

## New species and new records of Heteroceridae from Pakistan (Insecta: Coleoptera)

Stanislav SKALICKÝ

Abstract: Two species of Heteroceridae from East Pakistan (*Augyles royi* **n. sp.** and *A. scharlottae* **n. sp.**) are described, illustrated and compared with similar species. *A. atratus* (Grouvelle, 1896), *A. bellus* (Grouvelle, 1911), *A. feae* (Grouvelle, 1896), *A. manfredjaechi* (Mascagni, 1995), *A. marshalli* (Mamitza, 1928), *A. pucholti* Skalický, 2001, *A. siyo* (Mascagni, 1995), *A. skalei* Skalický, 2001, *A. uncis* Miller, 1995, *Heterocerus dubius* Fabricius, 1801, *H. flexuosus* Stephens, 1828, *H. lorenzevae* Mascagni, 1993, *H. mus* Charpentier, 1965 and *H. persicus* Mascagni, 1989 are reported from Pakistan for the first time.

Key words: Taxonomy, Coleoptera, Heteroceridae, new species, new records, Pakistan

### Introduction

The knowledge of the heterocerid fauna in Pakistan is very poor and it is based only on MASCAGNI & SFORZI (1999) with citation of *Augyles cantus* Miller, 1995 and *Heterocerus holosericeus* Rosenhauer, 1856. It is reasonable to assume that heterocerid fauna is better represented in this country.

The Heteroceridae from Pakistan that were studied are deposited in the insect collections of the Museum of Zoology Lund University, Sweden (MZLU), Oxford University Museum of Natural History in Hope Entomological collections, England (OUNH), Smithsonian Institution National Museum of Natural History, Washington, USA. (USNC) and species from my collections (CSU). I identified 19 species among which

two species (*A. royi* **n. sp.** and *A. scharlottae* **n. sp.**) are new to science and 14 species are new for Pakistan. These new species are described below, together with taxonomical and distributional notes on the other species collected in Pakistan.

Note: Separate labels are indicated by double slashes.

## Taxonomy

### *Augyles royi* **n. sp.**

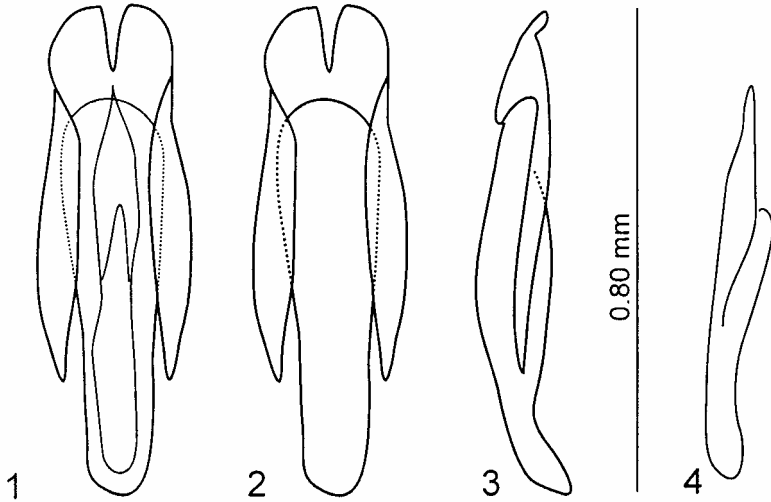
(Figs. 1–4)

Type material: Holotype ♂: EAST PAKISTAN Dinajpur IX–X.1969 Barbe (MZLU). Paratype (Allotype) ♀: the same data as holotype (MZLU). Paratypes 31 specimens (2 ♂♂, 29 ♀♀), from them 9 specimens (2 ♂♂, 7 ♀♀) the same data as holotype (MZLU, 1 ♂ CSU), 22 specimens (♀♀) EAST PAKISTAN Dinajpur X. 1969 Barbe (MZLU).

Description: Holotype ♂: Total length 3.95 mm (to apex of labrum); elytra 2.50 mm long, 1.50 mm wide across shoulders. Body black, mandibles, antennae and tibiae brownish, ventral side brown. Elytra and pronotum without pattern. Labrum almost square, anterior angles serrate in middle part; dense adjacent setae. Mandibles with acute apex, with very small dorsal subapical tooth. Prosthema with teeth of the dental lobe, without notch. Antennae 11-segmented, with 7-segmented club, antennomeres 1 and 2 with sparse long erect setae. Head finely granular, setae dense, short, brownish. Clypeus without pair of anterior horns, anterior margin shallow emarginate. Pronotum slightly wider than base of elytra (wide 1.6 mm), pronotal base completely rimmed; surface finely granular; setae fine, semierected, sparse, yellowish. Scutellum triangular, twice as long as wide. Elytra without longitudinal furrows, and scutellar depressions, with well developed humeral depressions extending obliquely to almost a quarter length of elytra; surface finely granulated (punctures approximately as large as eye facets); setae of elytra as in pronotum. Epipleura without epipleural ridges. Metasternum with post-mesocoxal ridge. Mesosternum with pair of prominent and pair of smaller spines in front of each mesocoxa. Protibia with 10 stout spines, mesotibiae with 9 weak spines, metatibia with uncertain number of thin spines. Abdomen with post-metacoxal ridge. Stridulatory arch marked with well developed striae. Spiculum gastrale 0.80 mm long, V-shaped, arms connected api-

cally. Aedeagus well sclerotized, 0.80 mm long, shape as in Figs 1–4. Parameres rounded, supporting sheath bordered posteriorly. Penis without processus accessorius.

Paratype (Allotype) ♀: Total length 4.20 mm (to apex of labrum); elytra 2.70 mm long, 1.70 mm wide across shoulders. Pronotum as wide as base of elytra. Externally similar to male.



Figs 1–4: *Augyles royi* **n. sp.** holotype: 1) male genitalia, dorsal view; 2) tegmen, dorsal view; 3) tegmen, lateral view; 4) penis, dorsal view.

Differential diagnosis: Due to the shape of the aedeagus and other characters such as the lack of elytral and pronotal patterns, 11-segmented antennae, male specimens without clypeal horns and presence of post-mesocoxal ridge *A. royi* **n. sp.** is related to *A. riedeli* Skalický, 2003 from India. Both species differ in the ground colour (brown in *A. riedeli*), in number of spines in front of each mesocoxa (only pair prominent in *A. riedeli*) and in the morphology of male genitalia (compare Fig. 2 in SKALICKÝ 2003a and Figs 1–4 in this paper).

Etymology: The new species is dedicated to Dr. Roy DANIELSSON curator of the insect collection MZLU.

***Augyles scharlottae* n. sp.**  
(Figs 5–8)

Type material: Holotype ♂: EAST PAKISTAN Dinajpur X-1969 Barbe (MZLU). Paratype (Allotype) ♀: the same data as holotype (MZLU). Paratypes 7 specimens (♀♀) from them 5 specimens the same data as holotype (MZLU, 1 spec. in the author collection), 2 specimens EAST PAKISTAN Dinajpur IX-X-1969 Barbe (MZLU).

Description: Holotype ♂: Total length 1.95 mm (to apex of labrum); elytra 1.25 mm long, 0.80 mm wide across shoulders. Ground colour pale brown, labrum and head brown to black, Elytra with darker diffuse pattern as in Fig. 5. Labrum as wide as long, lateral margins rounded, dense setae. Mandibles with feebly developed dorsal subapical tooth. The antennae missing from male holotype (11-segmented, with 7-segmented club in allotype and paratypes). Head finely granular, setae sparse, short. Clypeus without pair of anterior horns, anterior margin deeply emarginate. Pronotum as wide as base of elytra, pronotal base completely rimmed; surface very finely granular; setae short and adjacent, longer and erected laterally. Scutellum triangular, pointed. Elytra without longitudinal furrows, with thin developed humeral depressions; surface finely granulated without longer punctures; setae of elytra short semierected. Epipleura without epipleural ridges. Metasternum with post-mesocoxal ridge. Mesosternum with short spines in front of each mesocoxa. Protibia with 10 stout spines, mesotibiae and metatibia with uncertain number of thin spines. Abdomen with post-metacoxal ridge. Stridulatory arch feebly marked without striae. Spiculum gastrale 0.45 mm long, V-shaped, arms connected by membrane apically. Aedeagus well sclerotized, 0.60 mm long, shape as in Figs 6–8. Parameres fused together, supporting sheath without border posteriorly. Penis without processus accessorius, with internal sac. Supporting sheath border posteriorly.

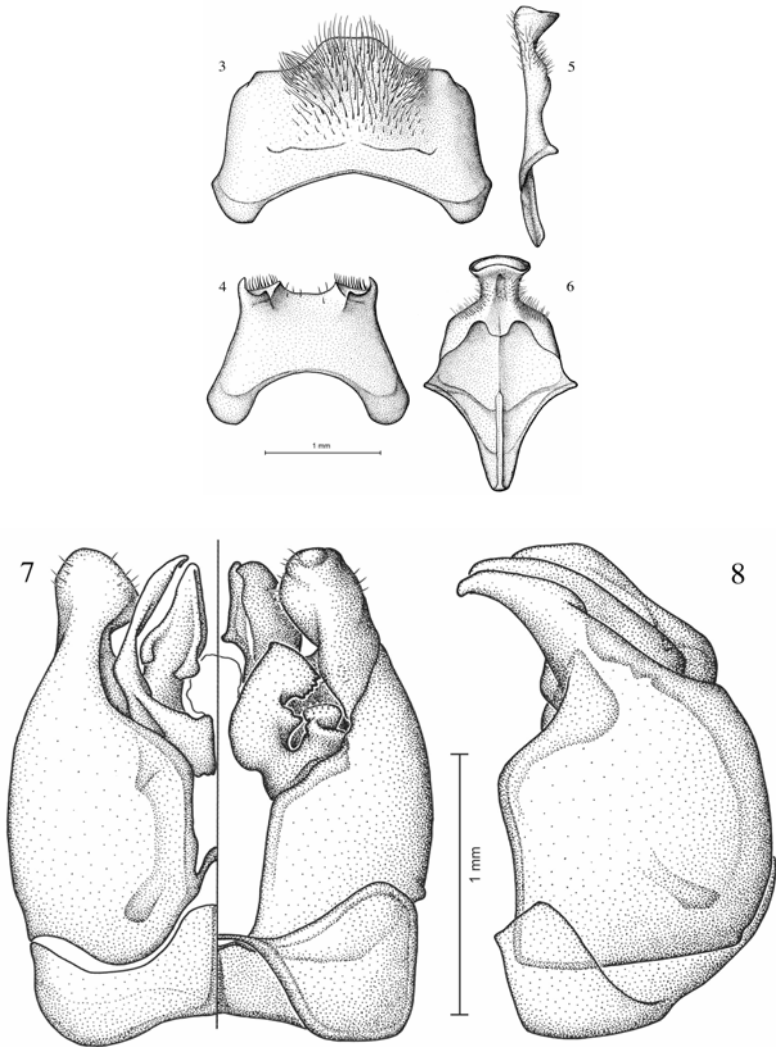
Paratype (Allotype) ♀: Total length 2.05 mm (to apex of labrum); elytra 1.3 mm long, 0.80 mm wide across shoulders. Antennae 11-segmented, with 7-segmented club. Externally similar to male.

Differential diagnosis: Body shape and morphology of male genitalia place it near *A. exiguus* (Mamitza, 1933) from India (Bengal). Male genitalia of *A. exiguus* is illustration in SKALICKÝ 2004. Both species differ in elytral pattern (compare Fig. 23 in MAMITZA 1933 and Fig. 5 in this paper), presence of short spines in front of each mesocoxa (only tuberculate in *A. exiguus*) and in the morphology of male genitalia (median lobe with long processus accessorius, supporting sheath without



**Plate I**

Figs. 1–2. *Melitta piersbakeri* n. sp., holotype male. 1. Lateral habitus. 2. Dorsal habitus.



**Plate II**

Figs. 3–6. *Melitta piersbakeri* n. sp., male terminalia. 3. Sternum VI, ventral aspect. 4. Sternum VII, ventral aspect. 5. Sternum VIII, lateral aspect. 6. Sternum VIII, ventral aspect.  
 Figs. 7–8. *Melitta piersbakeri* n. sp., male genitalic capsule. 7. Dorsal (left) and ventral (right) aspects. 8. Lateral aspect.



**Tafel III**

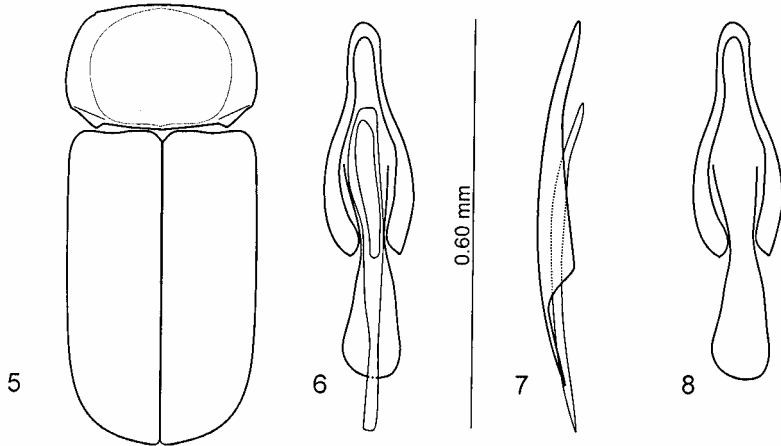
Abb. 1: *S. schimmeli* n. sp., Habitus, Holotypus (♂). Foto: Verf.





border posteriorly in *A. exiguus*) (compare Figs. 1–2 in SKALICKÝ 2004 and Figs 6–8 in this paper).

Etymology: Dedicated to our family friend Sharlotta.



Figs 5–8: *Augyles scharlottae* n. sp. holotype: 5) pronotum and elytra, dorsal view; 6) male genitalia, dorsal view; 7) male genitalia, lateral view 8) tegmen, dorsal view. (Fig. 5 not in scale.)

### ***Augyles atratus* (Grouvelle, 1896)**

*Heterocerus (Littorimus) atratus* Grouvelle, 1896a:53

Material examined: 1 spec. EAST PAKISTAN Dinajpur VIII-1969 Barbe (MZLU); 3 spec. EAST PAKISTAN Dinajpur IX -X-1969 Barbe (MZLU); 1 spec. EAST PAKISTAN Dinajpur IX-X-1969 Barbe // *Heterocerus atratus* det. Charpentier 1974 sp.n. [n. sp. red pencil] (MZLU); 19 spec. EAST PAKISTAN Dinajpur X-1969 Barbe; 1 spec. EAST PAKISTAN Dinajpur XI-1970 Barbe (MZLU); 1 spec. EAST PAKISTAN Dinajpur XI-1970 Barbe // *Heterocerus atratus* Grouv det. Charpentier 1974 (MZLU).

Distribution: Myanmar, First record from Pakistan.

### ***Augyles bellus* (Grouvelle, 1911)**

Material examined: 5 spec. EAST PAKISTAN Dinajpur X-1969, Barbe (MZLU).

Distribution: India, First record from Pakistan.

***Augyles feae* (Grouvelle, 1896)**

*Heterocerus (Littorimus) variabilis* Mamitza, 1933:85

*Augyles feai* MASCAGNI & SFORZI 1999:112

*Augyles feae* SKALICKÝ 2004:402

Material examined: 124 spec. EAST PAKISTAN Dinajpur VIII-1969 Barbe (MZLU); 1 spec. EAST PAKISTAN Dinajpur VIII-1969 Barbe // *Heterocerus feai* Gr. Det. Charpentier 1972 (MZLU); 148 spec. EAST PAKISTAN Dinajpur IX -X-1969 Barbe (MZLU); 138 spec. EAST PAKISTAN Dinajpur X-1969 Barbe (MZLU); 5 spec. EAST PAKISTAN Dinajpur IV-1970 Barbe (MZLU).

Distribution: India, Myanmar, Nepal, Sri Lanka, Philippines, First record from Pakistan.

***Augyles manfredjaechi* (Mascagni, 1995)**

Material examined: 2 spec. ♀♀: PAKISTAN Lahore Jul-Aug 1957 J Maldonado sweeping // Paratype *Augyles segnis* new species W. V. Miller [yellow label] (USNC); 1 spec. ♀: the same only Allotype [red label] (USNC).

Distribution: China, Nepal, India, Bangladesh, Myanmar. First record for Pakistan.

***Augyles marshalli* (Mamitza, 1928)**

*Heterocerus (Littorimus) marshalli* Mamitza, 1928:107

*Heterocerus (Littorimus) arrowi* Mamitza, 1928:108

*Heterocerus (Littorimus) schawalleri* Mascagni, 1990:107

*Augyles repexus* Miller, 1995:38

*Augyles marshalli* SKALICKÝ 2003b:243

Material examined: 13 spec. EAST PAKISTAN Dinajpur IX-X-1969 Barbe (MZLU); 31 spec. EAST PAKISTAN Dinajpur X-1969 Barbe (MZLU).

Distribution: Nepal, First record from Pakistan.

***Augyles pucholti* Skalický, 2001**

Material examined: 17 spec: PAKISTAN Lahore Jul-Aug 1957 J Maldonado // sweeping // Paratype *Augyles biforis* n. sp. W. V. Miller [yellow label]; (USNC); 8 spec.: PAKISTAN: Sind Prov. Makli, near Thatta 22 September 1976 G. F. Hevel & R. E. Dietz // Paratype *Augyles biforis* n. sp. W. V. Miller [yellow label] (USNC) 1 spec.: the same only Allotype [red label] (USNC); 1 spec.: the same only Holotype ♂ [red label] (USNC); 2 ♂ spec.: PAKISTAN: Sind Prov. Miani Forest, near Hyder-

abad // Collected by Hevel & R. E. Dietz // Paratype *Augyles biforis* n. sp. W. V. Miller [yellow label]; 2 spec.: PAKISTAN Lahore July 1958 J Maldonado // Paratype *Augyles biforis* n. sp. W. V. Miller [yellow label]; 1 spec.: W. PAKISTAN Lahore // VII-XII-1957 J Maldonado Light trap // Paratype *Augyles biforis* n. sp. W. V. Miller [yellow label].

Distribution: India, First record from Pakistan.

### ***Augyles siyo* (Mascagni, 1995)**

Material examined: 5 spec (3♂♂, 2♀♀): EAST PAKISTAN Dinajpur X-1969 Barbe (MZLU).

Distribution: Nepal. First record from Pakistan.

### ***Augyles skalei* Skalický, 2001**

Material examined: 1 spec. EAST PAKISTAN Dinajpur X-1969 Barbe (MZLU).

Distribution: Nepal, First record from Pakistan.

### ***Augyles uncis* Miller, 1995**

Material examined: 80 spec. PAKISTAN: Gilgit N35°55'15''E 74°19'34'' 26.vii.2000. 1615m at M.V. light coll. Mann & McGavin // OUM-2002-013 Pres. Mann & McGavin Hope Ent. Coll. Oxford (74 spec OUNH, 6 spec. CSU); 57 spec. PAKISTAN: Gilgit N35°55'15''E 74°19'34'' 16.viii.2000. 1615m at M.V. light coll. Mann & McGavin // OUM-2002-013 Pres. Mann & McGavin Hope Ent. Coll. Oxford (56 spec OUNH, 1spec CSU).

Distribution: Nepal, First record from Pakistan.

### ***Augyles* ♀♀ sp.**

Material examined: 4 spec. EAST PAKISTAN Dinajpur X-1969 Barbe (MZLU).

### ***Heterocerus dubius* Fabricius, 1801**

Material examined: 2 spec. (♀♀): EAST PAKISTAN Dinajpur X-1969 Barbe (MZLU).

Distribution: India, First record from Pakistan.

Discussion: *Heterocerus lorenzevae* Mascagni, 1993 described from Thailand with other distribution in Myanmar, Laos, Nepal, India and Bangladesh is very probably a junior synonym of *H. dubius*, but the

synonymy cannot be established with certainty without knowledge of the male genitalia type specimens of *H. dubius*.

### ***Heterocerus flexuosus* Stephens, 1828**

Material examined: 6 spec. (4 ♂♂, 2 ♀♀): Pakistan, 10 km N of Sukkur, near river Indus // viii. 2003, leg. M. Dostál (CSU).

Distribution: Palaearctic, N Africa, Iran, Mongolia, Turkestan. First record from Pakistan.

### ***Heterocerus lorenzevae* Mascagni, 1993**

Material examined: 1 spec.: PAKISTAN: Sind Prov. Makli, near Thatta 22 September 1976 G. F. Hevel & R. E. Dietz IV // Holotype ♂ *Heterocerus* Mascagni n. sp. W. V. Miller [red label] (USNC); 1 spec. the same only Allotype ♀ [red label] (USNC); 16 spec (♂♂, ♀♀) the same only Paratype [yellow label] (USNC).

Distribution: Bangladesh, India, Laos, Myanmar, Nepal, Thailand. First record from Pakistan.

### ***Heterocerus mus* Charpentier, 1965**

Material examined: 2 spec. (♂♂): Pakistan, 10 km N of Sukkur, near river Indus // viii. 2003, leg. M. Dostál (CSU).

Distribution: Chad, Iran, India, Tadzhikistan. First record from Pakistan.

### ***Heterocerus persicus* Mascagni, 1989**

Material examined: 1 spec ♂: PAKISTAN: Sind Prov. Makli, near Thatta 22 September 1976 G. F. Hevel & R. E. Dietz // Holotype *Heterocerus badius* n. sp. W. V. Miller [red label] (USNM); 2 spec ♂, ♀: the same only Paratype *Heterocerus badius* n. sp. W. V. Miller [yellow label] (USNM).

Distribution: Iran. First record from Pakistan.

### ***Heterocerus virgatus* Mamitza, 1933**

*Heterocerus fulvipes* MILLER 1995:41

*Heterocerus virgatus* SKALICKÝ 2004:405

Material examined: 1. spec. EAST PAKISTAN Dinajpur IX-X-1969 Barbe // *Heterocerus virgatus* Mamitza compared w. Type Det. Charpentier 1974 (MZLU); 9. spec. EAST PAKISTAN Dinajpur IX -X-1969 Barbe (MZLU); 1 spec. EAST PAKISTAN Dinajpur IX-1970 Barbe

(MZLU); 6 spec. EAST PAKISTAN Dinajpur X-1969 Barbe (MZLU); 7 spec. EAST PAKISTAN Dinajpur VIII-1969 Barbe (MZLU); 1 spec. (♂): PAKISTAN: Sind Prov. Makli, near Thatta 22 September 1976 G. F. Hevel & R. E. Dietz // Holotype ♂ *Heterocerus atra* W. V. Miller [red label] (USNM); 1 spec. (♀): the same only Allotype *Heterocerus atra* W. V. Miller [red label] (USNM); 3 spec. (♂, ♀♀): the same only Paratype *Heterocerus atra* n. sp. W. V. Miller [yellow label] (USNM).

Distribution: Cambodia China, India, Myanmar, Nepal, Pakistan, Laos.

### Acknowledgements

I wish to express my thanks to Dr. Roy DANIELSSON (MZLU), Dr. James E. HOGAN (OUNH) and Dr. Warren E. STEINER Jr. (USNC) for the loan of material and Mr. Steve SCHOTT (Ohio, USA) for valuable comments and for reading the manuscript.

### References

- GROUVELLE, A. (1896a): Potamophilides, Dryopides, Helmidides et Heterocerides des Indes Orientales. – *Annali del Museo civico di Storia naturale, G. Doria* (2)17:32–56.
- GROUVELLE, A. (1896b): Quelques *Heterocerus* nouveaux des Indes orientales et de l'Amérique. – *Notes Leyden Museum* 18:3–13.
- MAMITZA, R. (1928): Drei neue asiatische *Heteroceridae* (Coleoptera) im British Museum. – *The Annals and Magazine of Natural History* 7:106–108.
- MAMITZA, R. (1933): Seven new Indian species of *Heterocerid* Coleoptera. – *The Annals and Magazine of Natural History* 12:82–93.
- MASCAGNI A., (1990): Two new species of *Heteroceridae* from Nepal (Coleoptera). *Bollettino della Società entomologica Italiana* 122:107–110.
- MASCAGNI, A. (1993): Quattro nuove specie ed una nuova sottospecie di *Heteroceridae* dell'Asia (Coleoptera). – *Opuscula Zoologica Fluminensia* 112:1–11.
- MASCAGNI, A. & SFORZI, A. (1999): Contribution to the knowledge of *Heteroceridae* from India and neighbouring countries (Coleoptera: *Heteroceridae*). – *Koleopterologische Rundschau*, 69:111–117.
- MILLER, W. V. (1995): New *Heteroceridae* (Coleoptera) from Nepal. – *The Coleopterist's Bulletin* 49:35–41.
- SKALICKÝ, S. (2003a): Two new species of *Augyles* from India (Coleoptera: *Heteroceridae*). – *Koleopterologisch Rundschau* 73:297–300.

- SKALICKÝ, S. (2003b): Heteroceridae collected by the expedition of the Naturkundemuseum Erfurt in Nepal with description of *Augyles weigeli* n. sp. (Insecta: Coleoptera: Heteroceridae), pp 241–244. In HARTMANN, M. & BAUMBACH, H. (eds.): Biodiversität und Naturlausstattung im Himalaya. – Erfurt: Verein der Freunde & Förderer des Naturkundemuseums Erfurt e. V., 391 pp., XVI pls.
- SKALICKÝ, S. (2004): Revision of Asian Heteroceridae described by MAMITZA (1933), with description of four new species of Heteroceridae from Laos and Myanmar (Coleoptera: Heteroceridae). – Koleopterologische Rundschau **74**: 399–412.

Author:

Stanislav SKALICKÝ, Dukla 322, CZ-56201 Ústí nad Orlicí, Czech Republic.

E-mail: s.skalicky@worldonline.cz

# ZOBODAT - [www.zobodat.at](http://www.zobodat.at)

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Mitteilungen des Internationalen Entomologischen Vereins](#)

Jahr/Year: 2005

Band/Volume: [30 2005](#)

Autor(en)/Author(s): Skalicky Stanislav

Artikel/Article: [New species and new records of Heteroceridae from Pakistan \(Insecta: Coleoptera\) 133-142](#)