

Additional faunistic data for Heteroceridae (Coleoptera) with description of two new species from Myanmar

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Abstract. *Augyles benjamini* sp. nov. and *A. christofferi* sp. nov. both from Myanmar are described, illustrated and compared with similar species. *Augyles anulatus vendulae* Skalický, 2000, *A. luciae* (Mascagni, 1993), *A. weigeli* Skalický, 2003, *Heterocerus dubius* Fabricius, 1798, *H. philippensis javanicus* (Grouvelle, 1896) and *Micilus minutissimus* (Sahlberg, 1900) are reported for Myanmar for the first time. Additional species of Heteroceridae are recorded for the first time from different administrative units of Myanmar and from other states. A checklist of the Heteroceridae known from Myanmar is provided.

INTRODUCTION

Our knowledge of the distribution of Heteroceridae in Myanmar is relatively substantial. The first checklists are in Mascagni (1991) and subsequently in Mascagni (1995a). Both works contain six species of this group in this area. Mascagni & Sforzi (1999) note three more species from this country. (from them only *A. bellus* (Grouvelle, 1911) (= *A. ivojenisi* (Mascagni, 1995)) is mentioned in this article, without further detailed location data or reference and is not mentioned in subsequent articles. I consider its occurrence in Myanmar to be uncertain and needs to be confirmed by further collections). Skalický (2000a) supplemented this list with four more species, of which two were newly described. Mascagni (2003) mentioned a total of 12 Myanmar species. Of the nine species listed for Myanmar in Skalický (2004), this list is expanded by four species, three of which are newly described and Skalický (2006) with one newly described species. Mascagni & Skalický (2007) with one subspecies. Thus, a total of 19 species of Heteroceridae are known from Myanmar (13 species of *Augyles* Schiödte, 1866 and 6 taxa of *Heterocerus* Fabricius, 1792). To these records I add in this work five species of *Augyles*, (two of which are newly described) two taxa of *Heterocerus* and one species of *Micilus*. At present, a total of 27 species of Heteroceridae in three genera are known from Myanmar (only *A. bellus* is uncertain). Seven previously recorded species (*A. schillhammeri* Skalický, 2000, *A. myanmarus* Skalický, 2000, *A. rangoonensis* Skalický, 2004, *A. sagaingensis* Skalický, 2004, *H. inornatus* Skalický, 2004, *H. birmanicus* Grouvelle, 1896 and *H. ernsti* Skalický, 2006) are currently known only from Myanmar.

During the study of a small collection of Heteroceridae collected at one location in Myanmar by Mr. Daniel Walter and deposited in my collections (CSU), I was able to identify four species, of which *Augyles benjamini* sp. nov. and *A. christofferi* sp. nov. are new to science, *H. dubius* Fabricius, 1798 as new for Myanmar and for *H. virgatus* I state a new distribution in the next administrative region of Myanmar.

In addition, the present paper brings about additional data on Heteroceridae of the surveyed territory coming from several institutional and private collections (see below). These collections contain species reported as new for a relevant country: *A. anulatus vendulae* Skalický, 2000, *A. luciae* (Mascagni, 1993), *A. weigeli* Skalický, 2003, *H. lorenzevae* Mascagni, 1993 and *Micilus minutissimus* (Sahlberg, 1900).

A checklist of the 27 heterocerid taxa now known from Myanmar is provided together with notes on their general distribution and their distribution within Myanmar.

A new occurrence of species *A. anulatus vendulae* Skalický, 2000, *A. luciae* (Mascagni, 1993), *A. weigeli* Skalický, 2003, *H. lorenzevae* Mascagni, 1993, *H. philippensis philippensis* Grouvelle, 1896 and *H. virgatus* Mamitza, 1933 from other countries has been recorded (see below).

MATERIAL AND METHODS

Acronyms of collections:

CEHA Collection of Ernst Heiss, Innsbruck, Austria;
CSG Collection of André Skale, Gera, Germany;
CSU Collection of S. Skalický, Ústí nad Orlicí, Czech Republic;
NHML The Natural History Museum, London, England;
NHMB Naturhistorisches Museum Basel, Switzerland;
NHMP National Museum, Praha, Czech Republic;
MNHN Muséum national d'Histoire naturelle, Paris, France;
NMW Naturhistorisches Museum, Vienna, Austria;
NME Naturkundemuseum Erfurt, Germany;
MZLU Museum of Zoology, Lund University, Sweden;
SMNS Staatliches Museum für Naturkunde, Stuttgart, Germany;
LMA Oberösterreichisches Landesmuseum, Biologiezentrum, Linz-Dornach, Austria;
OUMNH Oxford University Museum of Natural History;
ZMUC Zoologisches Museum der Christian-Albrechts-Universität zu Kiel, Germany.

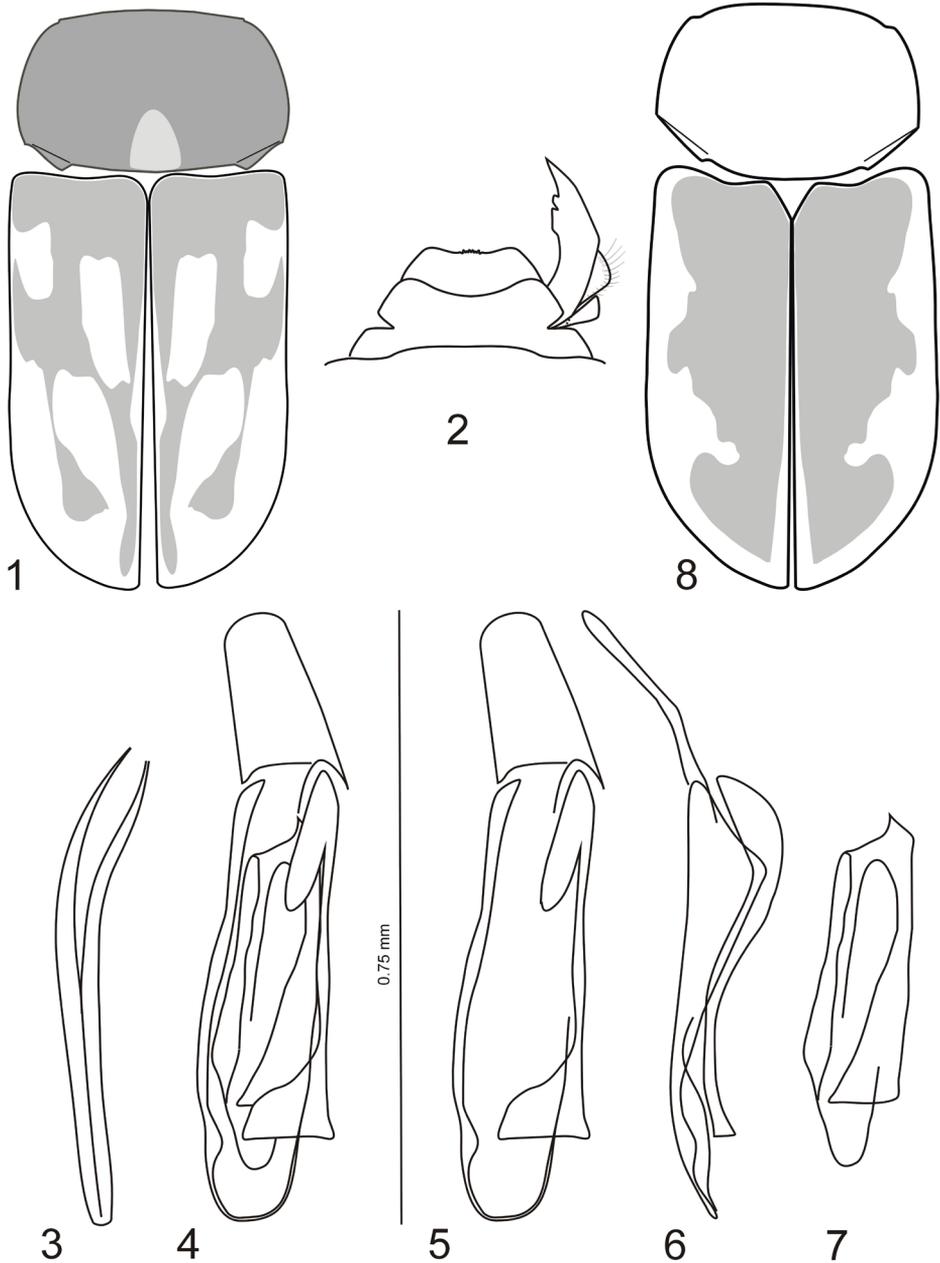
Separate labels are indicated by double slashes, locality data are cited verbatim in “quotation marks.” Author’s remarks are given in square brackets; // indicated separate labels.

TAXONOMY

Augyles benjamini sp. nov.

(Figs. 1-7)

Type material. Holotype (♂): “SW Myarmar [Myanmar] Nyaungdon [Ayayarwady division]; Garden of Green Land hotel; near Hlaing riv. 18.-23.XI.2024 Dan. Walter lgt” // “HOLOTYPE AUGYLES benjamini Skal. det. Skalický 2025” [red label], “collection S. Skalický (CSU) Czech Republic” [yellow label], genitalia is stored in glycerin in a small plastic microtube, (CSU). Allotype (♀): same data as holotype, but with red “ALLOTYPE” label, (CSU).



Figs. 1-7. *Augyles benjamini* sp. nov., holotype: 1- pronotum and elytra, dorsal view; 2- left mandible, labrum, clypeus and scape of antennae, dorsal view; 3- spiculum gastrale, dorsal view; 4- aedeagus, dorsal view; 5- the same lateral view; 6- tegmen, dorsal view; 7- penis, dorsal view. Fig. 8: Shape of elytral pattern of *Augyles rangoonensis*, holotype. Figs. 1, 2, 8 are not to scale.

Description. Holotype male: Total length 2.70 mm (to apex of labrum); elytra 1.60 mm long, 1.05 mm wide across shoulders. Ground colour brown, elytra with beige pattern as in Fig. 1. Pronotum dark brown with a diffuse rusty red spot in the center of the posterior margin; clypeus rusty red; legs pale brown, protibia with a faint dark brown outer line. Ventral surface brown, abdomen uniformly pale brown without spots. Visible part of labrum (Fig. 2) 3.8 times wider than high, trapezoidal, lateral angles rounded, anterior angles emarginate, middle part serrate; finely punctate; setae short, adjacent, with intermixed thin, long erect setae. Mandibles (Fig. 2) relatively robust, pointed, slightly curved, outer arch visibly bent roughly at middle; inner edge with two large teeth; lateral surface large with a row of comb of spines. Prostheca without notch, series of teeth at interior side sparse. Antennae 11 segmented with 7 segmented apical club. Scape triangular, slightly longer than length of pedicel and flagellomeres combined; dense, short, pale setae intermixed with long setae. Clypeus (Fig. 2) without pair of anterior horns, anterior margin shallowly emarginated; anterolateral angle well developed, with cutout for scape of antennae on the lateral margins; punctation as on labrum; with dense, short, pale setae. Head finely punctate; setae dense, short apart from long erect setae above eyes. Pronotum wider than long, (ratio 1.65: 1), as wide as base of elytra; pronotal base completely rimmed; sparsely punctate, approximately as wide as 0.5 times eye width; setae of pronotum sparse yellowish, short and recumbent, several long setae project laterally near the anterior angles. Scutellum pointed, triangular, anterior margin straight. Elytra with shallow indicated longitudinal furrows, visible when wet; scutellar depressions absent, humeral depressions shallow, extending obliquely towards suture at one quarter of elytron. Surface of elytra densely and roughly punctate (punctures slightly larger than eye facets); setae golden, shiny, semi-erect, without admixed longer hairs; epipleura without epipleural ridges. Ventral surface relatively densely and coarsely punctate; setae adjacent, short. Metasternum with a post-mesocoxal ridge; mesoventrite neither spinose nor tuberculate in front of each mesocoxa. Post-metacoxal line present. Stridulatory arch marked with not very prominent striae. Protibia with 10 stout spines along the lateral margin and two spines at inner apical angle, mesotibia with nine weak and metatibia with uncertain number of thin spines. Spiculum gastrale (Fig. 3) 0.45 mm long, V-shaped, arms narrow, firmly connected apically. Aedeagus (Figs. 4-7) elongate, 0.75 mm long, well sclerotized; parameres partly sclerotized; pronouncedly elongate, fused together, clearly bent sideways from the longitudinal axis, connected with phallobasis by membrane. Median lobe without processus accessorius. Supporting sheath very short, bordered posteriorly.

Female. Allotype: Total length 2.75 mm (to apex of labrum); elytra 1.65 mm long, 1.15 mm wide across shoulders. Externally similar to male.

Differential diagnosis. This species is similar to *A. rangoonensis* and has the same number of antennal segments, presence of post-mesocoxal ridge, absence of epipleural ridge, absence of clypeal horns. Both species are also similar in size and have similar distribution (both only in Myanmar). A partially similar structure of male genitalia is known in *A. rangoonensis* Skalický, 2004. *A. benjamini* sp. nov. can be separated from this species by a combination of the following characters: ground colour (light brown with brown pattern in *A. rangoonensis*),

different elytral pattern (compare Figs. 1 and 8), the pubescence of the elytra are not shiny in *A. rangoonensis*, shape of the visible part of the labrum (almost square in *A. rangoonensis*), without cutout for scape of antennae on the lateral margins of clypeus and in the morphology of the male genitalia (see figs. 4-7; and figs. 9-11 in Skalický (2004)).

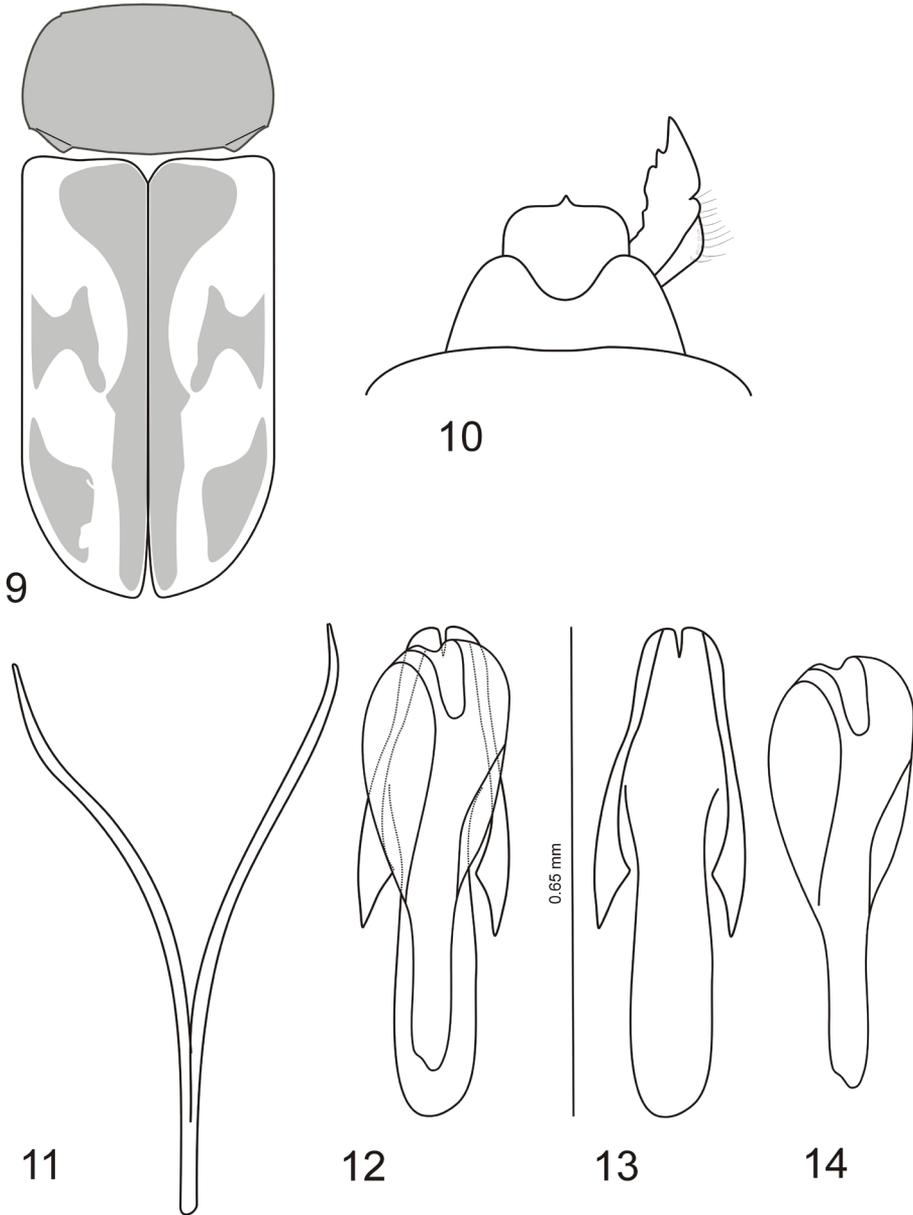
Etymology. Dedicated to my grandson Benjamin Skalický.

Augyles christofferi sp. nov.

(Figs. 9-14)

Type material. Holotype (♂): “SW Myanmar [Myanmar] Nyaungdon [Ayayarwady division]; Garden of Green Land hotel; near Hlaing riv. 18.-23.XI.2024 Dan. Walter lgt” // “HOLOTYPE AUGYLES christofferi Skal. det. Skalický 2025” [red label], “collection S. Skalický (CSU) Czech Republic” [yellow label], (CSU). Allotype (♀): same data as holotype, but with red “ALLOTYPE” label, (CSU). Paratypes: (1 ♂, 2 ♀♀): same data as holotype, but with red “PARATYPE” labels, (CSU).

Description. Holotype male: Total length 4.20 mm (to apex of labrum); elytra 2.55 mm long, 1.45 mm wide across shoulders. Ground colour pale brown, elytra and pronotum with diffuse ochre pattern as in Fig. 9; protibia with a faint dark brown outer line. Ventral surface pale brown. Visible part of labrum (Fig. 10), about 1.25 times wider than long; anterolateral angle widely curved; anterior margin with acute apex in the middle part; surface finely punctate (punctures approximately as large as 0.3 times eye facets); setae mainly in the anterior part, fine, adjacent, intermixed with longer erect setae. Mandibles (Fig. 10) relatively robust, pointed, slightly curved, dorsal subapical tooth well developed; inner edge with three large teeth; lateral surface large with a row of comb of spines. Prosthema without notch, series of teeth at interior side sparse. Antennae 11 segmented with 7 segmented apical club; Scape triangular, short, setae short, adjacent, with intermixed thin, long erect setae; scape about 1/2 length of pedicel and flagellomeres combined. Clypeus (Fig. 10) trapezoidal, without pair of anterior horns, anterior margin widely emarginated, anterolateral angle well developed; punctation as on labrum, with with dense, pale pubescence. Head finely punctate; setae dense, short apart from long erect setae above eyes. Pronotum wider than long, (ratio 1.65: 1), as wide as base of elytra; pronotal base completely rimmed; sparsely punctate, approximately as large as 0.5 times eye facets; setae of pronotum yellowish, short and recumbent, several long setae project laterally near the anterior angles. Scutellum pointed, triangular, twice as long as wide, front margin straight, longitudinally curved. Elytra without longitudinal furrows; scutellar depressions shallow, humeral depressions deep at the base, then shallow, extending obliquely towards suture at one quarter of elytron. Surface of elytra densely punctate as in pronotum, without larger punctures; setae whitish, semi-erect, without admixed longer hairs; epipleura without epipleural ridges. Ventral surface is relatively sparsely and finely punctate; setae sparse, adjacent, short. Metasternum with a post-mesocoxal ridge; mesoventrite with three small teeth and one larger (towards the axis) spine in front of each mesocoxa. Post-metacoxal line present. Stridulatory arch marked with not very prominent striae. Protibia with 10 stout spines along the lateral margin and two spines at inner apical angle, mesotibia and metatibia with nine weak thin spines. Spiculum gastrale (Fig. 11) 0.80 mm long, V-shaped, arms narrow, firmly connected apically, widely open. Aedeagus



Figs. 9-14. *Augyles christofferi* sp. nov., holotype: 9- pronotum and elytra, dorsal view; 10- left mandible, labrum and clypeus, dorsal view; 11- spiculum gastrale, dorsal view; 12- aedeagus, dorsal view; 13- tegmen, dorsal view; 14- penis, dorsal view.

(Figs. 12-14) elongate, 0.65 mm long, well sclerotized; flaps of parameres long, apex rounded, slightly separated and fused with phallobase; supporting sheath with border posteriorly. Penis without processus; anterior part with short processus bent towards the base.

Female. Allotype: Total length 3.68 mm (to apex of labrum); elytra 2.25 mm long, 1.35 mm wide across shoulders. Elytra and pronotum without pattern Externally similar to male.

Variability. One female specimen has an almost imperceptible post-metacoxal ridge on the abdomen and could therefore be misassigned to the genus *Heterocerus*.

Differential diagnosis. Due to the shape of the aedeagus and other characters such as the absence of epiplural ridge, 11-segmented antennae (except in *H. mus* Charpentier, 1965 where there are 10-segmented), metasternum with post-mesocoxal ridge in *A. christofferi* sp. nov. can be classified this in the *Alluaudi* group. This group, however, contains species of the genus *Heterocerus* (easily distinguished from the genus *Augyles* by the absence of a post-metacoxal ridge in *Heterocerus*). A similar structure of male genitalia and overall appearance is known in *H. harteni* Mascagni, 2009 described and known only from the United Arabian Emirates. *A. christofferi* sp. nov. can be separated from this species by a combination of the following characters: different genus, shape of labrum (without acute apex in the middle part of the anterior margin in *H. harteni*), without elytral pattern in *H. harteni* and in the morphology of the male genitalia. Compare Figs. 12-14 and Figs. 1-3 in Mascagni (2009).

Etymology. This species is named in honour of Christoffer Fägerström (MZLU).

FAUNISTIC DATA OF MYANMAR HETERO CERIDAE AND THEIR FURTHER DISTRIBUTION

Augyles anulatus vendulae Skalický, 2000

Material examined: Myanmar: 1 ex.: “MYANMAR, Rakhine State GWA Basecamp, BBC Expedition N17°31'20” E94°43'41” 14.-22.II.2013, Dr. R W Piper coll. Malaise trap” // “BMNH{E} 2014-37 Dr. R. W. Piper” // “BMNH(E) 1516613”, (NHML); 1 ex.: “MYANMAR, Rakhine State GWA Basecamp, BBC Expedition N17°31'20” E94°43'41” 14.-22.II.2013, Dr. R W Piper coll. Malaise trap” // “BMNH{E} 2014-37 Dr. R. W. Piper // BMNH(E) 1516612”, (NHML); 1 ex.: “Myanmar [Myanmar] RAKHAI [Rakhine] NE”, (CSU); Vietnam: 2 exs.: “VIETNAM, S (Cat Tien) 120 km NNE Ho Chi Minh, Cat Tien Nat. Park, 03. - 15.VII.1995 leg. A. Napolov”, (CSU).

Distribution. Originally described from Thailand (Skalický 2000b), first record for Myanmar (Rakhine State) and Vietnam.

Augyles atratus (Grouvelle, 1896)

Material examined: Myanmar: 1 ex.: “Myanmar, Daik-U [Bago Region], Ngwe Taung Thu Guest House, 17°48'40.57” N; 96°39'58.67” E // “At night at lights outside guest house wall, 17-20.i.2019, Ralf Britz leg. BMNH(E) 2019-75”, (NHML).

Distribution. Originally described from Myanmar (Grouvelle 1896a): with a record “Birmanie (Shwegoo, Myeen Kyan)” [most probably Shwebo, which is a town in Kachin State. Myeen Kyan (also spelled as Myin Kyan) is a small locality in Rakhine State], with other distribution in Bangladesh (Skalický & Jäch 2024). First record for Bago Region of Myanmar.

Augyles bellus (Grouvelle, 1911)

Distribution. Originally described from India (Grouvelle 1911) with other distribution in Bangladesh (Skalický & Jäch 2024), Myanmar [with a record “Burma”, but without detailed locality data], Nepal, Sri Lanka (Mascagni & Sforzi 1999).

Augyles benjamini sp. nov.

Distribution. Myanmar (Ayayarwady Region).

Augyles christofferi sp. nov.

Distribution. Myanmar (Ayayarwady Region).

Augyles feae (Grouvelle, 1896)

Material examined: Myanmar: 1 ex: “BURMA, Mandalay reg. 21°09' N 94°53' , 80m Bagan environ, X.2014 Fouqué René leg.”, (LMA).

Distribution. Originally described from Myanmar (Grouvelle 1896a) with a record “Birmanie (Katha, Myen-Kyan, Senmigion)” [Katha is a town in the Sagaing Region, Myen-Kyan (also spelled as Myin Kyan) is a small locality in Rakhine State, I couldn't identify Senmigion], (Mascagni 1991) with a record “Burma, Mycenkyen” [I couldn't identify Mycenkyen. This is most likely “Myitkyina,” a city in Kachin State.] and “Burma, Yenang Young” [Yenangaung town sometimes written as Yenang Young, is in the Magway Region], Yangon Region (Skalický 2004), with other distribution in Bangladesh, India, Nepal, Philippines, Sri Lanka (Skalický & Jäch 2024).

Augyles grohnanni (Mascagni, 1987)

Material examined: Myanmar: 1 ex.: “BURMA - Rangoon Taukkyan [Myanmar, Rangoon, now officially called Yangon is in the Yangon Region] XII.1996 Klícha M. Lgt.”, (CSU); 1 ex.: “Burma, Mandalay region Bagan env. alt 80 m 21°09'N 94°53'E 10.-14. + 22.-24.x.2014 lgt. Fouqué René”, (NHMP).

Distribution. Originally described from Myanmar (Mascagni 1987) with a record “Burma (central) Mandalay” [Myanmar, Mandalay Region], Myanmar Kachin State and Mandalay Region (Skalický 2000a) with other distribution in India (Skalický 2001). First record for the Yangon Region of Myanmar.

Augyles indicus (Motschulsky, 1858)

Material examined: Myanmar: 1 ex.: “Barma Mandalay, 23.1.1972 lamp domes lgt. Jindra Dostal” (CSU); 2 ex.: “BURMA Rangoon [Rangoon, now officially called Yangon is city in Yangon Region] Lamp domes 30.1.1972 lgt. J.Dostal”, (CSU).

Distribution. Originally described from India (Motschulsky 1858) with other distribution in Myanmar (Mascagni 1991) with a record “Burma, Kathà” [Myanmar, Sagaing Region] and “Burma, Mycenkyen“ [most probably probably Myitkyina, the capital of Kachin State]. New for Yangon and Mandalay Region, Pakistan (Mascagni 2016).

Augyles luciae (Mascagni, 1993)

Material examined: Cambodia: 5 ex.: “Cambodia Siem Reap town area 4.1.1998 // N13°21'17.8" E103°51'18.6" light trap” (NHMB); 102 ex.: “NW Cambodia Siem Reap 7.-11. XI. 2002; light trap P. Kocarek [Kočárek] leg.”, (CSU); India: 1 ex.: “NE INDIA Arunachal Pr. Etalin vicinity, 700m 28°36'56" N 95°53'21"E, 12 - 25.v.2012 O. Šauša leg. BMNH(E) 2016-44”, (NHML); Malaysia: 3 ex.: “MALAYSIA W. Kelantan 30 km NW of Gua Musang, Ulu Lalat Mt.800 - 1000m” // “KAMPONG SUNGAI OM 21.vi.-14.vii.2010 Petr Čechovský leg.”, (NMW); 1 ex.: “W-MALAYSIA: E. Taiping, 500-800m V.-VI.1968 leg. H. KNORR” (SMNS); Myanmar: 10 ex.: “TENASSERIM [Tenasserim is currently Tanintharyi Region], Birmania [Myanmar] coll. J.V.Helfer National Museum Prague”, (9 exs. NHMP, 1 ex. CSU); Vietnam: 19 ex.: “S VIETNAM, 1-15.v.1994 Nam Cat Tien N.P. 11°25'22"N 107°25'44"E 119m, P. Pacholátko lgt.”, (18 ex. NHMP, 1 ex. CSU); 120 ex.: “S VIETNAM, Đông Nai prov., Nam Cat Tien nat. Park, 1.-15.v.1994, P. Pacholátko leg.”, (NHMP); 38 ex.: S VIETNAM, 11.25N 107.26E Nam Cat Tien - Nat. Park 24.-27.v.1996 Pacholátko & Dembický leg.”, (36 ex. NHMB, 2 ex. CSU); 1 ex.: “N VIET NAM (Tonkin) HA NOI (city) 4. - 5. 5. 1990 P. Pacholátko leg.”, (NHMB); 2 ex.: “N VIET NAM (Tonkin) HA NOI (city) 4. - 5. 5. 1990 Vít Kubáň leg.”, (NHMB); 1 ex.: “Vietnam Hanoi 21.5.-11.6.1986 Jan Horák lgt.”, (NHMB); 3 ex.: “VIETNAM N. Cuc Phuong 2. - 11.V.91, Strnad Jan lgt.”, (NHMB); 28 ex.: “VIETNAM: Dong Nai Prov. Vinh Cuu Dist. Tri An Lake 21.viii.2005, blue light at water edge coll. D.J.Mann” // “OUMNH-2006-075 D.J.Mann coll. Vietnam Oxford University Museum of Natural History”, (OUMNH); 14 ex.: “VIETNAM: Ben Cat Dist. Binh Duon N11°13'29" E106°35'53", 20m alt. 19.viii.2005, stream near paddy filed blue light, coll. D.J.Mann” // “OUMNH-2006-075 D.J.Mann colln. Vietnam Oxford University Museum of Natural History”, (OUMNH); 1 ex.: “Vietnam mer. 84 Wüing Tau frühbauer lgt.”, (NHMP); 2 ex.: “VIETNAM, S (Cat Tien) 120 km NNE Ho Chi Minh, Cat Tien Nat. Park, 03. - 15.VII.1995 leg. A. Napolov”, (CSU); 1 ex.: VIETNAM, Hue, at light, Thua Thien Hue Reg. near Perfume River 11.iii.2016 Skalický leg”, (CSU).

Distribution. Originally described from Thailand (Mascagni 1993a) with other distribution in China (Jäch, Li, Zhang & Gao 2012), Laos (Skalický 2000b). First records for Cambodia, India, Malaysia, Myanmar (Tanintharyi Region) and Vietnam.

Augyles manfredjaechi (Mascagni, 1995)

Material examined: Myanmar: 1 ex.: “BURMA Rangoon [Rangoon, now officially called Yangon is city in the Yangon Region] Lamp domes 30.1.1972 lgt. J.Dostal” // “*Augyles manfredjaechi* (Masc.) det. A. Mascagni 1997”, (CSU).

Distribution. Originally described from Nepal (Mascagni 1995b) with other distribution in Bangladesh (Skalický & Jäch 2024), China including Hong Kong (Mascagni 1995a), (Skalický 2012), India (Mascagni & Sforzi 1999), Myanmar (Kachin State) (Skalický

2000a), Pakistan (Skalický 2005), Vietnam (Mascagni 2003). First record for the Yangon Region of Myanmar.

Augyles myanmarus Skalický, 2000

Distribution. Originally described and known only in Myanmar (Sagaing Region) (Skalický 2000a).

Augyles rangoonensis Skalický, 2004

Distribution. Originally described and known only in Myanmar (Yangon Region) (Skalický 2004).

Augyles saano (Mascagni, 1995)

Distribution. Originally described from Nepal (Mascagni 1995b) with other distribution in India (Mascagni 2016), Myanmar (Sagaing Region) (Skalický 2004).

Augyles sagaingensis Skalický, 2004

Distribution. Originally described and known only in Myanmar (Sagaing Region) (Skalický 2004).

Augyles schillhammeri Skalický, 2000

Material examined: Myanmar: 1 ex.: “MYANMAR (160) Yangon highland Lodge, Pyay Road 7.5 miles, [Yangon Region] at light, 21-23.11.2004 leg. Shavardo & Schillhammer”, (NMW), 1 ex.: “MYANMAR: Kachin State Indawgyi Lake, Lonton vill. 25°05.85’N 96°17.28’E 20.-25.5.1999, ca. 250m // lake shore leg. Schillhammer & Schuh (50)”, (NMW).

Distribution. Originally described and known only in Myanmar. Sagaing Region (Skalický 2000a). New record for the Yangon Region and Kachin State of Myanmar.

Augyles suturalis (Grouvelle, 1896)

Distribution. Originally described from Myanmar (Grouvelle 1896a) with a record “Birmanie (Katha, Senmigion)” [Katha is town in Sagaing Region. I couldn’t identify Senmigion], “Mandalay (Burma centr.)” [Mandalay Region, Myanmar] (MASCAGNI 1988), “Rangoon” [Rangoon, now officially called Yangon is in Yangon Region] (Mascagni & Sforzi 1999) with other distribution in India (Skalický 2004).

Augyles weigeli Skalický, 2003

Material examined: Cambodia: 5 ex.: “Cambodia Siem Reap town area 4.1.1998” // “N13°21’17.8” E103°51’18.6” light trap”, (3 ex. NHMB, 2 ex. CSU); India: 4 ex.: “NE INDIA, Meghalaya; SW of Cherrapunjee 25°13-15’N 91°40’E; 900m; 11-12.v.2004; L. Dembický leg.”, (3 ex. NHMB, 1 ex. CSU), 1 ex.: “India, Assam state (2) Kohora (= Kaziranga village) Green Red hotel (light), 160m 26°35’N93°26’E, 16-18.iv.2008 Fikáček, Podskalská, Šípek lgt.”, (NHMP), 4 ex.: “S-INDIA Kerala state 28.II.1994 Munnar env. 10°05’N77°04’E Palni hills ca. 1000 m trodder from mund near stream”, (CSU), 1 ex.: “NE INDIA, MEGHALAYA 8 km N of SHILLONG; 25°38’ N, 91°54’ E; ~ 1200m L. Dembický leg.; 7.9.v.2004”, (CSU); Myanmar: 1 ex.: “BURMA Rangoon Lamp domes 30.1.1972 lgt. J.Dostál” [Rangoon, now officially called Yangon is city in Yangon Region], (CSU); 1 ex.: “Barma Mandalay [Mandalay Region], 30.1.1972 lamp domes lgt. Jindra Dostál” // “Augyles (Littorimus) manfredjaechi (Masc.) det. A.Mascagni 1989”, (CSU).

Distribution. Originally described from Nepal (Skalický 2003) with other distribution in Bangladesh (Skalický & Jäch 2024). First record for Cambodia, India and Myanmar (Mandalay and Yangon Region).

Heterocerus birmanicus Grouvelle, 1896

Distribution. Originally described and known only in Myanmar (Grouvelle 1896a) with a record “Birmanic (Rangoon)” [Myanmar, Rangoon, now officially called Yangon is city in Yangon Region].

Heterocerus dubius Fabricius, 1798

(Figs. 15-18)

Heterocerus maindroni Grouvelle, 1903 **syn. nov.**

Material examined: Myanmar: 2 ex.: “SW Myarmar [Myanmar] Nyaungdon [Ayayarwady division]; Garden of Green Land hotel; near Hlaing riv. 18.-23.XI.2024 Dan. Walter lgt”, (CSU); Sri Lanka: 1 ex.: “Kalkudah [Sri Lanka] Ceylon 26.I. 1961 H. Hippa” // “H. dubius F. Det. Charpentier 1973” [overprint of the original label], (MZLU), 1 ex.: “Kalkudah [Sri Lanka] Ceylon 25.I. 1961 H. Hippa”, (MZLU), 9 exs.: “Kalkudah [Sri Lanka] Ceylon 25.I. 1961 H. Hippa” // “dubius F. Det. Charpentier 1973” [overprint of the Charpentier original label], (2 ex. CSU, 7 ex. MZLU).

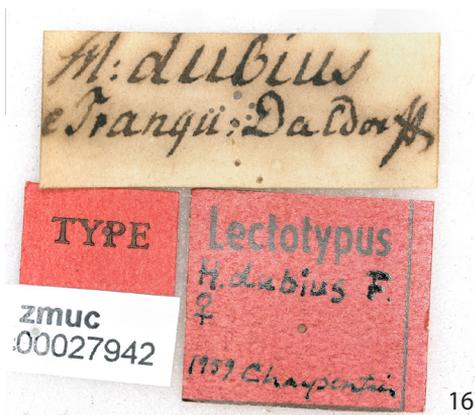
Distribution. Originally described from India (Tamil Nadu) (Fabricius 1789) with other distribution in Bangladesh (Skalický 2005), India, Pakistan (Zubair, Imran & Naemuddin 2015), Sri Lanka (Mascagni & Sforzi 1999). First record for Ayayarwady division of Myanmar.

Discussion. The commonly referred to year of description of *H. dubius* is 1801 (Mascagni 2016, Sazhnev 2024). However that is incorrect and it should be 1798. According to Zimsen (1964: 82, No. 1166) the species was described in Fabricius (1798: 75, No. 2) and he just repeated the description (and cited himself there) in Fabricius (1801: 356, No. 2).

The original description (Fabricius 1798) states “Habitat Tranquebariae [Tranquebar, Tamil Nadu, India] Muf. [Museum] D. de Scheftedt [collection owner]” is partly different from the original label. See Fig. 16. Zimsen (1964) specifies the count for one specimen

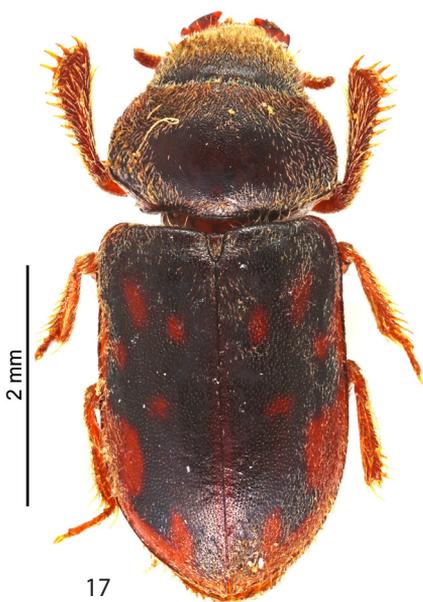


15



16

Figs. 15-16. *Heterocerus dubius* lectotype: 15- habitus in dorsal view; 16- labels.



17



18

Figs. 17-18: *Heterocerus maindroni* lectotype: 17- habitus in dorsal view; 18- labels.

and its deposit in the Copenhagen collection. This specimen was labeled as Lectotypus by R. Charpentier in 1959, however I am not aware of any work dealing with this designation. Currently, this specimen is deposited in the Fabricius collection in Kiel (ZMUC).

After examining *H. maindroni* Grouvelle, 1903 by Mascagni & Sforzi (1999) confirmed this species as distinct, with possible synonymization with *H. dubius* after examining the type material. This is also supported by the fact that Charpentier also designated this species with a second label “*H. dubius*”. Sazhnev (2020) lists *H. maindroni* as a synonym, but this has not been formally established anywhere. I have re-examined the (male) lectotype of *H. maindroni* (Figs. 17-18) deposited in the MNHN, and compared it with the determined characters of the (female) lectotype of *H. dubius* (Fig. 15) deposited in the ZMUC (M. Kuhlmann, pers. comm.). Both specimens were examined earlier by R. Charpentier and he concluded that they are identical species. This research has not been published. The specimens of *H. dubius* deposited in the MZLU that were determined by Charpentier are identical. These findings revealed that these two taxa are the same species and *H. maindroni* must be considered a junior synonym of *H. dubius*.

H. dubius is similar to *H. lorenzevae* Mascagni, 1993 from which it differs in the presence of a pair of clypeal horns in male specimens and in the morphology of the structure of the male genitalia.

Heterocerus ernsti Skalický, 2006

Distribution. Originally described and known only in Myanmar (Shan State and Mandalay Region) (Skalický 2006).

Heterocerus inornatus Skalický, 2004

Distribution. Originally described and known only in Myanmar (Sagaing Region) (Skalický 2004).

Heterocerus lorenzevae Mascagni, 1993

Material examined: Cambodia: 3 ex.: “CAMBODIA SW, 20 km SE KOH KONG, Talai river 11°34'N, 103°07'E 17.x. - 15.xi.2011, 50 - 300 m Z. Linek lgt.”, (CSU), 18 ex.: “NW Cambodia Siem Reap 7.-11.XI.2002; light trap P. Kočárek leg.”, (CSU); China: 1 ex.: “CHINA:S-Yünnan (Klshuangbanna) 20km NW Jinghong Man Dian N22°07'80" E100°40'05" A. Weigel, 23.V.2008, LF”, (CSG), 7 ex.: “CHINA:S-Yünnan (Xlshuangbanna) 20km NW Jinghong Man Dian N22°07' E100°40' A. Weigel, 26.V.2008, LF, 730m”, (CSG); Indonesia: 1 ex.: “INDONESIA, Maluku ARU Isl., WOKAN Is. Wakua env., 35 m 2.-7.x.2015 Z. Linek lgt.”, (CSU); 4 ex.: “INDONESIA, Maluku SERAM, 10 km E Wahai AIR BESAR 10.x.-5.xi.2015 Z. Linek lgt.”, (CSU); 2 ex.: “INDONESIA S.Sulawesi, 10km W Mamasa (Nepe) 950m 119.20.32E/2.56.13S, 2-30.iv.2015, Z. Linek lgt.”; (CSU); Malaysia: 2 ex.: “MALAYSIA W., KELANTAN 90 km N of Gua Musang Mt. Basor, 1700m. 1.iii. - 21.iii. 2015, Petr Čechovský lgt.”, (LMA); 2 ex.: “MALAYSIA W, KELANTAN 70km NW of Gua Musang Mt. Chamah, 1900 m Kampong Penas, 17. iv.-9.v. 2014 Petr Čechovský lgt.”, (CSU); 3 ex.: “MALAYSIA KELATAN 30 km S of Jeli Gunugu Jual, 800m Kampong Timor 22.iv. - 18.v. 2019 Petr Čechovský lgt.”, (CSU); Myanmar: 1 ex.: “Myanmar, Daik-U, [Bago Region] Ngwe Taung Thu Guest House, 17°48'40.57"N; 96°39'58.67"E” // “At night at lights outside guest house wall, 17-20.i.2019, Ralf Britz leg. BMNH(E) 2019-75”, (NHML).

Distribution. Originally described from Thailand (Mascagni 1993a) with other distribution in Bangladesh (Skalický & Jäch 2024), India (Mascagni & Sforzi 1999), Laos (Skalický 2000b), Myanmar (Kachin State) (Skalický 2000a), Nepal (Skalický 2003), Pakistan and Vietnam (Mascagni 2003). First records for Cambodia, China, Indonesia (Maluku, Sulawesi), Malaysia, and Bago Region in Myanmar.

Heterocerus nepalensis Mascagni, 1993

Distribution. Originally described from Nepal (Mascagni 1993b) with other distribution in China (including Hong Kong) (Mascagni 1995a), (Skalický 2001), India (Mascagni & Sforzi 1999), Indonesia (Sumatra) (Skalický 2010b), Kyrgyzstan (Skalický 2010a), Laos (Skalický 2000b), Myanmar (Kachin State, Sagaing Region) (Skalický 2000a, 2004), (Kayin State. location indicated: “SE Dawna,” SE Dawna is a mountain range that passes through Kayin State) (Mascagni & Sforzi 1999), Nepal (Mascagni 1995a), Pakistan (Skalický 2021), Thailand (Mascagni 1995a), Vietnam (Mascagni 1995a).

Heterocerus philippensis javanicus (Grouvelle, 1896)

Material examined: Myanmar: 2 ex.: “MYANMAR (160) Yangon highland Lodge, Pyay Road 7.5 miles, [Yangon Region] at light, 21-23.11.2004 leg. Shavardo & Schillhammer”, (NMW); 1 ex.: “MYANMAR: Sagaing Div. [Region] Alaungdaw Kalthapa NP 5.7.2003 leg. D. Boukal (MBS112)” // “Pagoda Stream near Log Cabin Camp slightly downstream of loc MBS 107”, (NMW); 2 ex.: “MYANMAR: Kachin State Indawgyi Lake, Lonton vill. 25°05.85'N 96°17.28'E 20.-25.5.1999, ca. 250m” // “lake shore leg. Schillhammer & Schuh (50)”, (NMW).

Distribution. Originally described from Java (Grouvelle 1896b) with other distribution in Bangladesh (Skalický & Jäch 2024), India (Mascagni & Skalický 2007), Laos (Skalický 2000b), Nepal (Skalický 2003), Indonesia (Java, Philippines, Sulawesi, Sumatra) (Grouvelle 1896b), (Skalický & Jäch 2024), Thailand (Mascagni 1995a). First record for Myanmar (Kachin State, Yangon and Sagaing Region).

Heterocerus philippensis philippensis Grouvelle, 1896

Material examined: Laos: 6 ex.: “Laos: N-Vientiane Prov. Vang-Vieng, 300m N 18°55'23”, E 102°26'55” 10-15.v. & 01-06.vi.2001 Jiří Kolibáč leg.”, (3 ex. NMB, 3 ex.” CSU); 7 ex.: “Laos-C: Kham Mouan pr.; Ban Khoun Ngeun; ~200m; 18°07'N 104°29'E; Pacholátko leg. 19.-31.v.2001”, (5 ex. NMB, 2 ex.” CSU); Malaysia: 2 ex. “MALAYSIA W., KELANTAN 90 km N of Gua Musang Mt. Basor, 1700m. 1.iii. - 21.iii. 2015, Petr Čechovský lgt.”, (LMA); Thailand: 2 ex.: “Thailand Chaiyaphum Tad Tone NP 4.12.2001, R. Grimm” (NMS), 3 ex.: “Thailand Kamphaeng Phet 28.-29.11.2001 R. Grimm”, (NMS); 2 ex.: “THAILAND, N Khon Kaen at lucern 21.II.1981 leg. S. Saowakakontha”, (CSU).

Distribution. Originally described from Philippines (Grouvelle 1896b) with other distribution in Myanmar (Kachin State) (Mascagni & Skalický 2007), Saudi Arabia (Skalický 2014), Indonesia (Mascagni & Skalický 2006). First record for Laos, Malaysia and Thailand.

Heterocerus virgatus Mamitza, 1933

Material examined: Iran: 17 ex.: “S Iran Minab 1973 19.-20.V.” // “Loc. no. 203 Exp. Nat. Mus. Praha”, (NHMP), 1 ex.: “IRAN, Khorasan Razi prov., 17.-18.V.2006 7 km E Bazangan (stream valley; at light) 36°16,9'N 60°31,3'E; 740 m Jiří Hájek & Pavel Chvojka lgt.”, (NHMP); Malaysia: 1 ex.: “MALAYSIA W. Kelantan 30 km NW of Gua Musang, Ulu Lalat Mt.800 - 1000m” // “KAMPONG SUNGAI OM 21.vi.-14.vii.2010 Petr Čechovský leg.”, (NMW); 2 ex.: “MALAYSIA W, Kelantan, Kg. Tunku Mt. Noring Timur, 1200m 150 km S of JELI 21.ii. - 14.iii.2013 P. Čechovský lgt.”, (CSG); 367 ex.: “MALAYSIA W, KELANTAN 90km N of Gua Musang Gunung Basor, 1700m Kampong Kuburg Datu 10. iv.-5.v. 2016 Petr Čechovský lgt.”; (CSU); 54 ex.: “MALAYSIA W, KELANTAN 70km NW of Gua Musang Mt. Chamah, 1900m Kampong Penas 17. iv.- 9.v. 2014 Petr Čechovský lgt.”, (CSU); 74 ex.: “MALAYSIA W., 2013 KELANTAN, Kg. Tunku Mt. Noring Timur, 1200m 150 km S of JELI, 21.ii. - 14.iii. P. Čechovský lgt.”, (CSU); 288 ex.: “MALAYSIA W. JOHOR 20 km S of MERSING Jamalung, 30m 1.-14.2.2003 Čechovský Petr lgt.”, (CSU); Myanmar: 12 ex.: “SW Myarmar [Myanmar] Nyaungdon; [Ayeyarwady Region] Garden of Green Land hotel; near Hlaing riv. 18.-23.XI.2024 Dan. Walter lgt””, (CSU); Vietnam: 1 ex.: “VIETNAM: Lam Dong Prov. Bao Loe dist., Bao Loc Pass 11°25'30" E107°41'17"N, 800m blue light trap nxt to River coll.D.J.Mann” // “OUMNH-2006- 075 D.J.Mann colln. Vietnam Oxford University Museum of Natural History”, (OUMNH); 13 ex.: “VIETNAM: Dong Nai Prov. Vinh Cuu Dist. Tri An Lake 21.viii.2005, blue light at water edge coll. D.J.Mann” // “OUMNH-2006-075 D.J.Mann coll. Vietnam Oxford University Museum of Natural History”, (OUMNH); West Papua: 4 ex.: “INDONESIA, West Papua Arfak Mts. 1300M Manokwari, 19.-30.x.2010 J. Milko lgt.”, (3 ex. LMA, 1 ex. CSU).

Distribution. Originally described with a record “Bengal Sunderbans” (MAMITZA 1933). This record refers to southern Bangladesh and the state of West Bengal in eastern India. Other distribution for Bangladesh in (Skalický & Jäch 2024), Cambodia, China, India (Skalický 2004) Java (Skalický 2010b), Kirgystan (Skalický 2010a), Laos (Skalický 2004), Myanmar (Chin and Kachin States Sagaing Region,) (Skalický 2000a, 2004), Nepal (Mascagni 1995b), Pakistan (Skalický 2005), Thailand (Litovkin & Sazhnev 2018). First record for Iran, Malaysia, Ayeyarwady Region of Myanmar, Indonesia (West Papua) and Vietnam.

Micilus minutissimus (Sahlberg, 1900)

Material examined: Bhutan: 1 ex. “BHUTAN Thrumshingla Mongar City 20.-27.VI.2010 leg. Li Jingke”, (NMW); China: 8 ex.: “Nantung Joe China V,9-II,1923” // “Coll. E. C. VanDyke” // “Van Dyke Collection”, (7 ex. MZLU, 1 ex. CSU); 1 ex. “Shanghai China V.13.[19]23” // “ECV an Dyke Collector” // “Van Dyke Collection”; (MZLU); Myanmar: 1 ex.: “MYANMAR: Sagaing Division [Region] Alaungdaw Katthapa NP 22°19.113'N 94°28.518'E 3.-13.5.2003, ca 350m , light, leg. Boukal & Schillhammer (101)”, (NMW); Nepal: 1 ex.: “NEPAL C. Prov. Narayani Saurahra, Rapti River 27°34'51"N 84°29'30"E 14.-15. 07. 2001, LF, 180 m riverside leg. A.Kopetz”, (NME).

Distribution. Originally described from Turkmenistan (Sahlberg 1900) with other distribution in Bangladesh (Skalický & Jäch 2024), India (Mascagni & Sforzi 1999), Kazakhstan (Sazhnev 2020), Tajikistan (Mascagni 2016), Uzbekistan (MASCAGNI 2016), Vietnam (Mascagni 2016). First record for China, Myanmar (Sagaing Region), Nepal.

CHECKLIST OF THE HETERO CERIDAE OF MYANMAR

Myanmar (formerly known as Birmanie or Burma) is divided into seven States (Chin, Kachin, Kayah, Kayin, Mon, Rakhine and Shan), seven Regions (formerly Divisions) (Ayeyarwady, Bago, Magway, Mandalay, Sagaing, Tanintharyi and Yangon) and Naypyidaw

Union Territory. Currently, the largest distribution of Heteroceridae is in Sagaing (12 species), and Yangon (10 species) Regions and Kachin (11 species) State, while no records are known in Kayah, Mon and Union Territory Naypyidaw. New records are underlined.

***Augyles* Schiödte, 1866**

anulatus vendulae Skalický, 2000

atratus (Grouvelle, 1896)

bellus (Grouvelle, 1911)

benjamini sp. nov.

christofferi sp. nov.

feae (Grouvelle, 1896)

grohmanni (Mascagni, 1987)

indicus (Motschulsky, 1858)

luciae (Mascagni, 1993)

manfredjaechi (Mascagni, 1995)

myanmarus Skalický, 2000

rangoonensis Skalický, 2004

saano (Mascagni, 1995)

sagaingensis Skalický, 2004

schillhammeri Skalický, 2000

suturalis (Grouvelle, 1896)

weigeli Skalický, 2003

Rakhine State

Kachin and Rakhine States, Bago Region

uncertain distribution (see above)

Ayayarwady Region

Ayayarwady Region

Kachin and Rakhine State, Magway,

Mandalay, Sagaing and Yangon Regions

Kachin State, Mandalay and Yangon Regions

Kachin State, Mandalay, Sagaing and Yangon

Regions

Tanintharyi Region

Kachin State, Yangon Region

Sagaing Region

Yangon Region

Sagaing Region

Sagaing Region

Kachin State, Sagaing and Yangon Regions

Mandalay, Sagaing and Yangon Regions

Mandalay and Yangon Regions

***Heterocerus* Fabricius, 1792**

birmanicus Grouvelle, 1896

dubius Fabricius, 1798

ernsti Skalický, 2006

inornatus Skalický, 2004

lorenzevae MASCAGNI, 1993

nepalensis MASCAGNI, 1993

philippensis javanicus (Grouvelle, 1896)

philippensis philippensis Grouvelle, 1896

virgatus Mamitza, 1933

Yangon Region

Ayayarwady Region

Shan State, Mandalay Region

Sagaing Region

Kachin State, Bago Region

Kachin and Kayin States, Sagaing Region

Kachin State, Sagaing and Yangon Regions

Kachin State

Chin and Kachin States, Ayayarwady and

Sagaing Regions

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