

**A new species of *Schinostethus* (Coleoptera: Psephenidae)  
from India, with new records of the genus  
from Southeast Asia**

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**Abstract.** *Schinostethus* (*Sundodrupeus*) *sipekorum* sp. nov. is described and illustrated from seepage habitat in Meghalaya, India. The new species can be recognised predominantly based on the characteristic shape of male aedeagus: narrowly lanceolate median lobe; broad, apically rounded latero-apical process of paramere, and long slender and apically pointed medio-apical process of paramere. In addition, three new country records and three new Chinese province records of five species of *Schinostethus* Waterhouse, 1880 are provided.

**Key words.** Coleoptera, Psephenidae, *Schinostethus*, *Sundodrupeus*, new species, description, new records, Cambodia, China, India, Laos, Oriental Region

### Introduction

Psephenidae, or water-penny beetles, is a rather small family of Byrrhoidea. Nearly 300 species assigned to five subfamilies are known from all zoogeographical regions, although much higher diversity is in the tropics; the most speciose is the Oriental Region. Psephenid larvae are strictly aquatic, many of them have strongly flattened body adapted for life in swiftly running water; they feed on algae covering rock surface. On the other hand, short-lived adults are terrestrial, soft bodied, with reduced mouth parts; they can be found on vegetation or within litter and debris near streams (LEE et al. 2005, 2007).

The genus *Schinostethus* Waterhouse, 1880 belongs to the subfamily Eubriinae. It can be recognised based on granulation of elytra confined to vermiculations, both claws in male bifurcate, and male antennae flabellate or pectinate from antennomere III (see, e.g. LEE 2011). *Schinostethus* comprises currently 25 species in subgenera *Schinostethus* s. str. and *Sundodrupeus* Pic, 1916, distributed in the Oriental Region and reaching eastern Palaearctic in Nepal, southern China and Japan. The genus was revised by LEE et al. (1993, 1998); two additional *Sundodrupeus* were described by LEE & JÄCH (2007) from India (Uttarakhand) and Indonesia (Sumatra), respectively.

The study of Psephenidae material recently collected by Czech entomologists and housed in the Národní muzeum, Prague revealed an undescribed *Schinostethus* from Meghalaya (India) which I describe below, together with new records of several other species belonging to the genus.

### Material and methods

Following LEE's et al. (1998) synopsis of the genus, I provide a shortened description of the new species and mention only characters important for identification of the species. For more detailed description, see generic description provided by LEE et al. (1993). The material studied was examined under an Olympus SZX12 stereoscopic microscope. The genitalia were studied in dry condition. Photographs of habitus were taken with a Canon EOS 550D digital camera with a Canon MP-E 65 mm macro lens as numerous separate images at different focal planes and afterwards combined using Helicon Focus 5.1.19 software.

Exact label data are cited for the material. A forward slash (/) separates different lines and a double slash (//) different labels of data. Additional remarks are found in square brackets.

Additional abbreviations used in descriptions are: TL – total length, a single measurement of length from front of head to apex of elytra; TL-h – total length minus head length, length of body from anterior margin of pronotum to apex of elytra; TW – maximum width of body measured at right angles to TL.

All specimens included in this study are deposited in the collection of the Národní muzeum, Prague, Czech Republic (NMPC).

### Systematics

#### *Schinostethus (Sundodrupeus) sipekorum* sp. nov.

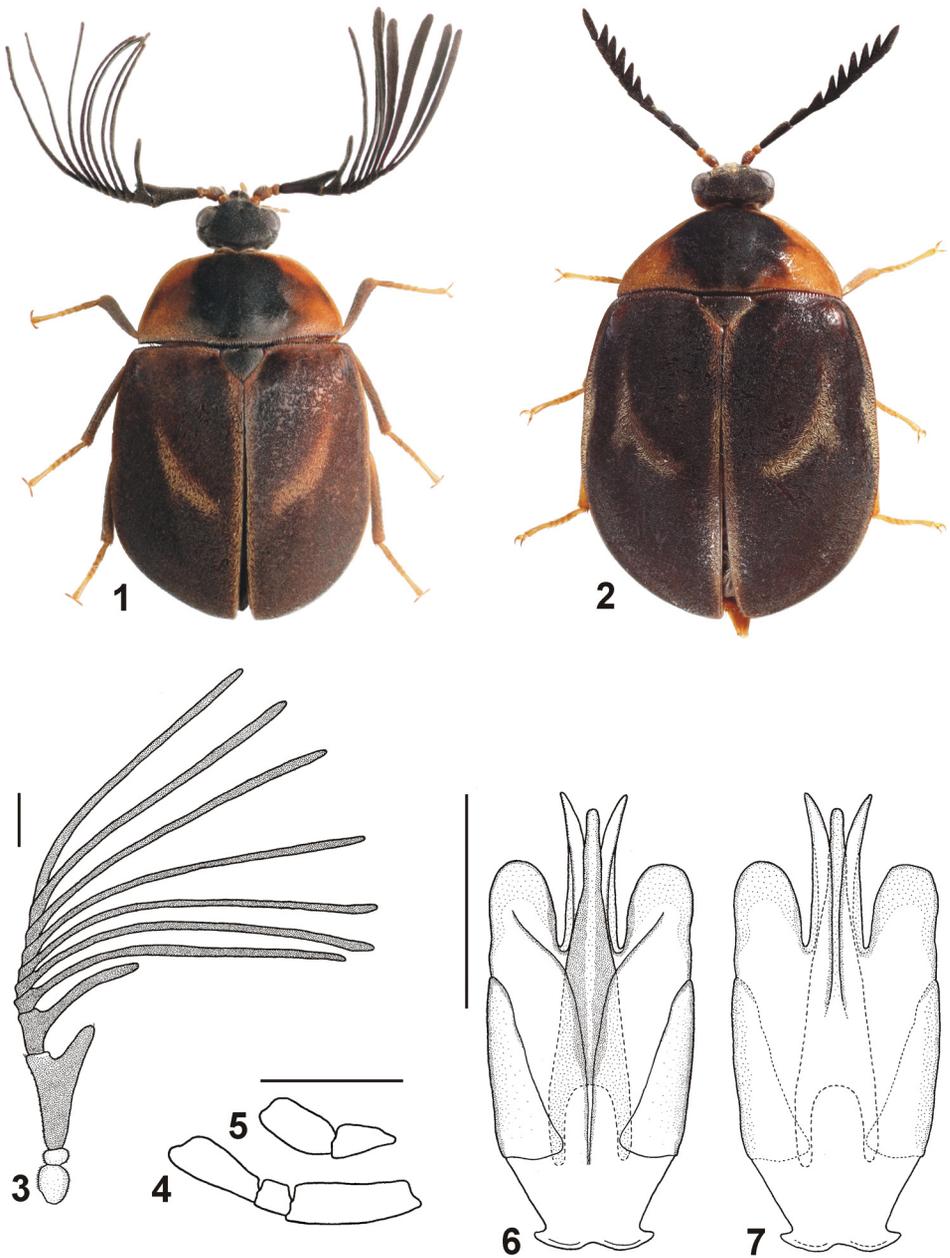
(Figs 1–7)

**Type material.** HOLOTYPE: ♂, 'INDIA, Meghalaya State (8) / E Khasi Hills, 11 km SW Cherra- / punjee, Laitkynsew, 21-24.iv. / 2008, 25°13'N, 91°39'E 810 m / Fikáček, Podskalská, Šípek lgt. [printed] // HOLOTYPE / *SCHINOSTETHUS* / (*Sundodrupeus*) / *sipekorum* sp. nov. / Jiří Hájek det. 2015 [red label, printed]'. PARATYPES: 1 ♂ 1 ♀, same label data as holotype; 2 ♂♂, 'INDIA, Meghalaya State (10) / E Khasi Hills, 11 km SW Cherra- / punjee, Laitkynsew, 21-24.iv. / 2008, 25°13'N, 91°39'E 810 m / Fikáček, Podskalská, Šípek lgt. [printed] // seepage: wet rock with algae / blue algae/moss ca. 1.5-2 km / via rd. from "Cherrapunjee Holid. / Resort" in direct. Cherrapunjee, exposed [printed]'. Each paratype is provided with the respective red printed label.

**Description of the holotype.** Body oblong-oval, broadest in basal third of elytra, moderately convex. Beetle rather shiny (Fig. 1).

**Colouration.** Head black, genae, antennomeres I–II and mouth appendages testaceous. Pronotum with sides largely testaceous and large blackish spot in midpart; indistinct infuscation also mediolaterally. Scutellum blackish. Elytra brown-blackish with testaceous suture, basal and lateral margins; disc with pale oblique stripe. Legs with brown-blackish femora and tibiae, tarsi yellowish. Ventral side with brownish prosternum, other parts black.

**Structure and sculpture.** Head small, broader than long; clypeus rounded. Antennae (Fig. 3) with antennomere III serrate, antennomeres IV–X flabellate; relative lengths of rami of antennomeres III–VI: 0.12 : 0.32 : 0.89 : 1.00. Maxillary palpus dilated apically, apex truncate



Figs 1–7. *Schinostethus (Sundodrupeus) sipekorum* sp. nov. 1 – male habitus (holotype); 2 – female habitus (paratype); 3 – male antenna; 4 – maxillary palpus; 5 – labial palpus; 6 – aedeagus in dorsal view; 7 – aedeagus in ventral view. Scale bars (Figs 3–6) = 0.25 mm.

(Fig. 4); relative lengths of palpomeres I–III: 4.00 : 1.00 : 3.33. Labial palpus small, about 0.52× as long as maxillary palpus (Fig. 5), apical palpomere similar to that of maxillary palpus; relative lengths of palpomeres I–II: 1.00 : 1.60.

Pronotum broadest between posterior angles, lateral margins moderately curved. Base of elytra as broad as pronotal base; lateral margins of elytra moderately curved.

**Genitalia** (Figs 6–7). Aedeagus 2.13× as long as wide. Median lobe 0.77× total length of aedeagus, narrowly lanceolate. Paramere with latero-apical process broad, apically rounded, and medio-apical process long (twice as long as latero-apical process), slender and apically pointed, surpassing median lobe. Phallobase 0.57× total length of aedeagus.

**Female.** Similar to male in habitus, slightly bigger. Eyes smaller than in male; antennomeres IV–X serrate. Elytra almost black with humeral bulge, midpart of lateral margin and suture pale, oblique stripe with short branch on outer side (Fig. 2). Tarsal claws simple.

**Measurements.** ♂♂: TL: 4.0–4.7 mm (holotype 4.5 mm), TL-h: 3.6–4.1 mm (holotype 3.9 mm), TW: 2.4–3.0 mm (holotype 2.7 mm). ♀: TL: 5.2 mm, TL-h: 4.6 mm, TW: 3.4 mm.

**Variability.** In some specimens colouration of pronotum varies from small rounded black spot in midpart to almost completely black pronotum; elytra reddish in some specimens.

**Differential diagnosis.** Based on strongly shortened antennomeres V–X, with their rami elongate and laterally flattened; apical antennomere subequal to rami of penultimate antennomere; and medio-apical parameral process well developed and surpassing latero-apical processes, the new species clearly belongs to the subgenus *Sundodrupeus*, as defined in LEE et al. (1998). Within this subgenus, *S. sipekorum* sp. nov. is in habitus very similar to widespread Oriental *S. notatithorax* (Pic, 1923), from which the new species differs in longer lateral ramus of antennomere III (cf. Fig. 3 and LEE et al. 1998: 320, Fig. 16d). However, *S. sipekorum* sp. nov. can be recognised from all so far known members of the subgenus *Sundodrupeus* predominantly by the shape of aedeagus: the combination of narrowly lanceolate median lobe; broad, apically rounded latero-apical process of paramere, and long slender and apically pointed medio-apical process of paramere (cf. LEE et al. 1998 and LEE & JÄCH 2007).

**Etymology.** The new species is dedicated to my friends and colleagues, the Šípek family – Hana, Ondřej and Petr (Myšnice, Czech Republic).

**Collection circumstances.** The type specimens were collected individually or swept from vegetation on exposed seepages on the side of road, partly covered with algae and moss (see also FIKÁČEK & ŠÍPKOVÁ 2009: 36, Fig. 2). In the type locality, *Schinostethus sipekorum* sp. nov. was associated with two species of *Hydroscapha* LeConte, 1874 (Hydroscaphidae), several species of *Laccobius* Erichson, 1837 and *Oocyclus* Sharp, 1882 (all Hydrophilidae), and *Hydraena* Kugelann, 1794 (Hydraenidae) and *Ceradryops* Hinton, 1937 (Dryopidae) (FIKÁČEK & ŠÍPKOVÁ 2009, GENTILI & FIKÁČEK 2009).

**Distribution.** So far known only from the type locality in Meghalaya, north-eastern India.

## New records

### *Schinostethus* (*Schinostethus*) *jii* Lee, Jäch & Yang, 1998

**Material examined.** CHINA: GUANGDONG: 3 ♂♂ 4 ♀♀, Danxia Shan NP, Xianglong lake (wet rock), 25°01.244'N, 113°44.342'E, 98 m, 23. + 26.iv.2013, J. Hájek & J. Růžička leg. GUANGXI: 7 ♂♂ 2 ♀♀, Longsheng Hot Springs (fo-

rested river valley; wet rocks), 25°53.6'N, 110°12.4'E, 360 m, 11.–14.vi.2013, M. Fikáček, J. Hájek & J. Růžička leg.

**Notes.** Specimens from Guangxi are darker, almost blackish brown, than the type material or specimens from Guangdong; however in all other characters, they fully agree with typical *S. jii*. A species described and until now known only from Sichuan province, China (LEE et al. 1998). **First record from Guangdong province and Guangxi autonomous region.**

### *Schinostethus (Schinostethus) nigricornis* Waterhouse, 1880

**Material examined. CHINA: GUANGDONG:** 4 ♂♂, exposed wet rock, ca. 0.5 km NE of Taipidong Ziran Baohuqu (dam), 24°58.478'N, 110°38.633'E, 660 m, 18.iv.2013, J. Hájek & J. Růžička leg.; 6 ♂♂ 6 ♀♀, Danxia Shan NP, wet rocks on slopes of Elder Peak, 25°01.6'N, 113°44.2'E, 190 m, 26.iv.2013, J. Hájek & J. Růžička leg.

**Notes.** Widely distributed species, or perhaps a species complex, recorded from Bhutan, Nepal, north India, south China, Myanmar, Thailand, Laos, Vietnam and Malaysia (LEE et al. 1998). **First record from Guangdong province.**

### *Schinostethus (Sundodrupeus) notatithorax* (Pic, 1923)

**Material examined. CHINA: YUNNAN:** 8 ♂♂ 1 ♀, 6 km SW of Tengchong, Rehai Hot Springs, 24°57.1'N, 98°26.2'E, 1400 m, 5.vi.2007, J. Hájek & J. Růžička leg.

**Notes.** A species described from northern Vietnam and subsequently recorded also from northern Laos and northern Thailand (LEE et al. 1998). **First record from China (Yunnan Province).**

### *Schinostethus (Sundodrupeus) pacholatkoii* Lee, Jäch & Yang, 1998

**Material examined. LAOS: CHAMPASAK PROVINCE:** 2 ♂♂, Bolavens Plateau, ca. 1 km S of Ban Lak 40 [vill.], Tad Yueang waterfall, 15°10.8'N, 106°08.3'E, 900–970 m, 28.iv.2010, Jiří Hájek leg.; 3 ♂♂, Bolavens Plateau, waterfall ca. 2 km E of Tad Katamtok, 15°08.1'N, 106°38.8'E, 415 m, 10.–12.v.2010, Jiří Hájek leg.

**Notes.** A species described and so far known only from southern Vietnam (Lam Dong province) (LEE et al. 1998). **First record from Laos.**

### *Schinostethus (Sundodrupeus) vietnamensis* Lee, Jäch & Yang, 1998

**Material examined. CAMBODIA: KOH KONG PROVINCE:** 1 ♂, 20 km SE of Koh Kong, Tatal River, 11°34'N, 103°07'E, 50–300 m, 3.–19.v.2005, E. Jendek & O. Šauša leg.

**Notes.** A species described and so far known only from southern Vietnam (Lam Dong Province) and central Laos (Vientiane) (LEE et al. 1998). **First record from Cambodia.**

## Acknowledgements

I am grateful to Martin Fikáček (NMPC) for information about the collecting circumstances and habitat of the new species. I wish to thank also Jan Růžička (Czech University of Life Sciences, Prague, Czech Republic) for his support during our trips to China. I am obliged to Manfred A. Jäch (Naturhistorisches Museum Wien, Austria) and an anonymous reviewer for

critical comments on the manuscript. The study was supported by the Ministry of Culture of the Czech Republic (DKRVO 2015/14, National Museum, 0002327201).

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