

Notes on the Taiwanese Species of the Genus
Arthromacra (Coleoptera, Tenebrionidae)

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Abstract Three new lagriine tenebrionid beetles, *Arthromacra bicolor* sp. nov., *A. imasakai* sp. nov. and *A. tana* sp. nov., are described from Taiwan. A key to the Taiwanese species of the genus is also given.

Before SASAJI's account (1986), the genus *Arthromacra* KIRBY, 1837, has been represented in Taiwan only by *A. abnormalis* KÔNO, 1929. SASAJI (1986) added one new species, *A. formosana*, and one obscure species to the *Arthromacra* fauna of Taiwan. Following him, MASUMOTO (1988) described two new species, *A. tsuyukii* and *A. minuta*, listed the then known species of the genus, and transferred *A. abnormalis* to the genus *Hosohamudama* established by himself.

In this paper, I am going to give notes on the three known species, and to describe three new species under the names *Arthromacra bicolor* sp. nov., *A. imasakai* sp. nov., and *A. tana* sp. nov. A key to the Taiwanese species of the genus *Arthromacra* will be provided.

Before going further, I wish to express my deep gratitude to Professor Hiroyuki SASAJI (Fukui University, Fukui) for his continuous advice and encouragement, and to Dr. Shun-Ichi UÊNO of the National Science Museum (Nat. Hist.), Tokyo, for critically reading the manuscript of this paper. Hearty thanks are also due to Mr. Shôichi IMASAKA (Nagasaki) for his kind help in offering materials, and to Mr. Masaru OSADA (Fukui) for taking photographs inserted in this paper.

All the holotypes and allotypes of the new species to be described below will be deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

Genus *Arthromacra* KIRBY, 1837

Arthromacra KIRBY, 1837, Fauna Boreali-Americana, 238; type species: *Lagria aenea* SAY, 1824.

MASUMOTO (1987) placed this genus in the Statirini. SASAJI (1986) recorded an unidentified species, which is omitted from this paper.

***Arthromacra tsuyukii* MASUMOTO, 1988**

[Japanese name: Samehada-hamushi-damashi]

Arthromacra tsuyukii MASUMOTO, 1988, Ent. Rev. Japan, **43**: 38–39, pl. 3, fig. 5, pl. 6, figs. 28–29; type locality: Nanfengshan in Taiwan.

Notes. The female of this species is very similar to the male. The terminal segment of the antenna is longer than the three preceding segments together as in the male (in most species of *Arthromacra*, the terminal segment of the antenna in the female is shorter than in the male). This is the unique character not found in any other congeneric species from Taiwan and Japan.

Specimen examined. 1 ♀, Lushan, Taiwan, 12–V–1978, S. IMASAKA leg.

***Arthromacra minuta* MASUMOTO, 1988**

[Japanese name: Chibi-ao-hamushi-damashi]

Arthromacra minuta MASUMOTO, 1988, Ent. Rev. Japan, **43**: 39–40, pl. 3, fig. 6, pl. 6, figs. 30–31; type locality: Mt. Lalashan in Taiwan.

Specimens examined. 3 ♂♂, 1 ♀, Jiuyuehtan, Taiwan, 15–IV–1975, S. IMASAKA leg.; 1 ♂, Nanshanchi, Taiwan, 28–IV–1975, S. IMASAKA leg.; 1 ♀, Fenchihu, Taiwan, 21–IV–1975, S. IMASAKA leg.

***Arthromacra formosana* SASAJI, 1986**

[Japanese name: Taiwan-ao-hamushi-damashi]

(Figs. 4–5)

Arthromacra formosana SASAJI, 1986, Mem. Fac. Educ. Fukui Univ., (II), (36): 11–13, figs. 8–10; type locality: Tsifeng [sic] in Taiwan.

Notes. This species is very similar to *A. decora* (MARSEUL, 1876) from Japan, and is not separable from it by external characteristics. However, the parameres of the male genitalia are rounded at the tips in the former, which is clearly different from very narrowly truncated tips in the latter. On the other hand, *A. formosana* resembles *A. amamiana* NAKANE, 1963, from Is. Amami-Ôshima, but this Japanese species sparsely bears rather long erect hairs on the elytral disc.

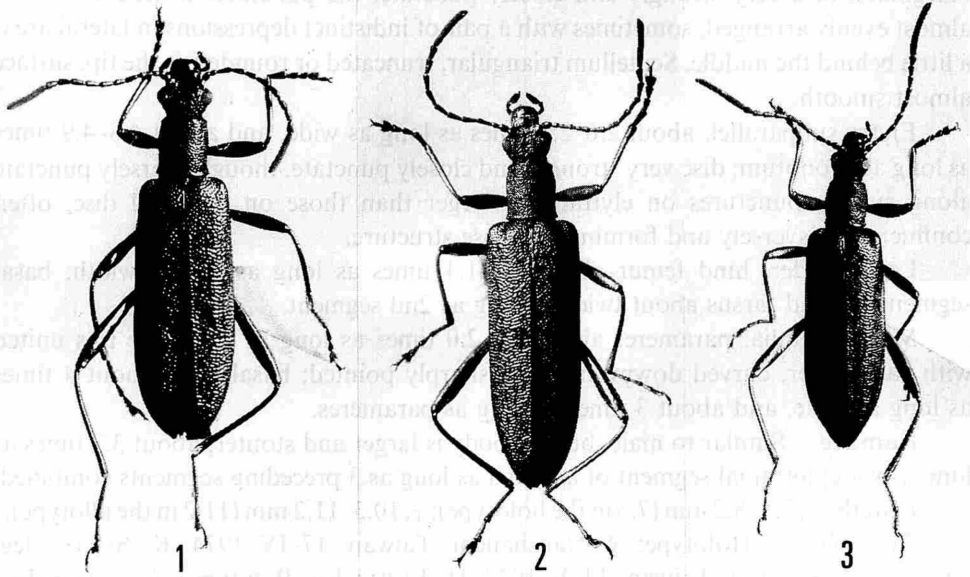
Specimens examined. 1 ♂, 2 ♀♀, Meifeng, Taiwan, 15–VI–1978, S. IMASAKA leg.; 1 ♀, same locality, 16–VI–1978, S. IMASAKA leg.; 1 ♂, same locality, 20–V–1977, S. IMASAKA leg.; 1 ♀, Mt. Lalashan, Taiwan, 29–IV–1987, T. OCHI leg.

***Arthromacra bicolor* M. SAITÔ, sp. nov.**

[Japanese name: Futairo-hamushi-damashi]

(Figs. 1, 6–7)

Description. Male. Body elongate, about 4 times as long as wide. Dorsal surface of body almost coppery in colour with metallic lustre, sometimes with greenish



Figs. 1-3. *Arthromacra* spp. from Taiwan. — 1, *A. bicolor* M. SAITÔ, sp. nov.; 2, *A. imasakai* M. SAITÔ, sp. nov.; 3, *A. tana* M. SAITÔ, sp. nov.

shimmer, fore head, apical and basal margins of pronotum narrowly, and scutellum with bluish green metallic lustre; ventral surface bluish green with metallic lustre. Mouth part dark brown except for labrum; antennae dark brown, 2nd segment and base of 3rd segment pale; legs also dark brown, sometimes with greenish lustre. Dorsal surface of body almost hairless; ventral surface sparsely covered with pale hairs; mouth parts, legs and antennae covered with short pale hairs.

Head nearly rhombic, slightly narrower than pronotum; disc very strongly and coarsely punctate, but usually narrowly impunctate behind middle; interspaces of punctures almost smooth; antennal insertions distinctly raised, without punctures; frontoclypeal furrow somewhat widely and weakly arcuate. Clypeus about 2.5 times as wide as long, sparsely punctate, anterior margin widely and very weakly arcuate. Labrum about 1.75–1.9 times as wide as long, rather sparsely with fine punctures, anterior margin arcuate. Antennae slender, about a half as long as body length; terminal segment a little longer than 3 preceding segments combined and about 1.3 times as long as the distance between eyes, surface frosted. Relative lengths of antennal segments from basal to apical: 0.55, 0.5, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 0.95, 0.9, 3.0. Terminal segment of maxillary palpus cultrate, about 1.8–1.9 times as long as wide; inner corner rectangular.

Pronotum subcylindrical, widest at base, as wide as median length, distinctly narrowed anteriorly, swollen in middle, with anterior margin narrowly carinate-

marginate; disc very strongly and closely punctate, the punctures a little confluent, almost evenly arranged, sometimes with a pair of indistinct depressions in lateral areas a little behind the middle. Scutellum triangular, truncated or rounded at the tip, surface almost smooth.

Elytra subparallel, about 2.6–2.8 times as long as wide, and about 4.8–4.9 times as long as pronotum; disc very strongly and closely punctate, though sparsely punctate along suture; punctures on elytral disc larger than those on pronotal disc, often confluent transversely and forming a rugose structure.

Legs slender; hind femur about 1.3–1.4 times as long as elytral width; basal segment of hind tarsus about twice as long as 2nd segment.

Male genitalia: parameres about 1.9–2.0 times as long as wide, the tips united with each other, curved downwards and sharply pointed; basal piece about 4 times as long as wide, and about 3 times as long as parameres.

Female. Similar to male, but the body is larger and stouter, about 3.7 times as long as wide; terminal segment of antenna as long as 3 preceding segments combined.

Length: ♂, 7.5–8.2 mm (7.5 in the holotype); ♀, 10.3–11.2 mm (11.2 in the allotype).

Type series. Holotype: ♂, Nanshanchi, Taiwan, 17–IV–1974, K. SUGINO leg. Allotype: ♀, Shenmu, Taiwan, 14–V–1977, H. FUJITA leg. Paratypes: 1 ♂, same data as the holotype; 1 ♂, 1 ♀, Nanshanchi, Taiwan, 19–IV–1975, S. IMASAKA leg.; 1 ♂, same locality, 28–IV–1975, S. IMASAKA leg.

Notes. This new species resembles *A. formosana* SASAJI, but differs from it in the coppery dorsal surface and in the sharply pointed tips of parameres.

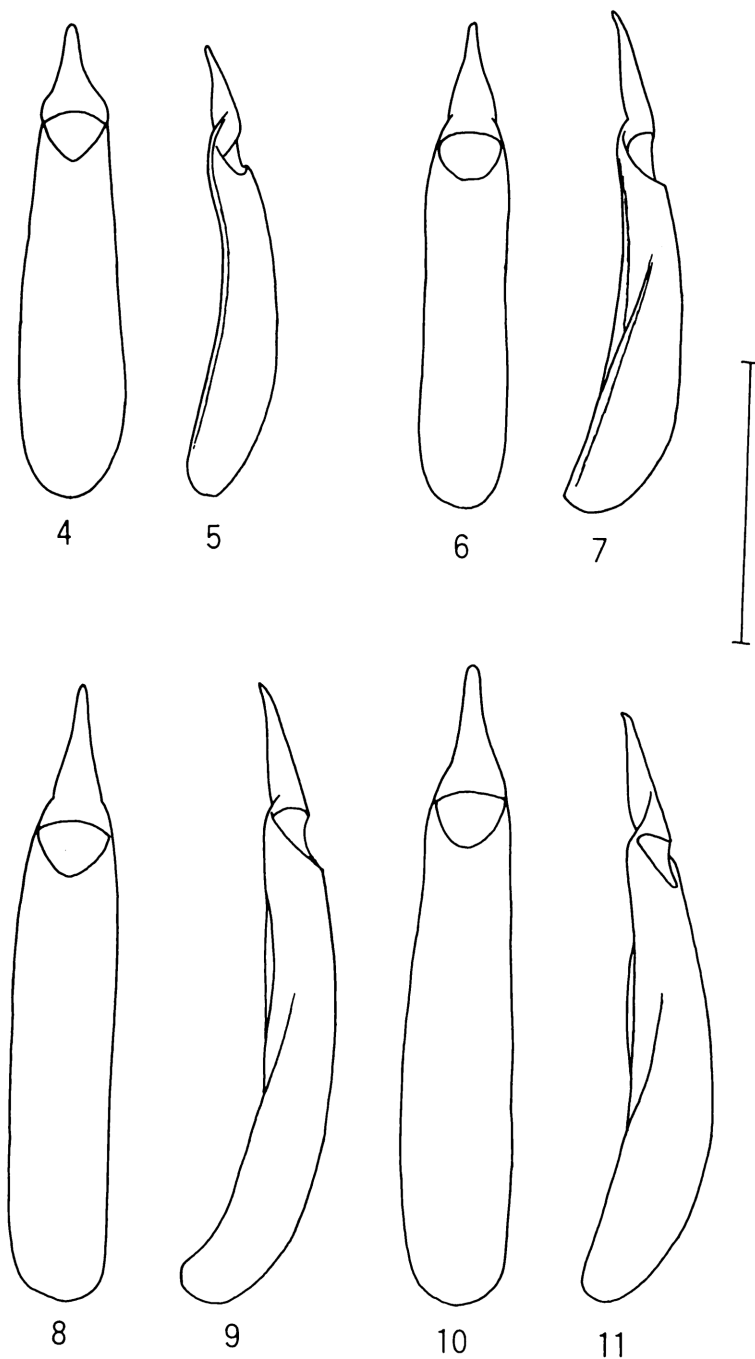
Arthromacra imasakai M. SAITÔ, sp. nov.

[Japanese name: Imasaka-hamushi-damashi]

(Figs. 2, 8–9)

Description. Male. Body elongate, about 4 times as long as wide. Body wholly green with metallic lustre, sometimes with coppery lustre; mouth parts dark yellowish brown except for labrum; apical part of terminal segment of maxillary palpus dark brown; antennae yellowish brown, gradually becoming darker apicad; legs almost yellowish brown except for coxae. Variation of body colour as will be noted later. Dorsal surface of body almost hairless; ventral surface of body, mouth parts, legs and antenna covered with pale hairs.

Head nearly rhombic, slightly narrower than pronotum; disc very strongly and coarsely punctate; antennal insertions distinctly raised, without punctures; fronto-clypeal furrow deeply and weakly arcuate. Clypeus about 2.5–2.8 times as wide as long, sparsely punctate, anterior margin widely and very weakly arcuate. Labrum about 1.7–1.9 times as wide as long, rather sparsely punctate, anterior margin arcuate. Antennae slender, about a half as long as body length; terminal segment a little longer than 3 preceding segments combined and about 1.4–1.7 times as long as the distance between eyes, surface frosted. Relative lengths of antennal segments from basal to



Figs. 4-11. Male genitalia of *Arthromacra* spp. from Taiwan — 4-5, *A. formosana* SASAJI; 6-7, *A. bicolor* M. SAITÔ, sp. nov.; 8-9, *A. imasakai* M. SAITÔ, sp. nov.; 10-11, *A. tana* M. SAITÔ, sp. nov.; 4, 6, 8, 10, dorsal view; 5, 7, 9, 11, lateral view. (Scale: 1 mm.)

apical: 0.6, 0.5, 0.85, 0.9, 1.0, 1.0, 1.0, 1.0, 0.9, 0.8, 3.0. Terminal segment of maxillary palpus cultrate, about 2.0 times as long as wide; inner corner a little obtuse.

Pronotum subcylindrical, widest at base, as wide as median length, distinctly narrowed anteriorly, swollen in middle, with anterior margin narrowly carinate-marginate; disc very strongly and closely punctate, the punctures a little confluent, almost evenly arranged, sometimes with a pair of indistinct depressions in lateral areas a little behind the middle. Scutellum triangular, truncated or rounded at the tip, surface structure variable from being smooth to rugose.

Elytra subparallel, about 2.8–2.9 times as long as wide, and about 5.1–5.5 times as long as pronotum; disc strongly and closely punctate, though sparsely punctate along suture, the punctures often confluent transversely and forming a rugose structure.

Legs slender; hind femora about 1.3–1.4 times as long as elytral width; basal segment of hind tarsus about twice as long as 2nd segment.

Male genitalia: parameres about 1.9–2.0 times as long as wide, the tips united with each other, curved downwards and sharply pointed; basal piece about 1.9 times as long as wide, and 4.6 times as long as parameres.

Female. Similar to male, but the body is larger and stouter, about 3.7–3.9 times as long as wide; terminal segment of antenna as long as 3 preceding segments combined.

Length: ♂, 9.0–10.3 mm (10.6 in the holotype); ♀, 9.0–11.5 mm (10.6 in the allotype).

Colour variation. This species can be separable at first sight into two colour forms of the elytra: one including the holotype is bright green with metallic lustre, and the other dark green with somewhat dull metallic lustre. The legs and the antennae are sometimes dark brown.

Type series. Holotype: ♂, Meifeng, Taiwan, 3–V–1975, S. IMASAKA leg. Allotype: ♀, same data as the holotype. Paratypes: 9 ♂♂, 2 ♀♀, same data as the holotype; 1 ♂, Mt. Alishan, Taiwan, 22–IV–1975, S. IMASAKA leg.; 2 ♂♂, 3 ♀♀, Meifeng, Taiwan, 13–V–1975, S. IMASAKA leg.; 2 ♂♂, 1 ♀, same locality, 19–V–1977, S. IMASAKA leg.; 4 ♂♂, same locality, 15–V–1978, S. IMASAKA leg.; 3 ♂♂, 1 ♀, Mt. Lalashan, Taiwan, 29–IV–1987, T. OCHI leg.

Notes. This new species is similar to *A. bicolor* M. SAITÔ, sp. nov., but differs from it in the more elongate body which is wholly green.

Arthromacra tana M. SAITÔ, sp. nov.

[Japanese name: Ibushi-hamushi-damashi]

(Figs. 3, 10–11)

Description. Male. Body elongate, about 4 times as long as wide. Whole body somewhat leathery. Dorsal surface dark coppery with somewhat dull metallic lustre, sometimes with greenish lustre in some places; palpi dark yellowish brown; apical

part of terminal segment of maxillary palpus dark brown; antennae dark yellowish brown, gradually becoming darker apicad; legs yellowish brown, apical halves of femora dark brown with coppery lustre, their boundary being indistinct. Dorsal surface of body almost hairless; ventral surface of body, mouth parts, legs and antennae covered with short pale hairs.

Head broadly rhombic, slightly narrower than pronotum; disc very coarsely and strongly punctate, size and form of punctures not uniform, enlarged in middle; antennal insertions distinctly raised, without punctures forwards; fronto-clypeal furrow deep and arcuate. Clypeus about 2.9–3.3 times as wide as long, coarsely punctate, anterior margin widely arcuate. Labrum about 1.9–2.0 times as wide as long, rather sparsely punctate, anterior margin arcuate. Antennae slender, about a half as long as body length; terminal segment as long as 5 preceding segments combined and about 2.3 times as long as the distance between eyes, surface frosted. Relative lengths of antennal segments from basal to apical: 0.6, 0.5, 0.9, 0.9, 1.0, 1.0, 1.0, 0.9, 0.8, 0.7, 4.5. Terminal segment of maxillary palpus cultrate, about 1.6–2.0 times as long as wide; inner corner obtuse.

Pronotum subcylindrical, widest at about middle, as long as wide, distinctly narrowed anteriorly, swollen in middle, with anterior margin narrowly carinate-marginate; disc very coarsely and strongly punctate, the punctures transversely confluent and forming rugose structure in some places, with a pair of distinct depressions in lateral areas a little behind the middle. Scutellum triangular, truncated at the tip, surface structure variable from being smooth to rugose.

Elytra subparallel-sided, about 2.7–2.8 times as long as wide, and about 5.0–5.2 times as long as pronotum; disc somewhat coarsely punctate, though sparsely punctate along suture, the punctures somewhat cone-shaped, confluent transversely and forming rugose structure; interspaces of punctures broad in some places and making two pairs of longitudinal intermittent bands.

Legs slender; hind femora about 1.3–1.4 times as long as elytral width; basal segment of hind tarsus about twice as long as 2nd segment.

Male genitalia: parameres about 1.7–1.9 times as long as wide, with rather strong constriction at base, the tips being united with each other, curved downwards and dully rounded. Basal piece about 4.5 times as long as wide, and about 3.6 times as long as parameres.

Female. Similar to male, but the body is larger and stouter, about 3.6 times as long as wide; elytra weakly broadening posteriorly; terminal segment of antenna about as long as 4 preceding segments combined.

Length: ♂, 9.2–10.6 mm (10.6 in the holotype); ♀, 11.6–12.5 mm (12.5 in the allotype).

Type series. Holotype: ♂, Meifeng, Taiwan, 3-V-1975, S. IMASAKA leg. Allotype: ♀, Tsuifeng, Taiwan, 2-V-1978, A. SHINOHARA leg. Paratypes: 1 ♂, same data as the allotype; 1 ♂, 1 ♀, Sungkang, Taiwan, 4-V-1978, A. SHINOHARA leg.; 1 ♀, Meifeng, Taiwan, 16-V-1978, S. IMASAKA leg.

Notes. This new species is similar to *A. imasakai* M. SAITÔ, sp. nov., but differs from the latter in the wholly dark coppery body and in the terminal segment of antenna almost as long as the 5 preceding segments combined (in male) or almost as long as the 4 preceding segments combined (in female).

Key to the Taiwanese Species of the Genus *Arthromacra*

1. Elytra densely and independently punctate, never confluent; interspaces of punctures rather flat with shagreened structure. Pronotum very closely punctate, leaving almost no spaces of punctures, but the punctures are hardly confluent. Dorsal surface dark green in colour. *A. tsuyukii* MASUMOTO
- Elytra densely punctate, more or less confluent transversely and forming rugose structure, interspaces of punctures swollen and almost smooth. Pronotum densely punctate, interspaces of punctures distinct, the punctures more or less confluent transversely. 2
2. Terminal segment of antenna shorter than 4 preceding segments combined in male and distinctly shorter than 4 preceding segments combined in female. Colour of elytral disc grassy with clear metallic lustre 3
- Terminal segment of antenna almost as long as 5 preceding segments combined in male and almost as long as 4 preceding segments combined in female. Elytral surface somewhat leathery with more or less dull metallic lustre; colour dark coppery. *A. tana* M. SAITÔ, sp. nov.
3. Terminal segment of antenna distinctly shorter than the distance between eyes. Interspaces of punctures on head and pronotum microshagreened, metallic lustre duller than that of elytra. Colour of dorsal surface coppery to golden green. *A. minuta* MASUMOTO
- Terminal segment of antenna at least as long as the distance between eyes, usually longer. Interspaces of punctures on head and pronotum without microshagreened structure, metallic lustre as on elytra. 4
4. Parameres of male genitalia dully rounded at the tip. Punctures of elytra unevenly arranged. Body somewhat broad. Colour of dorsal surface golden green. *A. formosana* SASAJI
- Parameres of male genitalia sharply pointed at the tip. Punctures of elytra evenly and closely arranged. Body more elongate and subparallel-sided. 5
5. Dorsal surface of body almost coppery; ventral surface bluish green. Elytra about 2.6–2.8 times as long as wide, about 4.8–4.9 times as long as pronotum. *A. bicolor* M. SAITÔ, sp. nov.
- Wholly green. Body large and very elongate; elytra about 2.8–2.9 times as long as wide, and about 5.1–5.5 times as long as pronotum. *A. imasakai* M. SAITÔ, sp. nov.

要 約

斎藤昌弘：台湾産アオハムシダマシ属について。——台湾のアオハムシダマシ属について、佐々治（1986）以前には *A. abnormalis* KÔNO のみが知られていた。佐々治（1986）は1新種を追加し、のちに益本（1988）は2新種を追加してリストを作成した。今回、3新種、フタイロハムシダマシ *A. bicolor* M. SAITÔ, イマサカハムシダマシ *A. imasakai* M. SAITÔ, イブシハムシダマシ *A. tana* M. SAITÔ を記載し、全種を検索表に示した。

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Elytra, Tokyo, **23** (2): 185, November 15, 1995

An Indoor Collecting Record of *Hylotrupes bajulus* (Coleoptera, Cerambycinae) in Western Tokyo

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At the end of the year 1991, Mr. T. WAKEJIMA collected a strange callidine cerambycid species at his home in Hachiohji-shi of western Tokyo. He had a New Year Eve party with some friends of his, and at that night, might be too drunk on wine. The cerambycid was shattered by his hand because he failed to see it clearly and thought it as a fly or a cockroach. After that, the damaged specimen in question was submitted to me for identification. At a sight, it was determined as *Hylotrupes bajulus* (LINNÉ, 1758), which is widespread in the Palearctic and part of North America. The collecting data are as follows: 1♂, Terada-machi (indoor), Hachiohji-shi, Tokyo, Japan, 31-XII-1991, T. WAKEJIMA leg.

Hylotrupes bajulus has so far been unknown from off the continental side of Asia; i.e., Siberia, Shanghai, and so on. The larva of the species is a well known borer of lumber and has strong tolerance for dried condition. The specimen presently examined is most probably derived from the northern Europe made furniture at his home.

I am grateful to Messrs. T. WAKEJIMA and Y. KUSAKABE for their kind supplying with an interesting specimen.