

# Taxonomy of the genus *Habrocerus* Erichson (Coleoptera: Staphylinidae: Habrocerinae) from China

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**Abstract:** *Habrocerus* Erichson, 1839, is a species-rare genus comprising 18 species worldwide. Up until now, only 4 species have been reported from China. This paper reports a new China record, *Habrocerus wunderlei* Assing from Tangjiahe Natural Reserve, Sichuan, and provides some more detailed characters. A key to all those Chinese species is provided.

**Key words:** rove beetles; taxonomy; key

中国片足隐翅虫属分类研究（鞘翅目：隐翅虫科：片足隐翅虫亚科）

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**摘要：***Habrocerus* Erichson, 1839 是一个种类比较少的属，该属至今全世界只发现 18 个种，中国只有 4 种。本文报道了采自于四川唐家河自然保护区的 1 个中国新纪录种 *Habrocerus wunderlei* Assing，并对该种进行了再描述。并提供了该属中国种检索表。

**关键词：**隐翅虫；分类；检索表

## Introduction

The subfamily Habrocerinae is a lineage of the family Staphylinidae and comprises two genera, *Habrocerus* Erichson and *Nomimocerus* Coiffait & Saiz. So far, 24 valid species have been described and included in this subfamily; 18 of them in the genus *Habrocerus* and six in the other genus *Nomimocerus* (Assing 2015; Yin & Li 2018). The genus *Habrocerus* is widely distributed in both the northern and the southern hemisphere, including the Palearctic, Oriental, Nearctic and Neotropical regions, but the genus *Nomimocerus* is restricted to the temperate zones of South America (Assing & Wunderle 1995; Assing 2015).

The genus *Habrocerus* is represented by three species groups (*H. capillaricornis* group, *H. rougemonti* group, and *H. schwarzi* group). To date, eight species have been included in the *H. capillaricornis* group: *H. bisetosus* Assing, 2014 (China: Gansu), *H. canariensis* Assing & Wunderle 1995 (Canary Islands), *H. capillaricornis* (West Palearctic; adventive in North America; South America; New Zealand; South Africa), *H. cyprensis* Assing & Wunderle, 1995 (Cyprus; Greece: Rhodes; Turkey: Antalya), *H. ibericus* Assing & Wunderle,

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1995 (Atlanto-Mediterranean; Morocco; Iberian Peninsula; Southwest France), *H. pisidicus* Korge, 1971 (Ponto-Mediterranean, from Cyprus, Turkey, and Georgia westwards to Corsica and Sardinia), *H. simulans* Assing & Wunderle, 1995 (Israel; Lebanon; Turkey), and *H. splendens* Assing, 2008 (China: Yunnan). Three species are included in the *H. rougemonti* group: *H. indicus* Assing & Wunderle, 1995 (North India; Nepal; China: Yunnan, Sichuan), *H. neglectus* Assing, 1998 (Thailand), and *H. rougemonti* Pace, 1987 (Thailand). Seven species are included in the *H. schwarzi* group: *H. costaricensis* Assing & Wunderle, 1995 (Costa Rica), *H. schillhammeri* Assing & Wunderle, 1995 (Indonesia: Sumatra), *H. schuelkei* Assing & Wunderle, 1996 (China: Shaanxi), *H. schwarzi* Horn, 1877 (North America: Canada; U.S.A.), *H. tichomirovae* Filatova, 1981 (Russian Far East), *H. tropicus* Wendeler, 1956 (Brazil), and *H. wunderlei* Assing, 2015 (North Vietnam) (Assing & Wunderle 1995, 1996; Assing 2014, 2015; Yin & Li 2018).

In China, four *Habrocerus* species have been recognized, *H. schuelkei* Assing & Wunderle 1995 (Shaanxi), *H. indicus* Assing (Yunnan and Sichuan), *H. bisetosus*, Assing (Gansu), and *H. splendens* Assing (Yunnan) (Assing 2008, 2014, 2015; Assing & Wunderle 1995, 1996; Yin & Li 2018). During our study of the *Habrocerus* from Sichuan, we found *Habrocerus wunderlei* Assing that represents a new China record. Herein, we redescribed the species and provide some more detailed characters and a key to the Chinese species.

## Material and methods

The material was collected from Tangjiahe Natural Reserve, Qingchuan County, Sichuan, China. The specimens were softened in warm water, then dissected in 75% alcohol for the male and female genitalia. Observations and color photographs were taken using a Leica M205C stereomicroscope.

## Taxonomy

### Genus *Habrocerus* Erichson, 1839

*Habrocerus* Erichson 1839: 400; Gravenhorst 1806: 10; Horn 1877: 124; Wendeler 1956: 264; Korge 1971: 58; Filatova 1981: 120; Pace 1987: 5; Assing & Wunderle 1995: 324–341; Assing 1998: 489; Assing & Wunderle 1996: 375; Assing 2008: 136; Assing 2014: 1219; Assing 2015: 1210; Yin & Li 2018: 760.

Type species. *H. capillaricornis*, had been described as *Tachyporus capillaricornis* by Gravenhorst, 1806, then designated by Erichson (1839) by monotypy.

Diagnosis. In the 19th century, *Habrocerus* was largely considered to belong to the subfamily Tachyporinae because of its similarity in body shape with some Tachyporinae genera, until Ganglbauer (1895) established the subfamily Habrocerinae. The genus *Habrocerus* can be easily recognized by the following characters: antennae with the first two segments strongly dilated and all the following ones filiform and furnished with fine hairs; elytral epipleura separated by a keel from the dorsal surface and the structure of the male genital segments (Assing & Wunderle 1995). In *Habrocerus* males, segment VIII forms part of the genital armature and is normally completely retracted in the abdomen except for the apices of two spine-like appendices of pleurite VIII. Segment IX is highly modified and

shaped like an oat (Muir 1919; Assing & Wunderle 1995). *Habrocerus* males do not have a true aedeagus, but instead have a membranous tube enclosing a strongly sclerotized internal sac composed of numerous spine-like structures.

***Habrocerus wunderlei* Assing, 2015**, new record to China (Figs 1–8)

Assing 2015: 1210 (Vietnam).

Body length 3.1–3.6 mm; length of forebody 1.7–1.9 mm. Coloration: body brown-black, legs dark-yellow; antennae and maxillary palpi brown-black. Whole forebody with shallow but distinct microsculpture composed of transverse striae.

Male. Head subtriangular, narrowed anteriorly, wider than long (ratio 2.40); eyes each situated at posterolateral corner of head, relatively small but well convex. Antennae slender and sparsely setose, almost reaching posterior margin of pronotum when reclined; segments 1–2 robust and broad, narrowed at base; segments 3–6 baculiform, each more narrowed than segments 1–2; segments 7–10 each narrowed in apical third, nearly spindle-shaped, segment 11 elongate-elliptical; relative lengths of each segment: 12.5 : 10.0 : 7.5 : 9.0 : 11.0 : 10.0 : 10.0 : 9.0 : 8.5 : 8.5 : 12.5.

Pronotum wider than long (ratio 1.46), shorter (ratio 0.81) and slightly narrower (ratio 0.86) than elytra, anterior margin broadly and arcuately emarginate, lateral and posterior margins rounded, widest at about posterior forth; lateral margins each with three long setae: one in anterior angle, one in posterior angle, and one approximately in the middle.

Elytra wider than long (ratio 1.37), slightly widened apicad; lateral margins weakly rounded, posterior margin arcuately emarginate at middle, surface with distinct microsculpture similar to that on pronotum. Hind wings well-developed.

Abdomen with dense and fine punctation, with short fine pubescence and fine transverse microsculpture; sternite VII with convex posterior margins (Fig. 3); posterior margin of tergite VII almost truncate at posterior margin with palisade fringe (Fig. 4). Sternite VIII asymmetric, appendices of pleurite VIII long and slender, each with six setae; sclerites of segment IX distinctly asymmetric (Fig. 7); internal sac with two series of numerous spines of different lengths (Fig. 8).

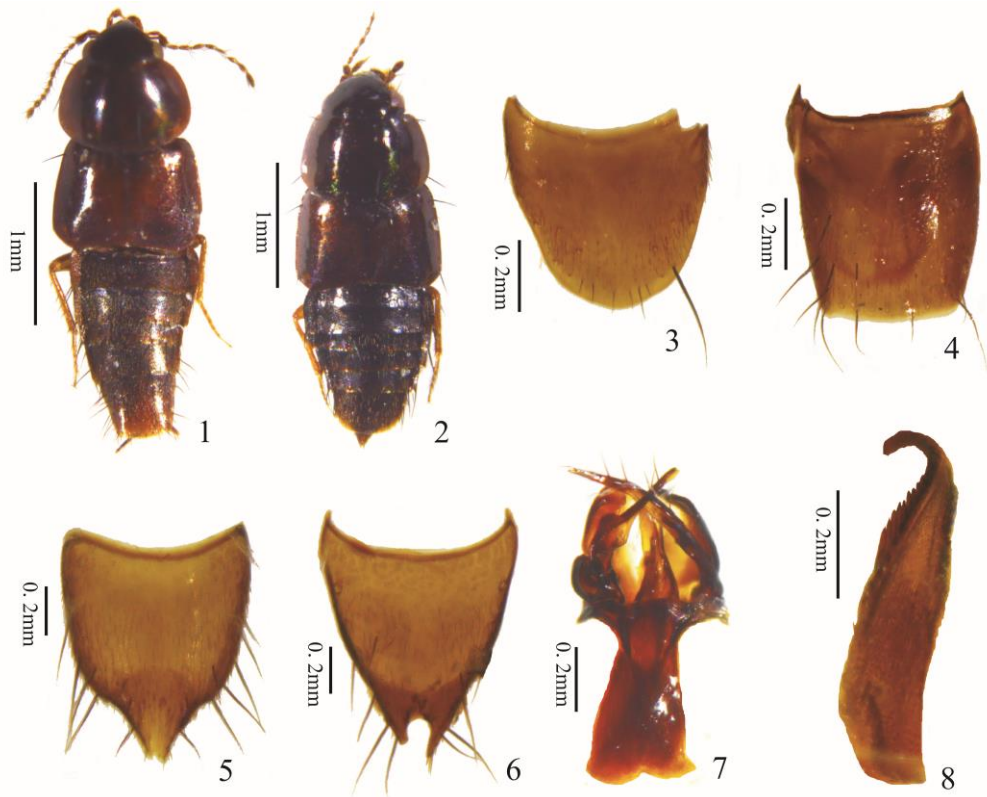
Female. Similar to male, but sternite VIII with posterior margin acutely projecting in the middle (Fig. 5); tergite VIII narrowed at base, deeply emarginate at middle of posterior margin (Fig. 6).

**Specimens examined.** 2♂5♀, **China**, Sichuan, Tangjiahe Natural Reserve, Qingchuan County, 32°38' N, 104°46' E, mixed leaf litter, haystack, 1400 m, 16-VII-2005, coll. Jin LIU.

**Key to the species of the genus *Habrocerus* from China (♂)**

1. Sternite VIII with deep emargination .....2
- Sternite VIII without emargination .....4
2. Sternite VIII with deep V-shaped emargination, appendices of pleurites VIII with 1 seta. China (Yunnan, Sichuan) .....*H. indicus* Assing & Wunderle
- Sternite VIII with deep U-shaped emargination .....3
3. Tergite and sternite VII with concave posterior margins, appendices of pleurites VIII each with 2 long setae (Gansu) .....*H. bisetosus* Assing
- Tergite and sternite VII with weakly convex posterior margins, appendices of pleurites VIII each with 1 long setae (Yunnan) .....*H. splendens* Assing

4. Appendices of pleurites VIII shorter, two series of individual spines of the internal sac shorter and fewer (Shaanxi) .....*H. schuelkei* Assing & Wunderle  
 -. Appendices of pleurites VIII distinctly longer and slender, two series individual spines of the internal sac more numerous, longer, slender (Vietnam; China: Sichuan) .....*H. wunderlei* Assing



Figures 1–8. *Habrocerus wunderlei* Assing. 1. Male, dorsal view; 2. Female, dorsal view; 3. Male sternite VII; 4. Male tergite VII; 5. Female sternite VIII; 6. Female tergite VIII; 7. Male segments VIII–IX; 8. Internal sac.

**Remarks.** *H. wunderlei* was originally described from Vietnam (Assing 2015). This species can be easily separated from its most similar congener, *H. schuelkei* Assing & Wunderle, 1996 from Shaanxi, by the appendices of pleurites VIII distinctly longer and slender, two series of individual spines of the internal sac more numerous, longer, slender. The population from Sichuan, China shows little variation in the genital structures in comparison to those of Vietnam, and thus it can be readily identified as conspecific. The present record extends the range of this species to 1130 km north of Vietnam.

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