

Revision of Asian Heteroceridae described by MAMITZA (1933), with descriptions of four new species from Laos and Myanmar (Coleoptera: Heteroceridae)

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Abstract

Seven species of Heteroceridae described by MAMITZA (1933) are revised and the following new synonymies are proposed: *Augyles suturalis* (GROUVELLE, 1896) = *A. castaneus* (MAMITZA, 1933) syn.n.; *A. feae* (GROUVELLE, 1896) = *A. variabilis* (MAMITZA, 1933) syn.n.; *A. laticollis* (MAMITZA, 1933) = *A. martensi* (MASCAGNI, 1990) syn.n.; *Heterocerus magnus* MAMITZA, 1933 = *H. jelineki* SKALICKÝ, 1998 syn.n.; *H. virgatus* MAMITZA, 1933 = *H. fulvipes* MILLER, 1995 syn.n. Lectotypes of *H. castaneus*, *H. exiguis*, *H. laticollis*, *H. variabilis*, *H. magnus*, and *H. virgatus*, selected by Charpentier in 1971 are here formally designated to ensure taxonomic stability. A new combination, *A. exiguis* (MAMITZA, 1933) comb.n., is proposed. Male genitalia of *A. exiguis* (MAMITZA, 1933) and *A. suturalis* (GROUVELLE, 1896) are illustrated for the first time. Four new species, *Augyles kubani* sp.n. (Cambodia and Laos), *A. rangoonensis* sp.n. (Myanmar), *A. sagaingensis* sp.n. (Myanmar), and *H. inornatus* sp.n. (Myanmar) are described and illustrated. *Augyles feae* is reported from the Philippines for the first time, and *Heterocerus virgatus* is reported from Cambodia for the first time.

Key words: Coleoptera, taxonomy, Heteroceridae, *Augyles*, *Heterocerus*, new species, new synonymies, new combinations, new records, Palearctic and Oriental Regions.

Introduction

MAMITZA (1933) described seven species of *Heterocerus* FABRICIUS, 1792 from Asia: *H. castaneus*, *H. exiguis*, *H. fornicatus*, *H. laticollis*, *H. variabilis*, *H. magnus*, and *H. virgatus*. Some of these species (*H. fornicatus*, *H. suturalis*, and *H. laticollis*) were later transferred to *Augyles* SCHIÖDTE, 1866 by MASCAGNI & SFORZI (1999). Through the kindness of M. Kerley (NHML) I was able to study the type specimens of these seven species and the results of this study are presented herein.

Judging from the identification labels, Mamitz's types were examined twice by Charpentier, but the results of his studies have never been published and therefore his lectotype designations cannot be regarded as valid. In 1971 Charpentier selected male syntypes of *Augyles castaneus*, *A. exiguis*, *A. laticollis*, *A. variabilis*, *Heterocerus magnus*, and *H. virgatus*, added lectotype labels, and identified the specimens of *Augyles variabilis* (MAMITZA, 1933) as *A. feae* (GROUVELLE, 1896). In 1983 Charpentier identified the specimens of *A. castaneus* (MAMITZA, 1933) as *A. suturalis* (GROUVELLE, 1896). MASCAGNI & SFORZI (1999) in their updated checklist of Indian Heteroceridae included the type localities of *Augyles castaneus* (MAMITZA, 1933) and *A. exiguis* (MAMITZA, 1933) as referring to *A. gracilis* (MOTSCHULSKY, 1858), which implicates the synonymy of the two species with *A. gracilis*. However, these synonymies have never been formally established and they do not agree with the results of my revision.

Four new species of *Heteroceridae* (*Augyles kubani* sp.n. from Cambodia and Laos, *Augyles rangoonensis* sp.n., *Augyles sagaingensis* sp.n. and *Heterocerus inornatus* sp.n. all from Myanmar) are described below, together with distributional notes on the other species collected.

Augyles feae is reported from the Philippines for the first time, and *Heterocerus virgatus* is reported from Cambodia for the first time.

The following acronyms are used in the text to indicate the depository of material examined:

CSH	Coll. A. Skale, Hof/Saale, Germany
CSU	Coll. S. Skalicky, Ústí nad Orlicí, Czech Republic
NMP	Národní Museum v Praze, Czech Republic
NMB	Naturhistorisches Museum Basel, Switzerland
NHML	The Natural History Museum, London, England
NMW	Naturhistorisches Museum Wien, Austria
MZMB	Moravské Zemské muzeum v Brně, Czech Republic
MNS	Staatliches Museum für Naturkunde, Germany
NME	Naturkundemuseum Erfurt, Germany
HMB	Hungarian Museum of Natural History, Budapest, Hungary

Separate labels are indicated by double slashes.

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I wish to express my thanks to Mr. V. Kubáň (MZMB), Mr. M. Kerley (NHML), Dr. W. Schawaller (MNS), Dr. O. Merkl (HMB) and Dr. M.A. Jäch (NMW) for the loan of material. I am obliged also to Dr. P. Kočárník (Ostrava, Czech Republic) who presented me his Heteroceridae, to Dr. J. Jelínek (NMP) for his comments on the manuscript and Mr. S. Schott (Ohio, USA) for reading the English text.

Augyles exiguus (MAMITZA, 1933) comb.n.

Heterocerus (Littorimus) exiguus MAMITZA 1933: 90.

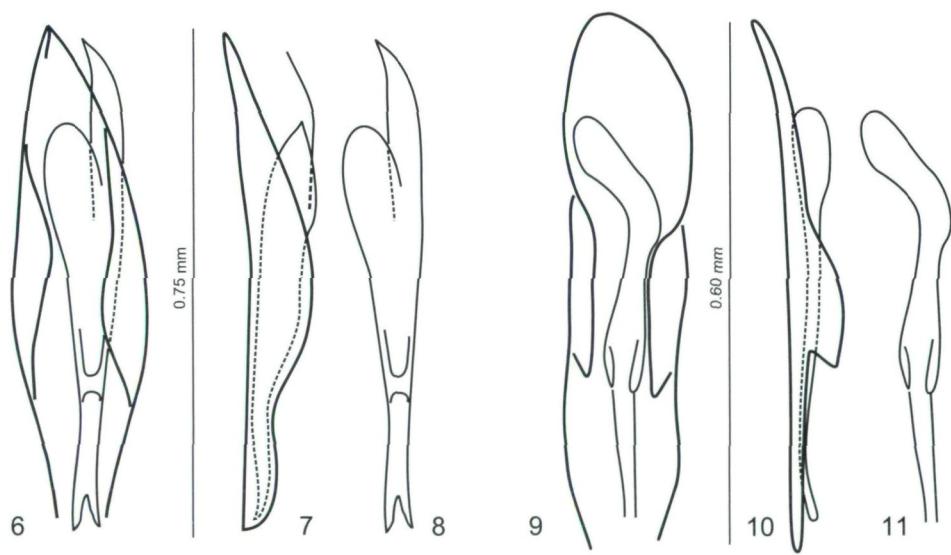
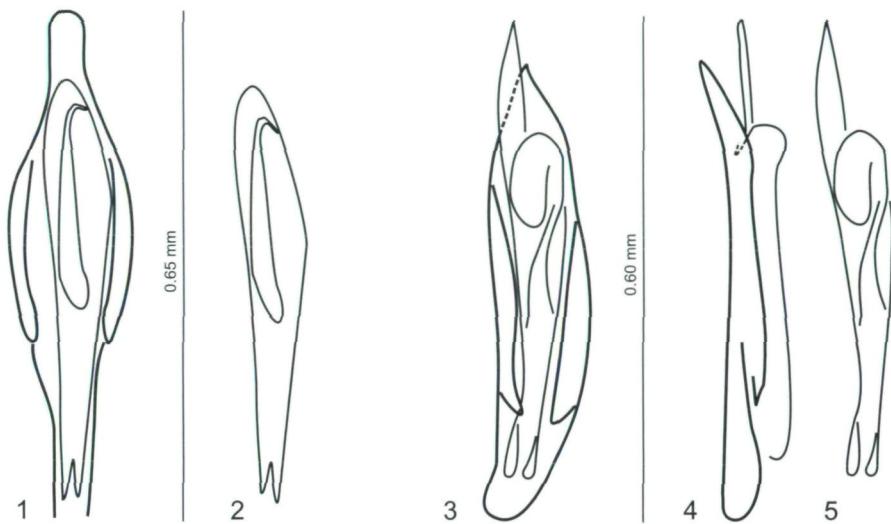
Heterocerus (Littorimus) exiguus MASCAGNI & SFORZI 1999: 115.

TYPE MATERIAL EXAMINED: *Augyles exiguus* (MAMITZA, 1933) **Lectotype** (♂), here designated, labelled: "Lectotypus *Heterocerus exiguus* Mam ♂ design Charpentier - 71" [red label, hand written except "design"] // "SYNTYPE" [small oval label with blue margin] // "TYPE" [small oval label with red margin] // "TYPUS" [brown-red small label] // "Sarda, Bengal. F. W. C. [F. W. Champion]" // "H. G. [Messrs H. G.] Champion Coll. B.M. 1953-156." // "exiguus miki.... [undetermined, hand written] det. Mamitza" (NHML). Aedeagus and spiculum gastrale are mounted on slides in Canada Balsam. **Paratype**: 1 specimen (♀) labelled: "SYNTYPE" [small round label with blue margin] // "PARATYPE" [small round label with yellow margin] // "COTYPUS" [brown-red small label] // "Sarda, Bengal. F. W. C." // "H. G. Champion Coll. B.M. 1953-156." (NHML).

DISTRIBUTION: India (Bengal).

DISCUSSION: Epipleural ridges absent. Mesosternum not spinose, only finely tuberculate in front of mesocoxa. Aedeagus (Figs. 1-2) 0.65 mm long, ferruginous; parameres fused; median lobe with retractable processus accessorius; supporting sheath without border posteriorly. Originally described from four specimens.

As mentioned above, MASCAGNI & SFORZI (1999) apparently considered *Augyles exiguus* and *A. castaneus* conspecific with *A. gracilis*, but the relevant synonymy has not been formally established. I was not able to examine the type specimen(s) of *A. gracilis* and the species remains unknown to me. However, as it results from my revision of the type specimens, *A. castaneus* and *A. exiguus* are two distinct species, so that the problem of their relationship to *A. gracilis* remains open. Therefore I prefer to keep *A. exiguus* as a distinct species until the true identity of *A. gracilis* can be elucidated.



Figs. 1 - 2: *Augyles exiguus*, lectotype: 1) aedeagus, dorsal view; 2) penis, dorsal view.

Figs. 3 - 5: *Augyles suturalis*, lectotype: 3) aedeagus, dorsal view; 4) same, lateral view; 5) penis, dorsal view.

Figs. 6 - 8: *Augyles kubani* sp.n., holotype: 6) aedeagus, dorsal view; 7) same, lateral view; 8) penis, dorsal view.

Figs. 9 - 11: *Augyles rangoonensis* sp.n. holotype: 9) aedeagus, dorsal view; 10) same, lateral view; 11) penis, dorsal view.

Augyles feae (GROUVELLE, 1896)

Heterocerus (Littorimus) feae GROUVELLE: 1896: 51.

Heterocerus (Littorimus) variabilis MAMITZA 1933: 85 syn.n.

Heterocerus feae; MASCAGNI 1991: 19 (unjustified emendation).

Augyles feae; MASCAGNI & SFORZI 1999: 112.

Augyles variabilis; MASCAGNI & SFORZI 1999: 116.

MATERIAL EXAMINED:

INDIA: **Lectotype** (σ) of *Augyles variabilis*, here designated, labelled: "Lectotypus *Heterocerus variabilis* Mam. ♂ design Charpentier – 71" [Red label, hand written except "design"] // " σ " // "SYNTYPE" [small oval label with blue margin] // "TYPE" [small oval label with red margin] // "TYPUS" [brown-red small label] // "Tanakpur, Kumaon, U. P. India. H. G. C." // "variabilis m. [hand written] det. Mamitza" // "..." [illegible, hand written label] // "*Heterocerus feae* Grouv [hand written] det. Charpentier 1971" (NHML). Aedeagus and spiculum gastrale are mounted on slides in Canada Balsam. **Paratypes**: 1 specimen (σ) labelled: "SYNTYPE" [small oval label with blue margin] // "PARATYPE" [small oval label with yellow margin] // "COTYPUS" [brown-red small label] // "West Bhatkot, Kumaon, 4000 May '20 HGC." // " σ " // "H. G. Champion Coll. B.M. 1953-156." // "*Heterocerus feae* Gr. = *variabilis* ST det. Charpentier 1984" (NHML); 2 specimens ($\sigma\sigma$) labelled: "SYNTYPE" [small oval label with blue margin] // "PARATYPE" [small oval label with yellow margin] // "COTYPUS" [brown-red small label] // "Tanakpur, Kumaon. U. P. India. H. G. C." // " σ " // "H. G. Champion Coll. B.M. 1953-156." // "*Heterocerus feae* Gr. = *variabilis* ST det. Charpentier 1984" (NHML); 1 specimen (σ) labelled: "SYNTYPE" [small oval label with blue margin] // "PARATYPE" [small oval label with yellow margin] // "COTYPUS" [brown-red small label] // "West Bhatkot, Kumaon, 4000 May '20 HGC." // "3392" // " σ " // "H. G. Champion Coll. B.M. 1953-156." // "*Heterocerus feae* Gr. = *variabilis* ST det. Charpentier 1984" (NHML); 1 specimen (σ) labelled: "SYNTYPE" [small oval label with blue margin] // "PARATYPE" [small oval label with yellow margin] // "COTYPUS" [brown-red small label] // "West Bhatkot, Kumaon, 4000 May '20 HGC." // " σ " // "H. G. Champion Coll. B.M. 1953-156." // "BM 62" [hand written] // "*Heterocerus feae* Gr. = *variabilis* ST det. Charpentier 1984" (NHML); 4 specimens ($\sigma\sigma$, all mounted on one pin) labelled: "SYNTYPE" [small oval label with blue margin] // "PARATYPE" [small oval label with yellow margin] // "COTYPUS" [brown-red small label] // "Ranikhet, Kumaon, India. H. G. C." // " φ " // "H. G. Champion Coll. B.M. 1953-156." // "*Heterocerus feae* Gr. = *variabilis* ST det. Charpentier 1984" (NHML).

MYANMAR: 1 σ labelled: "Barma [Burma = Myanmar] Pogu Rangoon lgt. J. Dostál" (CSU).

PHILIPPINES: 3 specimens (σ , $\varphi\varphi$) labelled: "PHILIP [Philippines] 13 km W of Aparri 21.v. 1997 Jaroš lgt" // "night trap [= light trap]" (CSU).

DISTRIBUTION: India, Myanmar, Nepal, Sri Lanka (MASCAGNI & SFORZI 1999, MASCAGNI 2003). Reported from the Philippines for the first time.

DISCUSSION: Redescription and figures of habitus and aedeagus of *A. feae* (lectotype previously labelled by Charpentier in MHNG) were published by MASCAGNI (1991). After the examination of the type specimens of *A. variabilis* with the redescription of *A. feae* by MASCAGNI (1991) and additional material of the latter species I concluded that *H. variabilis* is a junior synonym of *A. feae*. This synonymy was already established, but not published, by Charpentier in 1971 as indicated by his identification labels attached to the type specimens of *A. variabilis* in NHML.

Further species similar to *A. feae* are *A. grohmanni* (MASCAGNI, 1987) from Myanmar and Nepal, *A. mekongensis* SKALICKÝ, 2000a from Laos and the recently described *A. hartmanni* MASCAGNI, 2003 from Nepal – compare MASCAGNI (1987: Figs. 1-5, *A. grohmanni*), MASCAGNI (1991: Figs. 1-2, *A. feae*), MASCAGNI (2003: Figs. 5-6, *A. hartmanni*), and SKALICKÝ (2000a: Figs. 8-10, *A. mekongensis*).

Note: The original spelling of the species name *feae* must be preserved under provisions of ICZN (1999, Article 31.1.3).

Augyles fornicateus (MAMITZA, 1933)

Heterocerus (Littorimus) fornicateus MAMITZA 1933: 88.

Augyles fornicateus; MASCAGNI & SFORZI 1999: 115.

TYPE MATERIAL EXAMINED: *Augyles fornicateus* (MAMITZA, 1933): Syntypes: 1 specimen (♀) labelled: "SYNTYPE" [small oval label with blue margin] // "TYPE" [small oval label with red margin] // "TYPE" [brown-red small label] // "Sunderbans, Bengal. F. W. C." // "H. G. Champion Coll. B.M. 1953-156." // "fornicateus m. [hand written] det. Mamitza" // "BM 62" // "*Heterocerus nigricornis* Motsch. [hand written] det. Charpentier 1983" (NHML); 1 specimen (♀) labelled: "SYNTYPE" [small oval label with blue margin] // "PARATYPE" [small oval label with red margin] // "COTYPUS" [brown-red small label] // "Sunderbans, Bengal. F. W. C." // "H. G. Champion Coll. B.M. 1953-156." (NHML).

DISTRIBUTION: India (Bengal).

DISCUSSION: *Augyles fornicateus* was described from three female specimens, two of which were examined by myself, sex of the third specimen determined by M. Kerley (in litt.). The species is externally similar to *A. siyo* (MASCAGNI, 1995), of which I have examined the holotype ♂ labelled: "Nepal: Sauhara, 20/25-V-1992, I. Jenis leg." (NMW), and 151 specimens ♂♂, ♀♀ labelled: "NEPAL, Prov. Narayani Sauraha, Rapti River Ufer, 180m NN, 27°34'80"N, 84°29'49"E LF, 18. IV. 2000", light trap, collected by A. Weigel and F. Wolf (NME, CSU).

Augyles siyo is very probably a junior synonym of *A. fornicateus*, but the synonymy cannot be established with certainty without the knowledge of the male genitalia of *A. fornicateus*.

Augyles suturalis (GROUVELLE, 1896)

Heterocerus (Littorimus) suturalis GROUVELLE 1896a: 52.

Heterocerus (Littorimus) castaneus MAMITZA 1933: 91 syn.n.

Heterocerus suturalis; MASCAGNI 1991: 22.

Augyles suturalis; MASCAGNI & SFORZI 1999: 113.

MATERIAL EXAMINED:

I N D I A: Lectotype (♂) of *Augyles castaneus*, here designated, labelled: "SYNTYPE" [small oval label with blue margin] // "TYPE" [small oval label with red margin] // "Haldwani Divn. Kuamon, U. P. Jan '23. H.G.C." // "AT LIGHT" // "4033" // "castaneus M. [hand written] det. Mamitza" // "TYPUS" [small brown-red label] // "H. G. [Messrs H. G.] Champion Coll. B.M. 1953-156." // "MB 7" [hand written] // label with drawing of mesocoxa // "Lectotypus *Heterocerus castaneus* Mam. ♂ design. Charpentier 1971" [red label, hand written except "design"] // "*Heterocerus suturalis* G. [hand written] det. Charpentier 1983" (NHML). Aedeagus and spiculum gastrale are mounted on slides in Canada Balsam. Paralectotypes: 1 specimen (♂) labelled: "Syntype" [small round label with blue margin] // "AT LIGHT" // "Haldwani Divn. Kuamon, U. P. Jan '23. H.G.C." // "H. G. Champion Coll. B.M. 1953-156." // "*Heterocerus suturalis* G. [hand written] det. Charpentier 1983" (NHML); 6 specimens (1 ♂, 5 ♀♀, all specimens mounted on one pin and glued on three labels) labelled: "Syntype" [small round label with blue margin] // "Paratype" [small round label with yellow margin] // "Haldwani Divn. Kuamon, India. H.G.Champion." // "COTYPUS" [brown-red small label] // "Syntype *castaneus* Mam." [hand written] // "MB 8" [hand written] (NHML).

DISTRIBUTION: India, Myanmar (MAMITZA 1933, MASCAGNI 1995).

DISCUSSION: Epipleural ridges absent. Mesosternum not spinose, only finely tuberculate in front of mesocoxae. Aedeagus (Figs. 3-5) 0.65 mm long, ferruginous; parameres fused, apex pointed; median lobe with internal sac, left side with long pointed projecting processus accessorius; supporting sheath bordered posteriorly.

Augyles suturalis was redescribed by MASCAGNI (1991) based on the female lectotype and paralectotype designated by Charpentier (MHNG). His redescription corresponds with the characters of *A. castaneus*, which must be considered a junior synonym of *A. suturalis*. This synonymy conforms with the unpublished observations of Charpentier, who identified the syntypes of *A. castaneus* in NHML as *A. suturalis* in 1983.

MASCAGNI & SFORZI (1999) apparently wrongly treated two distinct species, *A. castaneus* and *A. exiguous*, as conspecific with *A. gracilis* (see above).

Four specimens deposited in my collection and identified as *A. suturalis* by Mascagni in 1995 agree with the latter species in general appearance, but differ from it in the shape of the male genitalia. They are described below as *A. rangoonensis* sp.n.

Augyles laticollis (MAMITZA, 1933)

Heterocerus (Littorimus) laticollis MAMITZA 1933: 87.

Heterocerus (Littorimus) martensi MASCAGNI 1990: 107 **syn.n.**

Augyles laticollis; MASCAGNI & SFORZI 1999: 115.

Augyles martensi; SKALICKÝ 2004: 243.

TYPE MATERIAL EXAMINED: *Augyles laticollis* (MAMITZA, 1933) **Lectotype** (♂), here designated, labelled: "Lectotypus *Heterocerus laticollis* Mam. ♂ design Charpentier - 71" [red label, hand written except "design"] // "SYNTYPE" [small oval label with blue margin] // "PARATYPE" [small oval label with yellow margin] // "COTYPUS" [brown-red small label] // "W. Almora, Kumaon. India. H. G. C." // "H. G. Champion Coll. B.M. 1953-156." // "laticollis m. [hand written] det. Mamitza" // "BM 47" (NHML). Aedeagus and spiculum gastrale are mounted on slides in Canada Balsam. **Paralectotypes**: 1 specimen (♂) labelled: "SYNTYPE" [small oval label with blue margin] // "Ranikhet Div. Kumaon, U. P. Apr. '20. HGC" // "H. G. Champion Coll. B.M. 1953-156." // "Heterocerus laticollis Mam det. Charpentier 1971" // "BM II" (NHML). Aedeagus and spiculum gastrale are mounted on slides in Canada Balsam; 1 specimen (♀) labelled: "SYNTYPE" [small oval label with blue margin] // "TYPE" [small oval label with red margin] // "W. Almora, Kumaon. India. H. G. C." // "H. G. Champion Coll. B.M. 1953-156." // "Heterocerus laticollis Mam det. Charpentier 1971" // "BM 48" (NHML); 1 specimen (♀) labelled: "SYNTYPE" [small oval label with blue margin] // "PARATYPE" [small oval label with yellow margin] // "COTYPUS" [brown-red small label] // "C. Almora Dn. Kuamon U. P. Jan '20 HGC." // "H. G. Champion Coll. B.M. 1953-156." // "Heterocerus laticollis Mam det. Charpentier 1971" // "BM 53" (NHML); 1 specimen (♀) labelled: "SYNTYPE" [small oval label with blue margin] // "3308" // "C. Almora, Dn. Kumaon. U.P. Jan '20 HGC." // "H. G. Champion Coll. B.M. 1953-156." // "Heterocerus laticollis Mam det. Charpentier 1971" // "BM 50" (NHML); 3 specimens (2 ♂♂, 1 ♀, all on one pin) labelled: "SYNTYPE" [small oval label with blue margin] // "C. Almora, Kumaon. India. H. G. C." // "H. G. Champion Coll. B.M. 1953-156." // "Heterocerus laticollis Mam det. Charpentier 1971" // "BM 49" (NHML).

ADDITIONAL MATERIAL EXAMINED:

NEPAL: **Holotype** (♂) of *A. martensi* labelled: "Nepal, Ilam Distr. Mai Khola Valley, 470m, on river bank between pebbles, 7.IV.1988, lgt. J. Martens & W. Schawaller" (MNS); 4 specimens (♂♂, ♀♀) labelled: "NEPAL, Prov. Narayani Sauraha, Rapti River Ufer, 180m NN, 27°34'80"N, 84°29'49"E LF, 18. IV. 2000", light trap, collected by A. Weigel and F. Wolf (CSU, NME) (SKALICKÝ 2004); 3 specimens labelled: "NEPAL, Narajani Prov., Sauraha Ufer, Rapti River, 180m, 27°34'80"N, 84°29'49"E, 18.iv.2000, leg. A. Skale LF" (2 exs. CSH, 1 ex. CSU); 2 specimens labelled: "W. Akmora Divn. Kumaon U.P. Nov. 1918, HGC" // "2536" // red label (NHML); 1 specimen labelled: "West Bhatkot, Kumaon, 4000' May' 20 HGC" // "3392" // red label (NHML).

DISTRIBUTION: India, Nepal (MAMITZA 1933, MASCAGNI 1990).

DISCUSSION: Revision of the type specimens and of additional material of *Augyles laticollis* and *A. martensi* revealed that *A. martensi* must be considered as junior synonym of *A. laticollis*.

Heterocerus magnus MAMITZA, 1933

Heterocerus magnus MAMITZA 1933: 83.

Heterocerus jelineki SKALICKÝ 1998: 7 **syn.n.**

TYPE MATERIAL EXAMINED: *Heterocerus magnus* MAMITZA, 1933 **Lectotype** (♂), here designated, labelled: "Lectotypus *Heterocerus magnus* Mam. ♂ design Charpentier - 71" [red label, hand written except "design"] // "SYNTYPE" [small oval label with blue margin] // "TYPE" [small oval label with yellow margin] // "TYPE" [brown-red small label] // "India: Punjab, Murree Hills Thobba." // "H. Roberts Coll B.M. 1926-395." // "H. G. Champion Coll. B.M. 1953-156." // "BM 62" // "magnus m. det Mamitza" (NHML); **Paralectotype**: 1 specimen (♀) labelled: "SYNTYPE" [small oval label with blue margin] // "PARATYPE" [small oval label with yellow margin] //

"COTYPUS" [brown-red small label] // "Haldwani Divn. Kuamon, India. H. G. C." // "♂" // "H. G. Champion Coll. B.M. 1953-156." (NHML).

ADDITIONAL MATERIAL EXAMINED:

IRAN: **Holotype** (♂) of *H. jelineki* labelled: "SE Iran: Sekand, 27 km ENE Sarbáz, 26°39'N, 61°15'E, 31-III-IV-1973" // "Loc. No. 144 exp. Nat. Mus. Praha" // "Holotype" [red label] // "Heterocerus jelineki Skal. Det. Skalický 1994" (NMP). **Allotype** (♀) of *H. jelineki*: same data as holotype but "Holotype" is replaced by "Allotype" (NMP). **Paratypes** of *H. jelineki*: 4 specimens (♂ ♂, ♀ ♀) labelled as holotype but "Holotype" is replaced by "Paratype" (CSU, NMP); 4 specimens (♂ ♂, ♀ ♀) labelled: "Iran: Ghasemabad, E Bampus, 11/12-IV-1973" // "Loc. No. 157 exp. Nat. Mus. Praha" // "Paratype" [red label] // "Heterocerus jelineki Skal. Det. Skalický 1994" (CSU, NMP); 1 specimen labelled: "Iran: 12 km NW Minab, 18/19-V-1973" // "Loc. No. 202 exp. Nat. Mus. Praha" // "Paratype" [red label] // "Heterocerus jelineki Skal. Det. Skalický 1994" (MNP); 3 specimens labelled: "Iran: Minab, 19/20-V-1973" // "Loc. No. 203 exp. Nat. Mus. Praha" // "Paratype" [red label] // "Heterocerus jelineki Skal. Det. Skalický 1994" (NMP).

OMAN: 6 specimens labelled: "OMAN: Hoti Höhlensyst. Fallah-Höhle 21.-27.I.2001, leg. Sattmann, Seemann, Finkes, Fischer Wadi S d. Höhleneingangs Umgebung v. oberird. Tümpel Becherfallen" (5 exs. NMW, 1 ex. CSU).

INDIA: 3 specimens labelled: "INDIA Kaeljnaho 5.11.1981 J. Seltek" (1 ex. CSU, 2 exs. in collection of Z. Vancí (Police nad Metuji, Czech Republic)).

DISTRIBUTION: India, Iran, Oman (MAMITZA 1933, SKALICKÝ 1998).

DISCUSSION: The original description of *H. magnus* was based on three syntypes, two of which are deposited in the NHML and were examined by me. The male syntype was "designated" as lectotype by Charpentier in 1971, but the male genitalia are lost. The external traits of *H. magnus* agree with those of *H. jelineki* described from Iran (SKALICKÝ 1998). The latter species is thus considered a junior synonym of *H. magnus*.

Heterocerus virgatus MAMITZA, 1933

Heterocerus virgatus MAMITZA 1933: 81.

Heterocerus fulvipes MILLER 1995: 41 syn.n.

TYPE MATERIAL EXAMINED: *Heterocerus virgatus* MAMITZA, 1933 **Lectotype** (♂), here designated, labelled: "Lectotypus *Heterocerus virgatus* Mam. ♂ design Charpentier – 71" [red label, hand written except "design"] // "SYNTYPE" [small oval label with blue margin] // "TYPE" [small oval label with red margin] "TYPE" [brown-red small label] // small label with "♂" // "Sunderbans, Bengal F. W. C." // "H. G. Champion Coll. B.M. 1953-156." // "BM 9" // "virgatus m. det Mamitza" (NHML). Aedeagus mounted on slides in Canada Balsam. **Paralectotype:** 1 specimen (♀) labelled: "SYNTYPE" [small oval label with blue margin] // "PARATYPE" [small oval label with yellow margin] "COTYPUS" [brown-red small label] // "♀" [very small label] // "Sunderbans, Bengal F. W. C." // "H. G. Champion Coll. B.M. 1953-156." (NHML).

ADDITIONAL MATERIAL EXAMINED:

CAMBODIA: 3 specimens (♂, ♀ ♀) labelled: "NW Cambodia Siem Reap 7.-11.XI.202; light trap P. Kočárek lgt." (♂ in collection of Dr. Kočárek (Ostrava, Czech Republic), ♂, ♀ CSU).

LAOS: 3 specimens labelled: "LAOS: N (Louangphrabang), 11-21.v.2002, 19°35'N 101°58'E, THONG KHAN, ~ 750m, Vít Kubáň leg." (NMB).

MYANMAR: 22 specimens (♂ ♂) labelled: "MYANMAR: Sagaing Division Alaungdaw Kathapa NP 22°19.113'N 94°28.518'E 3.-15.5.2003, ca. 350m, light, leg. Boukal & Schillhammer (101)" (21 exs. NMW, 1 ex. CSU); 1 specimen (♂) labelled: "MYANMAR: Sagaing Division Alaungdaw Kathapa NP 22°19.084'N 94°28.744'E 7.5.2003, ca. 360m leg. Boukal et al. (113)" (MNW); 154 specimens labelled: "Myanmar: Sagaing Division, Chatthin Wildlife Sanctuary, 23°32'05"N, 95°38'53"E, ca. 200m., 5-17.10.1998, light, leg. Schillhammer (1)" (NMW, CSU); 1 specimen labelled: "MYANMAR: Kachin State Indawgyi Lake, 7 km S Lonton vill. 25°05.85'N 96°17.28'E 20-25.5.1999, ca 250 m // lake shore leg. Schillhammer & Schuh (50)" (NMW); 4 specimens labelled: "MYANMAR: Kachin State Indawgyi Lake, 7 km S Lonton 25°02.42'N 96°16.52'E 21.5.1999, ca 250 m // at light leg. Schillhammer & Schuh (51 c)" (NMW); 1 specimen labelled: "MYANMAR: Kachin State Indawgyi Lake, 7 km S Lonton 25°02.42'N 96°16.52'E 22-25.5.1999, ca 250 m" // "rainwater potholes leg. Schillhammer & Schuh (51 f)" (NMW); 1 specimen labelled: "MYANMAR: Chin state S Tongzan 22.6.2000, 400 m leg. M.L. Jeng" (NMW); 1 specimen labelled: "MYANMAR: Kachin State Indawgyi Lake, 22.6.2000, 400 m leg. M.L. Jeng" (NMW); 1 specimen labelled: "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).
- CHINA: 1 specimen labelled: "CHINA: Yünnan, Xishuangbanna E Jinghong City 13.11.1999, ca. 500 m leg. Jäch, et al. (CWBS 382)" (NMW).
- INDIA: 32 specimens labelled: "India, Goa, Molem, 15-24.ii.1980, at light, Gy. Topál lgt" (HMB); 32 specimens labelled: "India, Orissa, Konarak, 25.xii.1966, No. 59, collected in lamp, Gy. Topál lgt" (HMB); 8 specimens labelled: "India, Karnataka, Shimoga Distr., Jog Falls, 500 m, 2-8.iii.1980, at light, Gy. Topál lgt" (HMB); 10 specimens labelled: "India, W. Bengal, Calcutta, 15-24.xi.1966, No. 1, 4, 12, at light, Gy. Topál lgt" (HMB); 3 specimens labelled: "India, W. Bengal, Calcutta, Russel Street, II floor, 9-10.vi.1980, at light, Gy. Topál lgt" (HMB); 1 specimen labelled: "India, W. Bengal, Naibani N. Salt Lake, 2.xii.1966, No. 20, trodden from mud, Gy. Topál lgt" (HMB); 1 specimen labelled: "India, W. Bengal, 24 Pargans Distr. S. Salt Lake, 17.i.1967, No. 153, at dusk, Gy. Topál lgt" (HMB); 1 specimen labelled: "India, W. Bengal, Kakdwip, 10.i.1980, at light, Gy. Topál lgt" (HMB); 4 specimens labelled: "INDIA: Rajasthan Bharatpur 11.8.1989 leg. A Riedel." (NMW).
- NEPAL: 1 specimen labelled: "NEPAL, Narajani Prov., Sauraha Ufer, Rapti River, 180m, 27°34'80"N, 84°29'49"E, 18.iv.2000, leg. A. Skale LF" (CSH).

DISTRIBUTION: China, India, Myanmar, Nepal, Laos. Reported from Cambodia for the first time.

DISCUSSION: *Heterocerus virgatus* was originally described after four syntypes from India (Bengal). I was able to examine the male lectotype and one paralectotype. Both external characters and the morphology of the male genitalia are the same as in *H. fulvipes* from Nepal. The latter species is therefore considered as junior synonym of *H. virgatus*. *Heterocerus nepalensis* MASCAGNI, 1993 from Nepal is apparently closely related to *H. virgatus*. It differs from the latter species especially in the absence of the pair of clypeal horns in males, which are present in *H. virgatus*.

Identification label is missing in the paralectotype of *H. virgatus* examined by me, only the locality label (same as in the lectotype) is present. It is nevertheless a male specimen of *H. virgatus*.

Augyles kubani sp.n.

TYPE MATERIAL: Holotype ♂: "LAOS: N (Louangphrabang), 11-21.v.2002, 19°35'N 101°58'E, THONG KHAN, ~ 750m, Vít Kubáň leg.". Allotype ♀: same data as holotype. Paratypes 175 specimens (3 ♂♂, 1 ♀) same data as holotype, 171 specimens (40 ♂♂, 70 ♀♀, 61 of undetermined sex): "NW Cambodia Siem Reap 7.-11.XI.202; light trap P. Kočárek lgt.". Holotype, allotype and one paratype (♂) from Laos in NMB; one paratype (♂) from Laos in CSU; two paratypes (♂, ♀) in MZMB; ten paratypes (4 ♂♂, 6 ♀♀) from Cambodia in collection of Dr. Kočárek, six paratypes (3 ♂♂, 3 ♀♀) from Cambodia in NHML, six paratypes (3 ♂♂, 3 ♀♀) from Cambodia in NMW and 149 paratypes (30 ♂♂, 58 ♀♀, 61 of undetermined sex) from Cambodia in CSU.

DESCRIPTION: Holotype ♂: Total length 2.85 mm (to apex of labrum); elytra 1.80 mm long, 1.15 mm wide across shoulders. Ground colour dark brown, elytra without pattern. Scutellum lighter in front portion. Antennae ferruginous, legs pale brown, tibiae darker. Ventral surface brown. Labrum rounded, with dense short setae. Mandibles strong, with acute apex, without lateral surface, dorsal subapical tooth well developed. Antennae 11-segmented, with 7-segmented club, antennomeres 1 and 2 with sparse long erect setae. Clypeus without a pair of anterior horns, anterior margin emarginate, finely granular, with dense, short, pale setae intermixed with long erect ones. Head finely granular, setae sparse, short, intermixed with long erect setae above eyes. Pronotum as wide as the base of elytra, pronotal base completely rimmed; finely granulate, setae sparse. Scutellum pointed, triangular. Elytra without longitudinal furrows, with scutellar and well developed humeral depressions. Surface of elytra finely granulate with intermixed punctures approximately as large as eye facets. Epipleural ridges present. Setae on elytra reddish, short, semierect, intermixed with longer erect ones. Ventral surface sparsely setose. Metasternum with post-mesocoxal ridge. Mesosternum neither spinose nor tuberculate in front of each mesocoxa. Post-metacoxal line present. Stridulatory arch marked, without striae.

Tibiae with dense long setae. Protibia with 10 stout spines, meso- and metatibiae with seven weak spines. Spiculum gastrale V-shaped, arms connected by membrane apically. Aedeagus (Figs. 6-8) 0.75 mm long, well sclerotized, parameres partly fused together, medium lobe without processus accessorius, penis with acute spine at left side.

Allotype ♀: Total length 3.25 mm (to apex of labrum); elytra 2.10 mm long, 1.30 mm wide across shoulders. Externally similar to male.

Variability: Ground colour light brown to black. Total length 1.80 - 3.00 mm (both sexes) one male specimen with indicated shallow longitudinal furrows. No substantial morphological variability observed in the type series.

- DIFFERENTIAL DIAGNOSIS: Similar to *A. manfredjaechi* (MASCAGNI, 1995). It differs from the latter species in the presence of epipleural ridges (absent in *A. manfredjaechi*), sparser and shorter setae of pronotum and elytra (dense and longer in *A. manfredjaechi*), different shape of spiculum gastrale (longer portion of arms fused posteriorly in *A. manfredjaechi*) and first of all in the morphology of male genitalia (compare Fig. 2 in MASCAGNI (1995) and Figs. 6-8 in this paper).

Five specimens of *H. nepalensis* MASCAGNI, 1993 were collected together with *A. kubani* sp.n. in Laos at the same locality; three specimens of *H. virgatus*, 21 specimens of *H. lorenzvae* MASCAGNI, 1993, 31 specimens of *A. anulatus anulatus* (MASCAGNI, 1991) and 168 specimens of *A. gabriellae* (MASCAGNI, 1993) were collected at the same locality in Cambodia.

ETYMOLOGY: Dedicated to V. Kubáň (MZMB) who collected part of the type series.

Augyles rangoonensis sp.n.

TYPE MATERIAL: Holotype ♂: "BARMA Rangoon Lamp domes 30.I.1972 lgt. J. Dostál" // "Littorimus suturalis Grouv. Det. A. Mascagni 95". Allotype ♀: same data as holotype. Paratypes 2 exs. (♂, ♀): male specimens with same data as holotype, female specimens labelled: "Barma, Pogu Rangoon lgt. J. Dostál" // "12.[19]71" (underside). Holotype, allotype and paratypes are deposited in CSU.

DESCRIPTION: Holotype ♂: Total length 2.25 mm (to apex of labrum); elytra 1.50 mm long, 0.95 mm wide across shoulders. Ground colour light brown; elytra with brown pattern. Labrum almost square, lateral margins slightly rounded; surface finely and densely granulate; setae short, semi-erect. Mandibles well developed, without dorsal subapical tooth. Antennae 11-segmented, with 7-segmented club, setae of antennae short, without longer setae on antennomeres 1 - 3. Clypeus without pair of anterior horns, anterior margin emarginate, setae and granules as on labrum. Head with short erect yellowish setae. Pronotum as wide as base of elytra, oblong, lateral margins slightly rounded; pronotal base completely rimmed, finely granulate, setae rare, short, longer setae absent. Scutellum triangular, pointed, twice as long as wide. Elytra without longitudinal furrows, with shallow humeral and scutellar depressions. Surface of elytra finely granulate with intermixed punctures approximately as large as eye facets; setae sparse, short, yellowish, erect, longer setae absent. Epipleural ridges absent. Ventral surface sparsely and finely granulate; setae sparse. Metasternum with post-mesocoxal ridge. Mesosternum with short rounded tubercle in front of each mesocoxa. Protibia with nine stout spines, spines on meso- and metatibia broken. Post-metacoxal line present. Stridulatory arch marked. Spiculum gastrale V-shaped, arms connected by membrane apically. Aedeagus well sclerotized, 0.60 mm long; without parameres, supporting sheath without border posteriorly; penis without internal sac and processus accessorius, shape as in Figs. 9-11.

Allotype ♀: Total length 2.60 mm (to apex of labrum); elytra 1.75 mm long, 1.10 mm wide across shoulders. Externally similar to male.

Variability: Length 1.8 - 2.6 mm. No substantial morphological variability observed in the type series.

DIFFERENTIAL DIAGNOSIS: Body shape places *A. rangoonensis* sp.n. near *A. manfredjaechi* (MASCAGNI, 1995). Both species differ in the ground colour and elytral pattern (head and elytra brown to black and elytra without pattern in *A. manfredjaechi*), shape of mandibles (with dorsal subapical tooth in *A. manfredjaechi*), sparse and short setae in *A. rangoonensis* sp.n. and in the morphology of male genitalia (Figs. 9-11; MASCAGNI 1995: Fig. 2).

DISTRIBUTION: So far known only from the type locality.

ETYMOLOGY: The name of the new species refers to its type locality.

Augyles sagaingensis sp.n.

TYPE MATERIAL: **Holotype** ♂: "MYANMAR: Sagaing Division Alaungdaw Katthapa NP 22°19.094'N 94°28.823'E 7.5.2003, ca.350m leg. Boukal et al. (112)". **Allotype** ♀: same data as holotype. **Paratypes** 11 exs. (7 ♂♂, 4 ♀♀): 4 exs. (3 ♂♂, 1 ♀) same data as holotype; 3 exs. (2 ♂♂, 1 ♀) "MYANMAR: Sagaing Division Alaungdaw Katthapa NP 22°19.094'N 94°28.823'E 9/10.5.2003, ca.350m leg. Boukal et al. (118)"; 2 exs. (♂♂) "MYANMAR: Sagaing Division Alaungdaw Katthapa NP 22°19.113'N 94°28.518'E 3. -15.5.2003, ca.350m, light, leg. Boukal & Schillhammer (101)"; 2 exs. (♀♀) "MYANMAR: Sagaing Division Alaungdaw Katthapa NP 22°19.084'N 94°28.744'E 7.5.2003, ca.360m leg. Boukal et al. (113)". Holotype, allotype and nine paratypes deposited in NMW, two paratypes (♂♂, same data as holotype) in CSU.

DESCRIPTION: Holotype ♂: Total length 4.50 mm (to apex of labrum); elytra 2.80 mm long, 1.75 mm wide across shoulders. Ground colour brown to black, mandibles, legs and abdomen dark brown. Elytra without colour pattern. Labrum almost square, anterior margin serrate, with dense short setae. Mandibles well developed, with acute apex, without dorsal subapical tooth. Antennae 11-segmented, with 7-segmented club, antennomeres 1 and 2 with sparse, long erect setae. Clypeus without anterior horns, anterior margin emarginate, finely granular, setae as on labrum. Pronotum slightly wider than base of elytra, sides clearly converging apically throughout their length, pronotal base completely rimmed, surface of pronotum finely granular, setae sparse erect yellowish. Scutellum pointed, triangular. Elytra without longitudinal furrows, with shallow humeral depressions, surface finely granulate with intermixed punctures approximately as large as eye facets. Epipleural ridges absent. Setae on elytra short, erected, yellowish. Ventral surface sparsely setose. Metasternum with post-mesocoxal ridge. Mesosternum with prominent spines in front of each mesocoxa. Post-metacoxal line present. Stridulatory arch marked with shallow striae. Protibia with 11 stout spines, mesotibiae with eight weak spines. Spines of metatibia weak, concealed by setae. Spiculum gastrale V-shaped, well sclerotized, arms connected apically. Aedeagus (Figs. 14-16) 0.95 mm long, well sclerotized, parameres deeply emarginate, penis without processus accessorius.

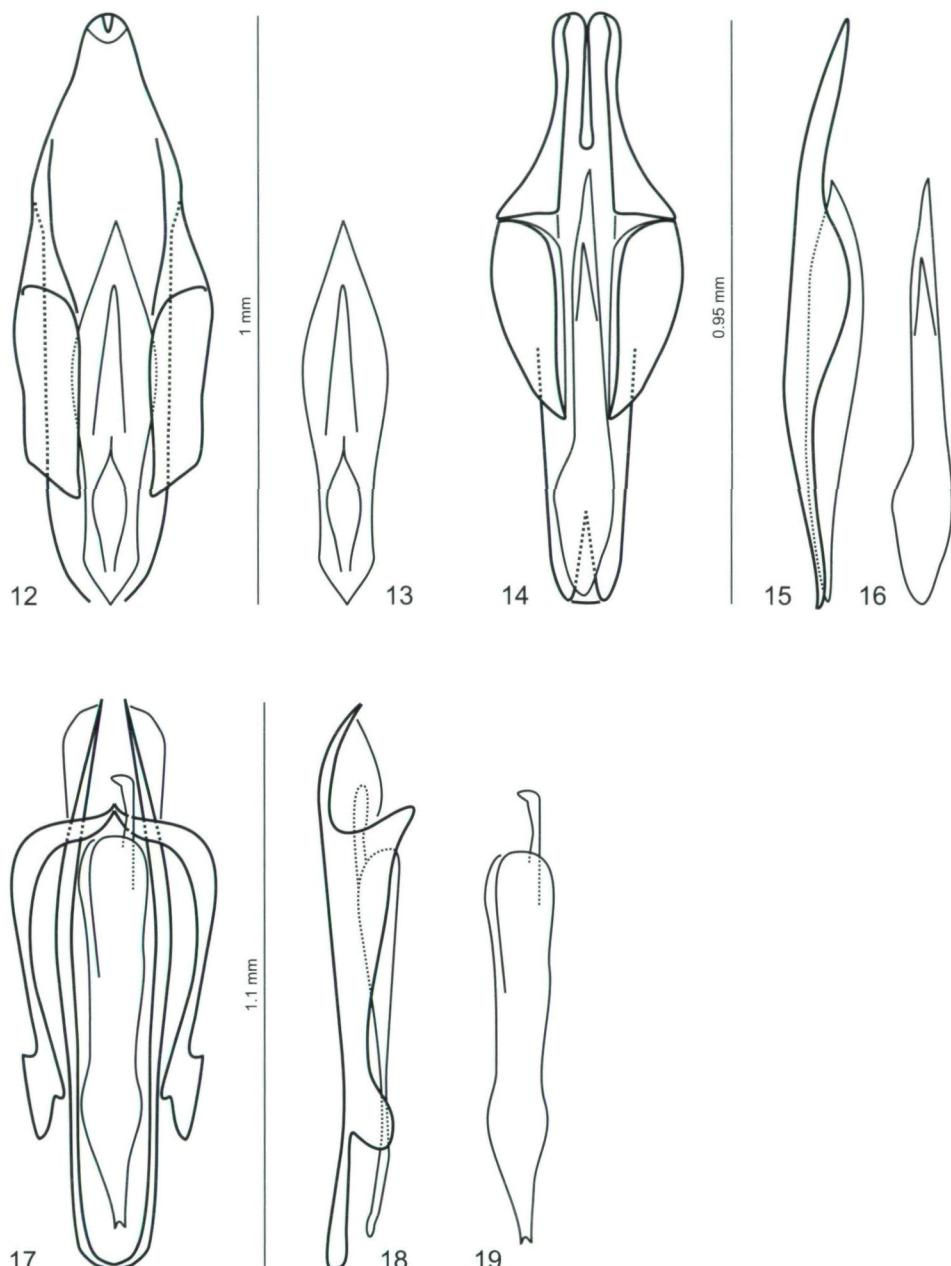
Allotype ♀: Total length 4.65 mm (to apex of labrum); elytra 3.20 mm long, 2.00 mm wide across shoulders. Externally similar to male.

Variability: Elytral longitudinal furrows are barely present in some paratypes, no other substantial morphological variability observed in the type series.

DIFFERENTIAL DIAGNOSIS: *Augyles sagaingensis* sp.n. is similar to *A. terzanii* (MASCAGNI, 1995) described from Nepal. The new species differs from *A. terzanii* by the male genitalia. Parameres deeply emarginate and laterally concave in *A. sagaingensis* sp.n. (Figs. 12-16; MASCAGNI 1995: Fig. 6).

DISTRIBUTION: So far known only from the type locality.

ETYMOLOGY: Named after the province of Sagaing, Myanmar.



Figs. 12 - 13: *Augyles terzanii*, holotype: 12) aedeagus, dorsal view; 13) penis, dorsal view.

Figs. 14 - 16: *Augyles sagaingensis* sp.n., holotype: 14) aedeagus, dorsal view; 15) same, lateral view; 16) penis, dorsal view.

Figs. 17 - 19: *Heterocerus inornatus* sp.n., holotype: 17) aedeagus, dorsal view; 18) same, lateral view; 19) penis, dorsal view.

Heterocerus inornatus sp.n.

TYPE MATERIAL: **Holotype** ♂: "MYANMAR: Sagaing Division Alaungdaw Katthapa NP 22°19.094'N 94°28.823'E 5.5.2003, ca.350m leg. Boukal et al. (107)". **Allotype** ♀: same data as holotype. **Paratypes** 4 exs. (♂♂): same data as holotype. Holotype, allotype and three paratypes are deposited in NMW, one paratype in CSU.

DESCRIPTION: Holotype ♂: Total length 5.70 mm (to apex of labrum); elytra 3.45 mm long, 2.00 mm wide across shoulders. Ground colour black, pronotum and elytra without colour pattern. Mandibles and legs pale brown. Protibia and lateral margin of tibiae darkened. Labrum not serrate anteriorly. Antennae 11-segmented with 7-segmented club. Clypeus without pair of anterior horns, anterior margin emarginate, with dense and short setae. Pronotum wider than base of elytra; pronotal base completely rimmed. Pronotum regularly finely granulate. Setae of pronotum long, erect, not densely set. Scutellum small, triangular. Elytra without longitudinal furrows, with shallow humeral depressions, surface finely granulate with intermixed punctures approximately as large as three facets of eye; setae as on pronotum. Epipleura without epipleural ridges. Metasternum with post-mesocoxal ridge. Mesosternum with small spines in front of each mesocoxa. Protibia with 11 stout spines, meso- and metatibia with uncertain number of thin spines, partly lost. Abdomen without post-metacoxal ridge. Stridulatory arch marked with striae. Spiculum gastrale 1.1 mm long, partially sclerotized, arms connected apically. Aedeagus (Figs. 17-19) pale brown, well sclerotized, oblong, 1.1 mm long. Penis with internal sac, without processus accessorius, parameres well developed.

Allotype ♀: Total length 5.45 mm (to apex of labrum); elytra 3.70 mm long, 2.15 mm wide across shoulders. Externally similar to male.

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

DIFFERENTIAL DIAGNOSIS: *H. inornatus* sp.n. is similar to *H. magnus* MAMITZA, 1933 described from India and recently reported from Iran and Oman. It differs from the latter in the elytral punctuation (which is fine in *H. magnus*), colour of elytra (black-brown to pale-brown with distinct red-brown pattern in *H. magnus*) and by the structure of the male genitalia (Figs. 17-19; SKALICKÝ 1998: Fig. 7).

DISTRIBUTION: So far known only from the type locality.

ETYMOLOGY: The specific epithet is the Latin adjective *inornatus* (undecorated). It refers to the absence of the elytral colour pattern.

Distributional notes

If not otherwise stated, all specimens are deposited in NMW.

***Augyles saano* (MASCAGNI, 1995)**

MATERIAL EXAMINED: 1 ex. (♀) labelled: "MYANMAR: Sagaing division Alaungdaw Katthapa NP 22°19.113'N 94°28.518'E 4.V.2003, ca.350 m leg. Schillhammer et al. (102)"; 1 ex. (♀) labelled: "MYANMAR: Sagaing Division Alaungdaw Katthapa NP 22°19.094'N 94°28.823'E 7.V.2003, ca.350 m leg. Boukal et al. (112)".

DISTRIBUTION: Nepal (MASCAGNI 1995).

***Augyles schillhameri* SKALICKÝ, 2000**

MATERIAL EXAMINED: 6 exs. (♀♀) labelled: "MYANMAR: Sagaing Division Alaungdaw Katthapa NP 22°19.113'N 94°28.518'E 3.-15.V.2003, ca.350 m, light, leg. Boukal & Schillhammer (101)".

DISTRIBUTION: Myanmar (SKALICKÝ 2000b).

Heterocerus nepalensis MASCAGNI, 1993

MATERIAL EXAMINED: 3 exs. (♂♂) labelled: "MYANMAR: Sagaing Division Alaungdaw Katthapa NP 22°19.113'N 94°28.518'E 3.-15.V.2003, ca.350m, light, leg. Boukal & Schillhammer (101) (therefrom 1 ex. in CSU)"; 1 ex. (♂) labelled: "MYANMAR: Kachin State Indawgyi Lake, 7 km S Lonton 25°0.242'N 96°16.52'E ca. 250 m, 21.V.1999 leg. Schillhammer & Schuh (51c)".

DISTRIBUTION: China, India, Myanmar, Nepal, Sumatra, Thailand, Vietnam (MASCAGNI & SFORZI 1999), Pakistan (MASCAGNI 2003), Laos (SKALICKÝ 2000a).

Heterocerus sp. (♀♀)

MATERIAL EXAMINED: 7 exs. labelled: "MYANMAR: Sagaing Division Chatthin Wildlife Sanct., light 23°32'05"N 95°38'53"E 15.-20.VI.2002, ca. 200 m Schillhammer & Myint Hlaing (88)"; 27 exs. labelled: "MYANMAR: Sagaing Division Alaungdaw Katthapa NP 22°19.113'N 94°28.518'E 3.-15.V.2003, ca.350 m, at light, leg. Boukal & Schillhammer (101)"; 2 exs. labelled: "MYANMAR: Sagaing Division Alaungdaw Katthapa NP 22°19.094'N 94°28.823'E 5.V.2003, ca. 350 m leg. Boukal et al. (107)"; 1 ex. labelled: "MYANMAR: Yangon Pyay Road 7.5 mile 17.-19.V.2003, at light, leg. Boukal & Schillhammer (125)".

Most of these specimens probably represent *H. virgatus*, but without male genitalia they cannot be determined reliably.

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