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**TYPE MATERIALS OF THE REDUVIIDAE (HETEROPTERA) DESCRIBED
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NOMENCLATURE**

By MASAOKI TOMOKUNI and WANZHI CAI

Abstract

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Type materials of 12 reduviid species described by S. Matsumura are reexamined. Detailed information is provided for every type specimen and its labels. Lectotypes are designated for *Velinoides dilatatus* Matsumura, 1913, *Endochus marginalis* Matsumura, 1905, *Euagoroides coccineus* Matsumura, 1913, *Harpactor flavinotum* Matsumura, 1913, *Metatiarodes apicalis* Matsumura, 1913, and *Metatiarodes maculatus* Matsumura, 1913. One new combination, *Haematoloecha iguchii* (Matsumura, 1913), is proposed for *Ectrychotes iguchii* Matsumura, 1913.

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INTRODUCTION

Shonen Matsumura described three new genera and 12 new species of the Reduviidae from Japan and Taiwan between 1905 and 1913. Type materials of his new species are preserved now in the Matsumura Collection at the Laboratory of Systematic Entomology, Department of Agriculture, Hokkaido University, Sapporo, Japan, with a few possible exceptions in the collection of Hungarian Natural History Museum, Budapest, Hungary. Information for these types, that is, locality, date of collection, and collector, is not given sufficiently in his publications. In his early days as an entomologist in particular, these informations were occasionally given only in Japanese in his publications and on the labels attached to his specimens. This makes difficult for non-Japanese entomologists to review Matsumura's achievement on taxonomical entomology. As mentioned in the text, confirmation of type localities, and even detection of his syntypes themselves, are actually impossible in some cases even for the Japanese heteropterists because of the lack of available information.

During the course of our cooperative research on the East Asian Reduviidae, we were forced to examine his type materials in detail. As the first step of the research, this paper deals with current condition of Matsumura's reduviid types and information on respective specimens with several acts on taxonomy and nomenclature including lectotype designations if necessary. Designations are made for taxonomical benefit in providing stable usage of scientific names established by Matsumura, and for saving heteropterists from unnecessary reiteration of such a difficult work in detecting Matsumura's syntypes and determining their type localities.

MATERIALS AND METHODS

In the following text, Matsumura's species are arranged in alphabetical order under his generic names within each subfamily. Category of type material, sex, condition of specimen, number of label(s), inscriptions on label(s), and form of label(s) are provided for each specimen. These informations have been published for several Tingidae described by Matsumura and other authors (Tomokuni, 1994). Description of these items is basically followed Tomokuni's format in the present text: inscriptions on labels are placed between quotation marks and those on the underside of the same label are given after #; transliteration of Japanese inscriptions is quoted by < >; remarks for a label and/or an inscription are given by [] if necessary; and additionally form of a label is indicated by alphabet in uppercase letter as abbreviated by Tomokuni (1994). Since the specimens bearing [H] label were illustrated by Matsumura (1913) (cf. Tomokuni, 1994), we designate them as the lectotype prior to the other syntype(s) of respective species. All specimens examined in this paper are preserved in the Insect Collection at the Hokkaido University, Sapporo, Japan.

DETAILED INFORMATION OF MATSUMURA'S TYPES WITH TAXONOMICAL AND NOMENCLATURAL NOTES INCLUDING LECTOTYPE DESIGNATION

Subfamily Centrocneminae

Centrocnemis formosana Matsumura, 1913: 161, pl. 15, fig. 2.

Type material. Holotype (by monotypy) ♀, body and appendages partly damaged,

with 4 labels: "Type Matsumura" [F]; "Arikan 1909 # Formosa Matsumura" [C]; "Centrocnemis formosanus det. Matsumura" [E]; "Neocentrocnemis formosana (Mats.) gen. nov. [Miller's handwriting] N. C. E. Miller det. 1955".

Type locality. Alikan [currently Likang], Formosa [Taiwan].

Current status. *Neocentrocnemis formosana* (Matsumura, 1913) [Transferred by Miller (1956)].

Subfamily Ectrichodiinae

Ectrychotes okinawensis Matsumura, 1905b: 34, pl. 1, fig. 11.

Type material. Holotype (by monotypy) ♀, body and appendages partly damaged, with 5 labels: "Okinawa, Kuroiwa [Matsumura's handwriting]"; "219" [G]; "Ectrychotes okinawaensis n. sp." [E]; "十一 <11>" [H]; "Type Matsumura" [F].

Type locality. Okinawa Is., The Ryukyus, Japan.

Current status. *Scadra okinawensis* (Matsumura, 1905) [Transferred by Cook (1977)].

Remarks. The holotype was collected by K. Kuroiwa and sent to Matsumura for identification (Matsumura, 1905b).

Ectrychotes iguchii Matsumura, 1913: 166, pl. 15, fig. 9.

Type material. Holotype (by monotypy) ♂, glued to a square card, in good condition with inscriptions of "63 [Matsumura's handwriting] # 四月二十日 地上 <20 April, on the ground>" on the card, with 3 labels: "Haematoloecha iguchii n. sp. det. Matsumura" [E]; "Type Matsumura" [F]; "九 <9>" [H].

Type locality. Harima [an old province in Hyogo Prefecture], Honshu, Japan.

New status. *Haematoloecha iguchii* (Matsumura, 1913), comb. nov.

Remarks. The holotype was collected by Shuhei Iguchi and sent to Matsumura for identification (Matsumura, 1913). Previous to Matsumura's description, this species once appeared in a publication written in Japanese (Iguchi, 1909) as "*Haematoloecha iguchii* Mats." without any description and indication of a new species. Examining the holotype, we confirmed that correct generic assignment of the species should be to *Haematoloecha*. Synonymy between this species and the next species, *H. nigricollis*, is strongly surmised from close similarity of their external morphology. We, however, postpone the conclusion of this matter until detailed morphological examination including male and female genitalia can be made on the basis of adequate number of materials.

Haematoloecha nigricollis Matsumura, 1913: 169, pl. 15, fig. 12.

Type material. Holotype (by monotypy) ♂, glued to a square transparent plastic card, nearly in good condition, with 4 labels: "527 [stamped]"; "Haematoloecha nigricollis n. sp. det. Matsumura" [E]; "十二 <12>" [H]; "Type Matsumura" [F].

Type locality. Kyoto, Honshu, Japan.

Current status. *Haematoloecha nigricollis* Matsumura, 1913.

Remarks. The holotype was collected by Motojiro Suzuki in Kyoto (Matsumura, 1913). Synonymy between this species and *H. delibuta* (Distant, 1883) described from Japan was suggested by Fukui (1927: 8) and Putshkov and Putshkov (1996: 151). Both species are, however, different from each other in the body size and coloration. We thus suspend final conclusion of the synonymy as in the case of the previous species.

Subfamily Hapactorinae

Velinoides dilatatus Matsumura, 1913: 161, pl. 15, fig.3.

Type materials. Lectotype (designated herein) ♂, glued to a square card, nearly in good condition (each apical segment of both antennae missing) with inscriptions of “65 [Matsumura’s handwriting] # 41.8.20 [20 August 1908] and undecipherable Japanese characters [Matsumura’s handwriting]” on the card, with 2 labels: “三 <3> # *Velinoides dilatatus*, n. sp. [Matsumura’s handwriting]” [H]; “Type Matsumura [printed on a red square paper]” [F]. Paralectotype ♀, glued to a square card, slightly damaged (right antenna, apical segment of left antenna, and right foreleg missing) with handwritten inscriptions of “1.10.14 [14 October 1912]” on the underside of the card, with 1 label: “岩手 <Iwate> 小笠原 <Ogasawara> [locality and collector, respectively; probably Ogasawara’s handwriting] # 1.10.14 [14 October 1912] [handwritten]”. Paralectotype ♀, in good condition, with 1 label: “Japan Matsumura # 定山溪 <Jozankei [locality; Matsumura’s handwriting]> 九月中旬 1911 <middle September, 1911> [Matsumura’s handwriting]” [C]. Paralectotype ♀, in good condition, with 1 label: “ハゲ? <Hage? [locality?]> / X 23 [23 October] [all Matsumura’s handwriting] Matsumura” [C].

Type locality. Not exactly known, but somewhere in Hokkaido or Honshu, Japan.

Current status. *Coranus dilatatus* (Matsumura, 1913) [Transferred by Kanyukova (1982)].

Remarks. Matsumura (1913) did not describe the number of specimens used for preparing the original description. Besides the types mentioned above, there are three specimens collected several months (2 specimens on 31 Aug. 1913 and 1 on 8 Sep. 1913) before the publication (6 Nov. 1913) of the original description. Judging from the dates and publishing technique at that time, it is unlikely that these materials were used for his description of the species.

This species first appeared in a Japanese publication as “*Anitus dilatatus* Mats.” (Iguchi, 1909) with a simple account written in Japanese, “[a large blackish-brown species which runs fast through grasses in mountainous areas].” Matsumura (1913) erected a new genus *Velinoides* to accommodate the species described simultaneously as a new species. Hsiao and Ren (1981) placed their new species under *Coranus* as *C. magnus*, and it was synonymized later with *Coranus dilatatus* by Lu and Cai (1994). Matsumura’s genus *Velinoides* itself was synonymized with *Coranus* by Kanyukova (1982). However, several character states possessed by Matsumura’s species, that is, remarkably large body, exceptionally large number of chromosome [$2n=80$ (Muramoto, 1981) vs. $2n=27$ in small sized *Coranus fuscipennis* Reuter, 1881 (Jande, 1959)], and specialized morphology of the egg, suggest that the generic assignment of the species should be reconsidered (Cai, 1994).

Endochus marginalis Matsumura, 1905b: 35, pl. 1, fig. 6.

Type materials. Lectotype (designated herein) ♀, pinned through right hemelytron, slightly damaged (antennae wholly missing), with 5 labels: “VII/1905 Okinawa # 黒岩 <Kuroiwa [collector]> [all Matsumura’s handwriting]” [A]; “150” [G]; “*Endochus marginalis* n. sp. クロヒゲナガサシガメ <Kuro-higenaga-sashigame [Japanese name of the species]> [all Matsumura’s handwriting]” [E]; “二十 <20> [written in cinnabar]” [H]; “Type Matsumura [printed on a red square paper]” [F]. Paralectotype ♀, pinned through pronotum, somewhat damaged (antennae, right hind leg, and all tarsi except those of left fore- and right midleg missing), with 2 labels: “VII/1905 Okinawa # 黒岩

<Kuroiwa>” [A]; “150 [written with writing brush]”. Paralectotype ♂, pinned through right hemelytron, nearly in good condition (apical 3 segments of both antennae missing), with 2 labels: “VII/1905 Okinawa # 黒岩 <Kuroiwa>” [A]; “150” [G].

Type locality. Okinawa Is., The Ryukyus, Japan.

Current status. *Euagoras plagiatus* (Burmeister, 1834) [Synonymized by Esaki (1926)].

Remarks. Besides the type materials, 11 specimens of this species still remain in the Matsumura Collection. Describing this species, Matsumura (1905b) stated that “... , gesammelt von Herrn T. Kuroiwa; vier Exemplare in meiner Sammlung.” However, we were unable to detect any specimen of “meiner Sammlung”. None of the 11 specimens can be approved from the inscriptions (date, locality, and collector) on their labels to belong to the syntype series.

Euagoroides coccineus Matsumura, 1913: 175, pl. 15, fig. 21.

Type materials. Lectotype (designated herein) ♂, minute-pined on a piece of pith, somewhat damaged (each apical segment of antennae and all left legs missing), with 4 labels: “Tainan Ishida # 21/IX '09 [21 September 1909]” [C]; “*Euagoroides coccineus* n. sp. [with crossed out inscription of “*Rubra*”] # 90 [all Matsumura’s handwriting]” [E]; “二十一 <21> [written in cinnabar]” [H]; “Type Matsumura [printed on a red square paper]” [F]. Paralectotype ♀, minuten-pined on a piece of pith, nearly in good condition (only apical segment of left antenna missing), with 1 label: “Tainan Ishida # 21/IX '09” [C]. Paralectotype ♂, glued to a square card, slightly damaged (apical 3 segments of both antennae and tarsi of fore- and midlegs missing), with 1 label: “Formosa Matsumura ホリ <Hori [locality, currently Puli; Matsumura’s handwriting]>” [C].

Type locality. Tainan, Taiwan.

Current status. *Vesbius purpureus* (Thunberg, 1784) [Synonymized by Esaki (1926)].

Remarks. As stated by Matsumura (1913) three syntypes are found in his collection. Two of them were collected by Masato Ishida and one by Matsumura himself.

Harpactor flavinotum Matsumura, 1913: 171, pl. 15, fig. 16.

Type materials. Lectotype (designated herein) ♀, pinned through scutellum, preserved in good condition, with 3 labels: “Formosa Matsumura # 魚池 <Gyochi [locality; Matsumura’s handwriting]>” [C]; “十六 <16> [written in cinnabar] # *H. flavinotum* n. sp. [Matsumura’s handwriting]” [H]; “Type Matsumura [printed on a red square paper]” [F]. Paralectotype ♀, pinned through right hemelytron, badly damaged (apical segment of right antenna, right midleg, both hindlegs, and all tarsi except left foreleg missing; abdomen partly destroyed), with 1 label, “Formosa Matsumura # 魚池 <Gyochi> 30/VII '08 [30 July 1908]” [C]. Paralectotype ♀, pinned through scutellum, somewhat damaged (antennae and tarsus of left hindleg missing), with 1 label: “Shinsha [locality, currently Hsinshe] 7/23, '06 [23 July 1906] [all Matsumura’s handwriting]” [B].

Type locality. Gyochi [currently Yuechih], Taiwan.

Current status. *Biastiscus flavinotus* (Matsumura, 1913) [Transferred by Cai and Yang (2002)].

Remarks. Three of the four syntypes were detected in the Matsumura Collection and the specimen used for illustration of his original description is designated herein as the lectotype. Esaki (1926) synonymized this species with *Rhinocoris flavus* (Distant, 1903).

However, Cai and Yang (2002) revived it from the synonymy as a good species of the genus *Blasticus*, since its scutellum is wholly black and the body is stouter than that of *Blasticus flavus* (= *Rhinocoris flavus*).

Subfamily Peiratinae

Pirates yayeyamae Matsumura, 1913: 163, pl. 15, fig. 5.

Type material. Holotype (by monotypy) ♂ [not ♀ though so-indicated in the original description], nearly in good condition (two apical segments of left antenna and apical segment of right antenna missing), with 4 labels: “Japan Matsumura # 沖縄 <Okinawa>” [C]; “? [illegible character on a small piece of translucent paper, probably a part of an inscription]”; “五 <5> # Siretenia [?] yayeyamensis n. sp. [Matsumura’s handwriting]” [H]; “Type Matsumura” [F].

Type locality. Yayeyama [correctly Yaeyama] Isls., The Ryukyus, Japan.

Current status. *Ectomocoris yayeyamae* (Matsumura, 1913) [Revived from a synonym of *Ectomocoris flavomaculatus* Stål, 1871 by Cai and Lu (1991)].

Remarks. Esaki (1926) synonymized this species with *Ectomocoris flavomaculatus*. Cai and Lu (1991) examined the type of *E. flavomaculatus* from the Philippines and found that it is closely related to *E. biguttulus* Stål, 1871 and clearly different from Matsumura’s species.

Subfamily Reduviinae

Acanthaspis albovittata Matsumura, 1907: 141, fig. 160.

Type material. Two specimens remain in the Matsumura Collection. One female specimen, bearing a label “Tainan Ishida # 10/IX '09 [10 September 1909]” [C] and two other labels, can be excluded from the syntype series. The other female, however, bears the only label with inscription, “ワカヤマ <Wakayama [locality; Matsumura’s handwriting]> 木梨 <Kinashi [collector; Matsumura’s handwriting]> Japan Matsum” [C], and no collecting date is given. Since there is no evidence of their belongings to the syntype series, we postpone lectotype designation of this species at this stage (see Remarks below).

Type locality. Hokkaido, Honshu, and Kyushu, Japan.

Current status. *Acanthaspis cincticrus* Stål, 1859 [Synonymized by Fukui (1927: 3)].

Remarks. This species was first recorded under the name “*Acanthaspis humeralis* Stål” (Matsumura, 1905a: 27) with full description written in Japanese. Two years later, he recorded this species again using the same illustration as that in the 1905a book, and gave a brief description written in Japanese under the new name *Acanthaspis albovittata*. Accordingly, his 1905a description is actually the first account of this species. He wrongly attributed the authorship of *A. humeralis* to Stål instead of Scott, 1874 both in the 1905a description and 1930 book (Matsumura, 1930: 24, 152). Matsumura (1905a) recorded Hokkaido, Honshu, and Kyushu as the distributional range of the species. This means that at least three specimens were available for his first publication of this species. As mentioned above, however, no reliable syntypes exist in the Matsumura Collection. Matsumura sent a number of heteropterous specimens to Horváth for identification (cf. Tomokuni, 1994). The author (MT) confirmed in 1996 at the Hungarian Natural History Museum, Budapest that several specimens of the Tingidae and Lygaeidae sent by Matsumura still remain there, and a part of the syntypes of this reduviid may hopefully be found there in the future.

Subfamily Stenopodainae

Metatiarodes apicalis Matsumura, 1913: 158, pl. 14, fig. 23.

Type materials. Lectotype (designated herein) ♂, pinned through right hemelytron, nearly in good condition (each apical segment of both antennae missing), with 3 labels: “Formosa Matsumura # カンシレイ <Kanshirei [locality; Matsumura’s handwriting]>, 10/V 08 [10 May 1908; Matsumura’s handwriting]>” [C]; “二十三 <23> [written in cinnabar] # Centrogonus apicalis n. sp. [Matsumura’s handwriting]” [H]; “Type Matsumura [printed on a red square paper]” [F]. Paralectotype ♀ [not ♂ though so-indicated in the original description], pinned through right hemelytron, nearly in good condition (two apical segments of left antenna, apical segment of right antenna, and tarsi of left fore- and left hindlegs missing), with 1 label: “Formosa Matsumura” [C].

Type locality. Kanshirei [currently Kuantzuling], Taiwan.

Current status. *Canthesancus apicalis* (Matsumura, 1913) [Transferred by Esaki (1926)].

Remarks. As stated by Matsumura (1913) two syntypes were found in his collection. Synonymy of this species with *Canthesancus geniculatus* Distant, 1902 is highly probable.

Metatiarodes maculatus Matsumura, 1913: 156, pl. 14, fig. 22.

Type materials. Lectotype (designated herein) ♀, pinned through right hemelytron, nearly in good condition (apical segment of both antennae and right foreleg missing), with 4 labels: “八重山 <Yaeyama [locality]> 504 [both Matsumura’s handwriting] Matsumura” [C]; “*Metatiarodes maculatus* n. sp. [Matsumura’s handwriting] det. Matsumura [printed]”; “Type Matsumura [printed on a red square paper]” [F]; “二十二 <22> [written in cinnabar]” [H]. Paralectotype ♂, pinned through right hemelytron, nearly in good condition (two apical segments of left antenna and right hindleg missing), with 1 label: “八重山 <Yaeyama> 504 [both Matsumura’s handwriting] Matsumura” [C].

Type locality. Yaeyama Isls., The Ryukyus, Japan.

Current status. *Canthesancus lurco* Stål, 1863 [Synonymized by Miyamoto, Hayashi and Kinjō (1999)].

Remarks. Two syntypes were detected in the Matsumura Collection as he recorded (Matsumura, 1913). These types were collected by K. Kuroiwa in the Yaeyama Islands (Matsumura, 1913).

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