ISSN 1211-8788 *Acta Musei Moraviae, Scientiae biologicae* (Brno)
93: 47–52, 2008

A review of Japanese Heteroceridae (Coleoptera)

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SKALICKÝ S. 2008: A review of Japanese Heteroceridae (Coleoptera). *Acta Musei Moraviae, Scientiae biologicae* (Brno) **93:** 47–52. – The current state of knowledge of Japanese Heteroceridae is summarized. Only three species from the family occur in Japan: *Heterocerus fenestratus* Thunberg, 1793, *Augyles japonicus* (Kôno, 1933) and *Augyles tokejii* (Nomura, 1958). The distribution of these species on the Japanese Islands is summarized, while *H. fenestratus* and *A. japonicus* are recorded from the Kuril Islands for the first time. *A. japonicus* and *A. tokejii* are revised, redescribed and figured. Certain specimens examined, labelled as types of *H. orientalis*, *H. chosensis*, *H. sugihari* and *H. okamotoi*, have never been formally described and remain nomina nuda. All diagnostic characters for these species agree with those of *A. tokejii* (*H. okamoti*), *A. japonicus* (*H. sugihari*), *H. fenestratus* (*H. chosensis* and *H. orientalis*) and are conspecific with them.

Key words. Taxonomy, Coleoptera, Heteroceridae, new records, Japan, Kuril Island

Introduction

Only little information on the Heteroceridae of Japan is available in the literature. First to be mentioned was *H. fenestratus* THUNBERG, 1793 (Hokkaido, Honshu and Kiushu), followed by *H. japonicus* Kôno, 1933 described (Honshu) by KÔNO (1933). *H.* (*Littorimus*) *tokejii* (Nomura, 1958) from Honshu and *H. asiaticus* Nomura, 1958 (from Honshu, Shikoku, Kyushu, Okinawa, Korea and China) were described in 1958. These four species were listed from Japan by NAKANE *et al* (1984). *H. asiaticus* has since been synonymised with *H. fenestratus* by CHARPENTIER (1979). LI (1992) mentioned the occurrence of *H. japonicus* in China (Liaoning). MASCAGNI (1995) transferred *H. japonicus* and *H. tokejii* to the genus *Littorimus* Des Gozis, 1885 and recorded the occurrence of *H. fenestratus* in Okinawa, Iriomote and Ohara and *L. japonicus* in the Tochigi prefecture. MASCAGNI (2003) transferred *L. japonicus* and *L. tokejii* to the genus *Augyles* Schiödte, 1866.

The original descriptions of the two latter species do not reflect current knowledge of morphology, since important diagnostic characters have not been described and the male genitalia have not been illustrated. It is therefore virtually impossible to determine these species using the original papers. However, thanks to the kindness of Dr. S. Nomura (NMTJ) and Dr. R. Danielson (MZLU) I was given the opportunity to study the types of these Japanese species and the results of this revision are given in this paper along with redescriptions of *A. tokejii* and *A. japonicus*. In addition, *A. japonicus* and *H. fenestratus* are reported from the Kuril Islands for the first time.

The following abbreviations are used in the text:

CSU . . . . . The S. Skalický collection, Ústí nad Orlicí, Czech Republic
MZLU . . . . . Museum of Zoology, Lund University, Sweden
NMTJ . . . . . National Science Museum, Tokyo, Japan

Locality data are cited verbatim in quotation marks [“ ”]. Japanese text is translated. Authors’ remarks are given in square brackets. Separate labels are indicated by double slashes.

Taxonomy

Augyles japonicus (Kôno, 1933) (Figs 1–4)

Heterocerus japonicus Kôno, 1933: 232.
Littorimus japonicus: MASCAGNI (1995: 344).
Augyles japonicus: MASCAGNI (2003: 287, 288).

Type material. *Augyles Japonicus* (Kôno, 1933) Paratype (♀) labelled: “Tamagawa Tokyo Japan 1913 H” // “Paratype *Heterocerus japonicus*” // “NSMT-I-C 20433” // “H. Kôno Collection” // “H. Kono Coll.” (NSMT). N o t e : Paratype is in a box with the label: “Paratype *Heterocerus japonicus* Kôno Shuhei Nomura det. 2006” [green label].
Additional material. 1 specimen (♀) labelled: “Kuriles Etorofu Y. Sugihara” // “*Heterocerus sugiharai* Kôno Type” [red label] // “NSMT-I-C 20443” // “H. Kôno Collection” // blue label without text [NMTJ]; 1 specimen (sex not determined) the same labels only: “NSMT-I-C 20442” [NMTJ]; 4 specimens (♂, 3 ♀♀) labelled: “JAPAN” // “Kawarada-mura Mic-Pref. VI-1955 Coll. T. Nakame” [MZLU, 1 ♂ CSU]; 1 specimen (♀) labelled: “JAPAN” // “Riv. Ina Hyogo 21.III.1956 T. Shibata” // “17” [blue label] [MZLU]; 1 specimen (♀) labelled: “JAPAN” // “Iwase To Yama 25.IV.1958 A. Matsuda” // label with drawing of mesosternum [MZLU]; 2 specimens (♂♂) labelled: “JAPAN” [MZLU].

Redescription. Total length 4 mm (to apex of labrum). Ground colour ochre-brown, elytra with dark brown pattern, as in Fig. 1, pronotum in some specimens with pale brown patch in front of scutellum. Pronotum dark brown, pale brown laterally. Antennae 10-segmented with 6-segmented club. Clypeus with pair of clypeal horns in male specimens. Pronotum as wide as base of elytra, pronotal base completely rimmed. Punctures of pronotum approximately as large as 0.5 eye facets, setae pale brown, short, longer and erect laterally. Elytra without longitudinal furrows, scutellar depressions absent, humeral depressions short and shallow. Surface of elytra finely granulate with intermixed punctures approximately as large as eye facets. Setae of elytra semi-erect, yellow (aureate), intermixed with short, decumbent, black ones. Epipleura with distinct epipleural ridge in both sexes. Metasternum with post-mesocoxal ridge; Mesosternum neither spinose nor tuberculate anterior to each mesocoxa. Post-metacoxal line present. Stridulatory arch marked, without striae. Tibiae with long, sparse setae. Protibia with 10 stout spines. Spines of meso- and metatibia weak, concealed by setae. Spiculum gastrale V-shaped, arms connected apically. Aedeagus (Figs 2–4) 0. 55 mm long, part of the “*cribratellus*” group *sensu* CHARPENTIER (1965), similar to *A*. *niloticus* Grouvelle, 1896, with long processus accessorius, parameres well developed.

Distribution. China, Japan (Honshu), first record for the Kuril Islands.

Note. One of the examined specimens (see above) was labelled as the type specimen of *H*. *sugihari.* This species has never been properly described and the binomial is *nomen nudum*.

Augyles tokejii (Nomura, 1958) (Figs 4–6)

Heterocerus (*Littorimus*) *tokejii* Nomura, 1958: 57.
Littorimus tokejii: Mascagni (1995: 344).
Augyles tokejii: Mascagni (2003: 288).

Type material examined. *Augyles tokejii* (Nomura, 1958) **Holotype** (♂) labelled: "Iwabuchi, Kita-ku [Japanese text] 17.9.1948" // "Iwabuchi [Japanese text], Tokyo 17.sept. 1948 Z. Tokeji"// "*Heterocerus* (*Littorimus*) *tokejii* Nomura" [red label] // "Sizumu Nomura Bequest, 1981"[NMTJ]; **Paratype** 1 specimen (♂) labelled: "Yamagata-shi [Japanese text = Yamagata Prefecture] 7: 1943 (K.S.)" // "♂" // "Sizumu Nomura Bequest, 1981"[NMTJ]; 2 specimens (sex not determined) labelled: "Kurokawa Echigo 17 VII 1961 K. Baba" // "Sizumu Nomura Bequest, 1981" [NMTJ]; 1 specimen (sex not determined) the same labels only: "20 VII 1961".
Note: holotype and paratypes in box with labels: "S. Nomura Coll. (NSMT) Holotype *Heterocerus tokejii* Nomura Shuhei Nomura det., 2006" [green label] and: "S. Nomura Coll. (NSMT) Identified specimen(s) *Heterocerus tokejii* Nomura Shuhei Nomura det., 2006" [green label].
Additional material examined. 1 specimen (sex not determined, probably female) labelled: "HiroKa, Tosa 30/VIII/1935 H. Okamoto" // "*Heterocerus okamotoi* Kôno Type" [red label] // "H. Kôno Collection" // "NSMT-I-C 20438" [NSMT]; 1 specimen (♂) labelled: "JAPAN" // "Tsu. Mie Pref. VII. 1958 H. Ichehasi" // "15" [blue label] // "*Heterocerus* near tokejii Nom. det. Charpentier 1972" // label with drawing of mesosternum and prosternal spine [MZLU]; 3 specimens (♂, ♀♀) labelled: "JAPAN" // "Tsu. Mie Pref. VII. 1958 H. Ichehasi" [MZLU, 1 ♂ CSU]; 1 specimen (♀) labelled: "JAPAN" // "Riv. Yodo Osaka 27.IX.1957 Y. Kimura" [MZLU].

Redescription. Holotype (♂): total length 3.05 mm (to apex of labrum); elytra 1.85 mm long, 1.25 mm wide across shoulders. Ground colour red-brown, elytra with dark brown pattern, as in Fig. 4. Pronotum dark brown with pale brown anterior angles. Antennae 10-segmented with 6-segmented club. Clypeus without pair of anterior horns. Pronotum as wide as base of elytra, pronotal base completely rimmed. Surface of pronotum fine granulate, setae decumbent, yellowish. Scutellum oval with posterior apex pointed. Elytra without longitudinal furrows, scutellar depressions absent, humeral depressions extending obliquely towards suture at one-third of elytron. Surface of elytra roughly granulate with intermixed punctures approximately twice the size of eye facets. Setae of elytra sparse, semi-erect, yellowish (aureate). Epipleural ridge present. Metasternum with post-mesocoxal ridge; Mesosternum U-shaped, neither spinose nor tuberculate in front of each mesocoxa. Post-metacoxal line present. Stridulatory arch marked, with striae. Protibia with 10 stout spines. Spines of meso- and metatibia weak, concealed by setae. Spiculum gastrale V-shaped, arms connected apically. Aedeagus (Figs 5–6) 0.60 mm long, part of "*cribratellus*" group *sensu* Charpentier (1965), similar to *A. marmota* Kiesenwetter, 1850, parameres triangular with acute apex.

Variability: No substantial morphological variability observed in the examined series.

Distribution. Japan (Honshu) (Nomura 1958, Anon. 2000).

Note. *Heterocerus okamotoi* has never been formally described and remains *nomen nudum*. Specimens labelled as types of this species agree in all diagnostic characters with those of *Augyles tokejii* and are conspecific with it.

Heterocerus fenestratus Thunberg, 1784

Heterocerus asiaticus Nomura, 1958: 58 [synonymised with *Heterocerus fenestratus* by Charpentier (1979: 232)].

Material examined. 1 specimen (♀) labelled: "16.VII.1923 Tinsen [cramped] Chosen. Yuuki" // "*Heterocerus chosensis* Type" [red label] // "NSMT-I-C 20439" // "H. Kôno Collection" // blue label without text [NMTJ]; 1 specimen (sex not determined) labelled: "Funabashi Chiba Aug. 6, 1953 K. Tanaka" // "*Heterocerus asiaticus* Nomura Det. S. Nomura 19" // "Sizumu Nomura Bequest, 1981" [NMTJ]; 3 specimens (1 spec. ♀, 2 sex not determined) labelled: "Narimasu [Japanese text] Tokyo 28. Aug. 1958 K. Kurosa" // "*Heterocerus orientalis* Nomura" [red label] // "Sizumu Nomura Bequest, 1981" [NMTJ]; 1 specimen labelled: "JAPAN" // "Mt. Dandosan Aichi Pref. 12.VII.1955 H. Ôhira" [MZLU]; 2 specimens labelled: "JAPAN" // "Omene Lake Biwa II. July, 1962 Z. Naruse" [MZLU]; 1 specimen labelled: "JAPAN" // "Sasuna Is. Tsu-Shima July 19.1960 H. Kamiya" [MZLU]; 1 specimen labelled: "JAPAN" // "SHIKOKU Omogo 28.7.1962 S. Tamai" [MZLU]; 1 specimen labelled: "JAPAN" // "(SHIKOKU) Matsuyama 4.VII.1959 Light trap" [MZLU]; 1 specimen labelled: "JAPAN" // "Iwawaki-yama Osaka Pref. July 23. 1966 Kimura et al." [MZLU]; 6 specimens labelled: "JAPAN" // "Tsu Mie pref. VII. 1958 H. Ichihashi" [MZLU, 1 spec. CSU]; 4 specimens labelled: "JAPAN" [MZLU].
Holotype, allotype and 844 paratypes of *H. asiaticus* (= *H. fenestratus*) are deposited in the Sizumu Nomura collections in NMTJ (Anon. 2000, Nomura 1958).

Distribution. Palaearctic region, the Philippines, Vietnam, Canada, Korea, United States, Japan (Okinawa, Honshu, Kyushu, Iriomote Hokkaido, and Shikoku) (Anonym 2000, Nomura 1958, Kôno 1931).

Note. I have not encountered any descriptions of *H. chosensis* and *H. orientalis*. These species remain unpublished. However, the examined type specimens of both of them agree in all diagnostic characters with those of *H. fenestratus* and are apparently conspecific with it.

Acknowledgements

I would like to thank Dr. Shuhei Nomura (NMTJ) for the loan of material, translation of Japanese texts and his generous help with the manuscript, Dr. Roy Danielsson (MZLU) for the loan of material and Dr. Josef Jelínek (National Museum, Prague, Czech Republic) for valuable comments and for reading the manuscript.

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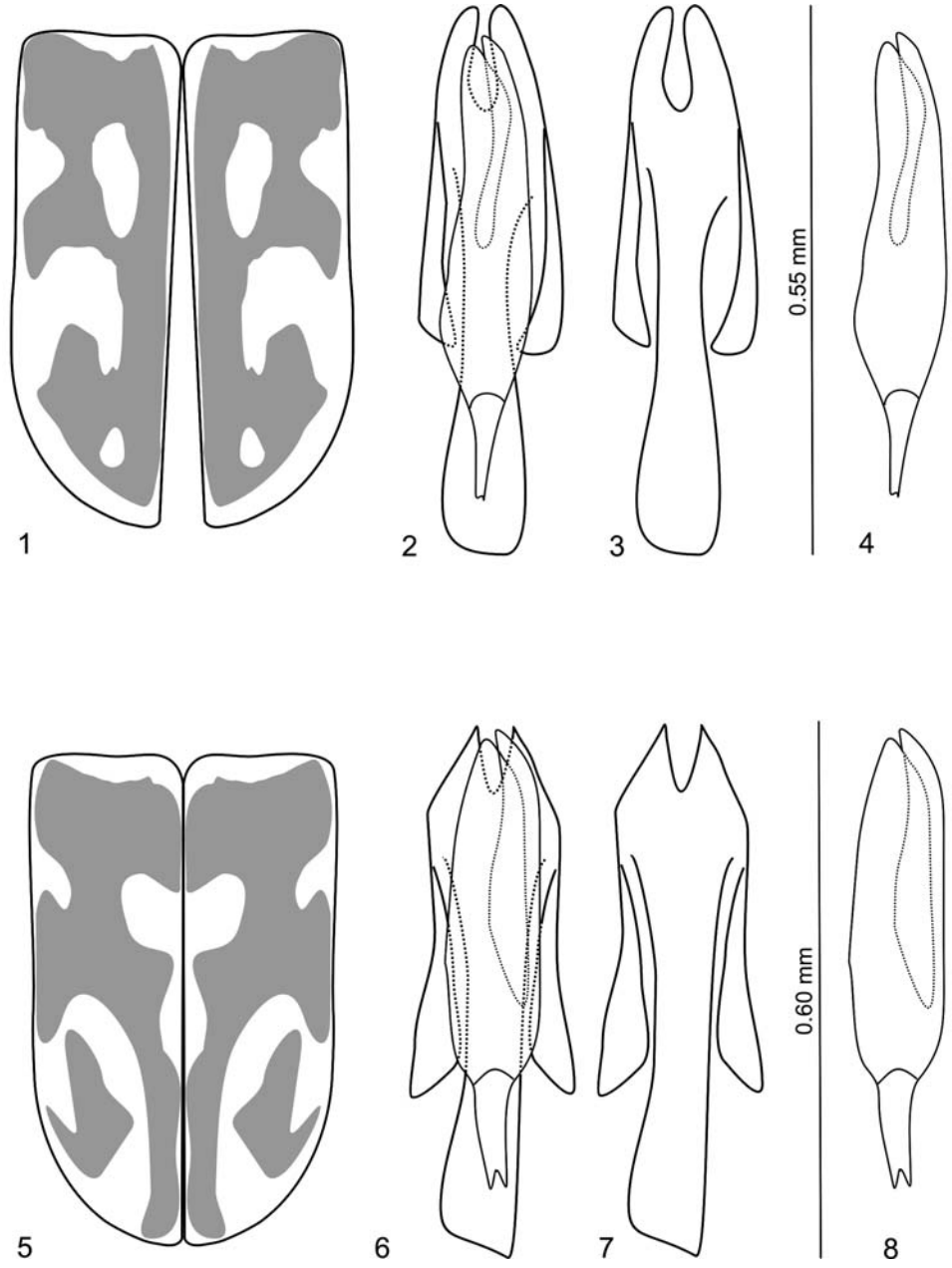

Figs 1–6. Figs 1–3: *Augyles japonicus*. 1 – pronotum and elytra, dorsal view; 2 – aedeagus, dorsal view; 3 – aedeagus, lateral view. Figs 4–6: *Augyles tokejii* holotype. 4 – pronotum and elytra, dorsal view; 5 – aedeagus, dorsal view; 6 – aedeagus, lateral view. (Figs 1, 4 not in scale.)