asperites, distinct in humeral area (Fig. 5A,B); apical area of elytra weakly dentate near end of suture (Fig. 5C); lateral lobes of tegmen slightly apart from each other; distributed in China, Taiwan, Tibet (Zhen et al., 1959), S. Vietnam and Laos (Rondon & Breuning, 1970)

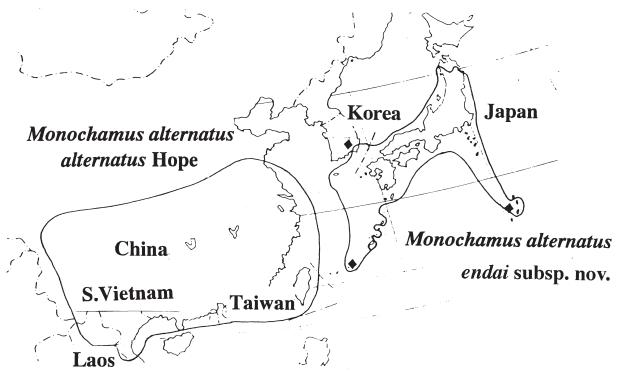


Fig. 7. Distribution map of *Monochamus alternatus* Hope.

◆ : Areas transported

(Fig. 7).

This subspecies is named in honour of Mr. Nobuo Enda for his contribution to control of the Japanese Pine Sawyer.

Tribe Apodasyini *Mimectatina longipennis* sp. nov. (Japanese name: Ezo-shiro-obi-doi-kamikiri) (Fig. 8A)

Female. Body form elongate, cylindrical, slightly depressed; integument reddish brown to blackish brown; pubescence appressed grayish, fulvous and brown; elytra alternatively decorated with large fulvous and somewhat small brown pubescent markings.

Head as broad as pronotum, with coarse punctures, covered with sparse brown pubescence; inferior eye lobes shorter than genae. Antennae 0.97 times as long as body; relative length of each segments (%) -12.5 : 3.1 : 10.9 : 15.6 : 10.2 : 9.4 : 8.6 : 8.6 : 7.0 : 7.0 : 7.0; each segment covered with dense brown pubescence, except for segments IV to X annulated with grayish pubescence on near base. Pronotum parallel-sided, broader than long, apex as broad as base, peripheral part with coarse whitish yellow pubescence, median part decorated with a brownish, longitudinal, wide pubescent bands; disc coarsely punctate. Scutellum semicircular, covered with yellowish gray pubescence. Elytra slender, 2.53 times as long as its basal width, almost parallel-sided, gradually narrowed and inclined posteriorly at the apical 1/5, broadly and transversely truncate at apex; disc bears three weakly raised longitudinal ridges, the first runs backwards on subbasal portion, the second from humerus, the third from the basal quarter, and the last two are conjoint at the laterobasal portion of apical depression; suture and lateral sides weakly margined; interspaces between ridges and margins strongly and deeply punctured on

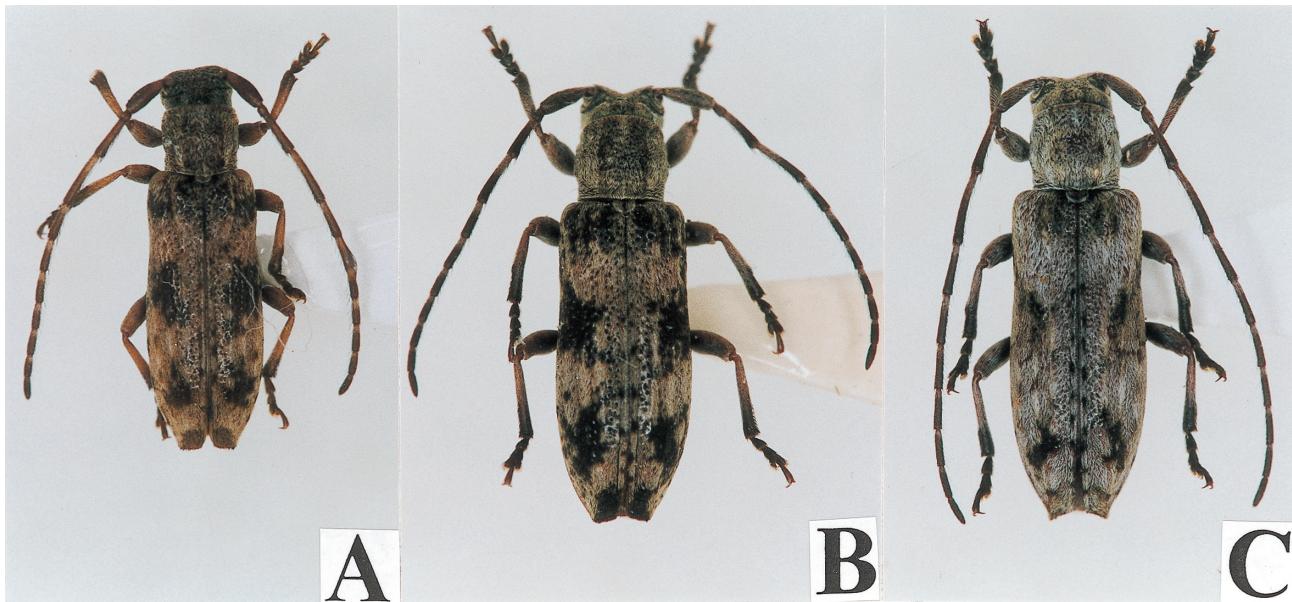


Fig. 8. *Mimectatina* spp. in female. A: *M. longipennis* sp. nov., 6.7mm. B: *M. fuscoplagiata*, 7.6mm. C: *M. variegata*, 7.8mm.

basal half, shallowly and sparsely punctured on apical half. Abdomen covered with fine whitish pubescence; VII sternite truncate widely, with dense fulvous long setal hairs. Legs somewhat stout and short, with fine fulvous pubescence.

Body length. 6.7mm.

Male. Unknown.

Type specimen. Holotype ♀, Nukabira, Hokkaido Pref., Japan, 26.viii.1995, H. Makihara leg. (Type No. 10, FFPRI).

Type depository. The holotype is preserved in the collection of the Forestry & Forest Products Research Institute (FFPRI), in Tsukuba, Ibaraki Pref., Japan.

Distribution. Hokkaido, Japan.

Note. This species closely resembles *Mimectatina fuscoplagiata* (Breuning) (Fig. 25B) known from Central Honshu and *M. variegata* Kusama et Takakuwa (Fig. 25C) from Honshu (Kii Peninsula), but distinguishable from them by the following key.

A key to the females of the three species of *Mimectatina*

1. Antennae long, about as long as body ----- 2.
- Antennae short, about 0.85 times as long as body-----
----- *M. fuscoplagiata* (Breuning).
2. Inferior eye lobes as long as genae; pronotum somewhat swollen at sides, apex narrower than base; elytral apices obliquely truncate, outer angles with dull teeth----- *M. variegata* Kusama et Takakuwa.

Inferior eye lobes shorter than genae; pronotum parallel at sides, apex as broad as base; elytral apices truncate----- *M. longipennis* sp. nov.

Acknowledgement

Without the cooperation, support and understanding of many people, it would not have been possible to make this report. I wish to express my sincere thanks to Dr. T. Toma of CIFOR and Mr. N. Enda of Tsukuba City for their encouragement to carry out my study. My thanks are due to Messors I. Date of Morioka City, K. Takemura of Kagoshima City, R. Noda and J. Onagamitsu of Fukuoka Pref. For. Res. Extens. Ctr., T. Nohira of Gifu Pref. For. Sci. Res. Inst., Esaki of Ishikawa Pref. For. Expt. St., Tsuchiya of Tokyo Pref. For. Expt. St., Y. Sato of Kagoshima Pref. For. Expt. St., K. Nunokawa of Niigata Pref. For. Res. Ctr., K. Mori of Kagoshima City, H. Irei of Okinawa For. Expt. St., for the donation of the valuable specimen used for the present study. I am deeply indebted to many members of FFPRI for their cooperation and help. Finally we wish to thank to Mses Ayako Tsubokawa and Megumi Hashida of the FFPRI, Japan for their assistance and support in this study.

References

- Azuma, S., Yafuso, M., Kinjo, M., Hayashi, M., Kohama, T., Sasaki, T., Kimura, M. and Kawamura, F. (2002) Check list of the insect of the Ryukyu Islands., 570 p., The Biological Society of Okinawa. (in Japanese)
- Bates, H.W. (1873) On the longicorn Coleoptera of Japan. Ann. Mag. nat. Hist., (4)12, 380-390.
- Breuning, E. (1944) Etudes sur les Lamiaires (Coleoptera: Cerambycidae). Nov. Entomol., 3, Suppl., 14, 281-512.
- Breuning, S. (1957) Neue Lamiiden aus dem Museum G. Frey. ibid., 8, 276-278.

- Enda, N. (1994) Japanese Pine Sawer, *Monochamus alternatus*. Forest insects, Yokendo, Tokyo, 149-153. (in Japanese)
- Gressitt, M. (1951) Longicorn beetles of China. Longicornia II, 667 p., 22 pls.
- Hayashi, M. (1956) The Cerambycidae from the Island of Yakushima (Col.). Entomol. Rev. Japan, 7(1), 11-15, 1 pl.
- Hirota, Y., Maki, M. and Yagi, M. (2001) Cerambycid beetles of Hyogo Pref., Japan., 104 p. (in Japanese)
- Hope, F.W. (1842) Descriptions of the new Coleoptera sent to England by Dr. Cantor from Chusan and Canton, with observations on the entomology of China. Trans. Entomol. Soc. Lond. Proc., 111.
- Hozumi, T. (1979) The coleoptera fauna of Tokai Prov. (23). Kakocho, 31, 63. (in Japanese)
- Ichikawa, Y., Okuda, N. and Kusama, K. (1988) Longicorn beetles of Shizuoka Pref. Beetles of Shizuoka Pref, 6(2), 3-81. (in Japanese)
- Imasaka, S., Abiru, O., Aoki, Y., Kusui, Y., Matsune, T., Matsuda, R., Mine, M. and Noda, M. (1994) A list of longicorn beetles of Nagasaki Pref. Koganemushi, (56), 1-43. (in Japanese)
- International Commision on Zoological Nomenclature (1999) International code of zoological nomenclature, Fourth edition., 306 p.
- Ishikura, T. (1998) A list of longicorn beetles from Saitama Pref. Yosegaki, (88), 2521-2582. (in Japanese)
- Kadowaki, H. (1977) Longicorn beetles of Oki Islands. Sukashiba, (7): 15-38. (in Japanese)
- Kadowaki, H. (1983) A list of the beetles from Oki Is. Sukashiba, (20), 3-20. (in Japanese)
- Kishi, Y. (1995) The Pine Wood Nematode and the Japanese Pine Sawyer, Thomas Company, Tokyo, 302 p.
- Kiyosawa, H., Hayakawa, H., Orihata, T., Hori, K. and Kobayashi, Y. (1981) Atlas of longicorn beetles of Nagano Pref., Tokyo Law Press, 230 p.
- Kusama, K. & Takakuwa, M. (1984) New taxa described by Kusama and Takakuwa. The longicorn-beetles of Japan in color (Jpn. Soc. Coleopterol., ed.), Kodansha, Tokyo, 9-14.
- Kusama, K. and Takakuwa, M. (1984) Lamiinae (part). The longicorn-beetles of Japan in color (Jpn. Soc. Coleopterol. ed.), Kodansha, Tokyo, 352-493. (in Japanese)
- Lacordaire, T. (1869) Histoire Naturelle des Insectes. Genera des coléoptères, Vol.9, 943 p.
- Makihara, H. (1988 a) Japanese cryptomeria bark borer, *Semanotus japonicus* Lacordaire in Yakushima Islands. Forest Pests, 37(2), 13-15. (in Japanese)
- Makihara, H. (1988 b) Geographic variations of Cryptomeria bark borer, *Semanotus japonicus* (Lacordaire) (Coleoptera, Cerambycidae). Insects and Nature, 23(5), 2-8. (in Japanese)
- Makihara, H. (1997 a) Invasion routes and processes of Cerambycid beetles to oceanic Ogasawara Islands. Proc. International Workshop on Biological Invasions of Ecosystem by Pests and Beneficial Organisms, Tsukuba, Japan, 73-84.
- Makihara, H. (1997 b) Vectors of Pine Wilt Disease and their life history. Matsukuimushi -History and current information-, Kyobunsha, Tokyo, 44-64. (in Japanese)
- Makihara, H., Date, I. and Suzuki, M. (1997) Longicorn beetles of Iwate Pref. (Coleoptera, Cerambycidae and Disteniidae). Trans. Iwate Entomol. Soc. Suppl., 1, 59-78. (in Japanese)
- Matsushita, M. (1933) Beirag zur Kenntnis der Cerambyciden des japanischen reichs. Jl. Fac. Agr. Hokkaido Imp. Univ., Sapporo, 34(2), 157-445, 5 pls.
- Morishima, N. (2003) Cerambycidae. Insects of Tochigi Pref. II, 333-360. (in Japanese)
- Morishima, N., Kanda, E., Okawa, H., Suzuki, Y. and Miyamoto, T. (1984) Longicorn beetles of Tochigi Pref., Tochigi Pref. Museum, 252 p. (in Japanese),
- Nakamura, S., Akiyama, Y., Sakamoto, M., Sekimoto, I. and Yoshihara, K. (1997) The insects of Hiroshima Pref. I. (in Japanese), 636 p.
- Naomi, S. and Naomi, S. 1977. The Cerambycidae from Kumamoto Pref. (Coleoptera). Bull. Kumamoto Kontyu Dokokai, (22): 1-32. (in Japanese)
- Niisato, T. (1992) *Semanotus japonicus* (Lacordaire). An illustr. guid ident. longic. beetl. Japan, Tokai Univ. Press, 509 (part). (in Japanese)
- Nohira, T. (1982) Longicorn beetles of Gifu Pref. Insects of Gifu Pref., 137-162. (in Japanese)
- Numata, M. (1989) Longicorn beetles of Ibaraki Pref. Ruriboshi, (13), 1-73. (in Japanese)
- Ogasawara, T., Takagi, M. and Wada, Y. (2001) Longhorn beetles of Kagawa Pref., Shikoku, Japan. 75 p. (in Japanese)
- Rondon, J.A. and Breuning, S. (1970) Lamiines du Laos. Pac. Ins. Mon., (24), 315-571.
- Sakamoto, K. and Shima H. (1965) Longicorn beetles of Kagoshima Pref. Satsuma, 13:70-151. (in Japanese)
- Shirohara, N. (1979) Research report of subtropical forest insect pests. 1978 year's technical report of Kagoshima Pref. For. Expt. St., 188-191. (in Japanese)
- Suda, R. (1985) The coleoptera of Gunma Pref. Zoological fauna of Gunma Pref., 305-385. (in Japanese)
- Takahashi, S. (2001) Beetles of Kyoto Prefecture South. Public. Kansai Coleopterists' Saloon, (17), 1-60. (in Japanese)
- Takeda, H. (1988) Record of *Monochamus alternatus* from Sado Is. Gekkan-Mushi, 214: 5. (in Japanese)

- Togashi, I. ed. (1998) Insects of Ishikawa Pref., 537 p. (in Japanese)
- Toyama Entomological Society ed. (1979) Insects of Toyama Pref., 545 p. (in Japanese)
- Watanabe, T. (1989) The coleoptera of Miyagi Pref., Japan. 341 p., 10 pls. (in Japanese)
- White, A. (1858) Descriptions of *Monochammus Bowringii*, *Batocera Una*, and other Longicorn Coleoptera, apparently as yet unrecorded. Proc. zool. Soc. Lond., XXVI:398-413.
- Yoshimoto, Y. and Tajitsu, H. (1998) Damage and control for Japanese pine sawer in Kakeroma Is. of Amami-Oshima Isls. Forest Pests, 47(11), 2-7. (in Japanese)
- Zhen, S., Xie, Y. and Deng, G. (1959) Economic Insect Fauna of China, 1, 119 p., 20 pls., Science Press, Beijing. (in Chinese)

日本産カミキリムシ科(甲虫目)、2新種、1新亜種の記載

檍原 寛¹⁾

要 旨

日本産カミキリムシについて、2新種、屋久島産の *Semanotus yakushimanus* sp. nov. ヤクスギカミキリと北海道産の *Mimectatina longipennis* sp. nov. エゾシロビドイカミキリおよび、日本と韓国に分布する1新亜種 *Monochamus alternatus endai* subsp. nov. マツノマダラカミキリの1亜種を記載した。

キーワード：新種・亜種、カミキリムシ科、日本、ヤクスギカミキリ、エゾシロオビドイカミキリ、マツノマダラカミキリの新亜種、マツクイムシ

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