

Contributions to the Knowledge of the Quediina (Coleoptera,  
Staphylinidae, Staphylinini) of China.  
Part 38. Genus *Quedius* STEPHENS, 1829.  
Subgenus *Raphirus* STEPHENS, 1829. Section 8

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**Abstract** Taxonomic data on the species of the genus *Quedius*, subgenus *Raphirus*, of the *pluvialis*-group (characterized here), from the People's Republic of China are provided. *Quedius pluvialis*, misidentified by SMETANA, 2007, is described as new under the name *Quedius shunichii* (from Sichuan), *Quedius oui* is described as new from specimens from Emei Shan, Sichuan, and the until now unknown male sexual characters are described for *Q. pluvialis* (known only from Emei Shan).

**Key words:** Taxonomy, new species, geographical distribution, Coleoptera, Staphylinidae, Staphylinini, Quediina, *Quedius*, subgenus *Raphirus*, *pluvialis* species-group, People's Republic of China.

### Introduction

This is the thirty-eight of a series of papers on the Quediina of the People's Republic of China. It deals with the three species of the genus *Quedius* STEPHENS, 1829, subgenus *Raphirus* STEPHENS, 1829, of the *pluvialis*-group (characterized here).

*Quedius (Raphirus) pluvialis* SMETANA, 1998 was described from a single female taken at Emei Shan. Subsequently (SMETANA, 2007), I tentatively considered two males collected by UÉNO at Xilingxue Shan, Sichuan, "as conspecific with the holotype, unless different male(s) are found at Emei Shan". The two males were described and illustrated, with the emphasis on their primary and secondary male sexual characters. This description becomes now the description of the new species, *Q. shunichii*.

Recently, I had an opportunity to study a number of specimens of both sexes collected in 2009 by V. GREBENNIKOV on Emei Shan. The result was rather surprising, the series contained specimens of both sexes of two different species, neither one identical with the misidentified specimens from Xilingxue Shan. Since the tergite 10 of the female genital segment proved to be distinctive in the two Emei Shan species (Figs. 9, 15), it was not difficult to associate seven specimens (all taken from one habitat) with the female holotype of *Q. pluvialis* and to recognize the remaining specimens as members

of another, new species. The *pluvialis*-group contains therefore three species, the original *Q. pluvialis* from Emei Shan, the new species from Xilingxue Shan (*Q. shunichii* sp. n.) and the second species from Emei Shan (*Q. oui* sp. n.).

The *pluvialis*-group is quite distinctive within the subgenus *Raphirus*, being characterized by several derived characters, such as: meshed microsculpture on head and pronotum; highly developed male secondary characters present on abdominal sternites 5–8 (exception is *Q. oui* with these characters less developed, present on sternites 6 to 8, see the description); large, lightly sclerotized aedoeagus with large basal bulb; female genital segment with second gonocoxites long, narrow, each with minute stylus bearing long seta (see SMETANA, 1998, 103, Fig. 1), and with tergite 10 with long, dagger-like apical portion (Figs. 9, 15). Additional character states are the long antenna with even outer segments longer than wide, and the voluminous pronotum with obtusely rounded basal margin, markedly wider than elytral base.

The acronyms used in the text, when referring to the deposition of specimens are as follows:

- ASC Collection of Aleš SMETANA, Ottawa, Canada
- IZB Institute of Zoology, Chinese Academy of Sciences, Beijing, People's Republic of China
- NSM National Museum of Nature and Science, Tokyo, Japan

***Quedius (Raphirus) shunichii* sp. nov.**

(Figs. 1–3)

*Quedius (Raphirus) pluvialis* SMETANA, 2007, 466 [misidentification, nec *Quedius (Raphirus) pluvialis* SMETANA, 1998, 99].

*Description.* Refer to the description in SMETANA, 2007, 466–468, and figures 8–14. Figures 8–10 are repeated here for convenience (as Figs. 1–3).

Length 8.6–9.0 mm.

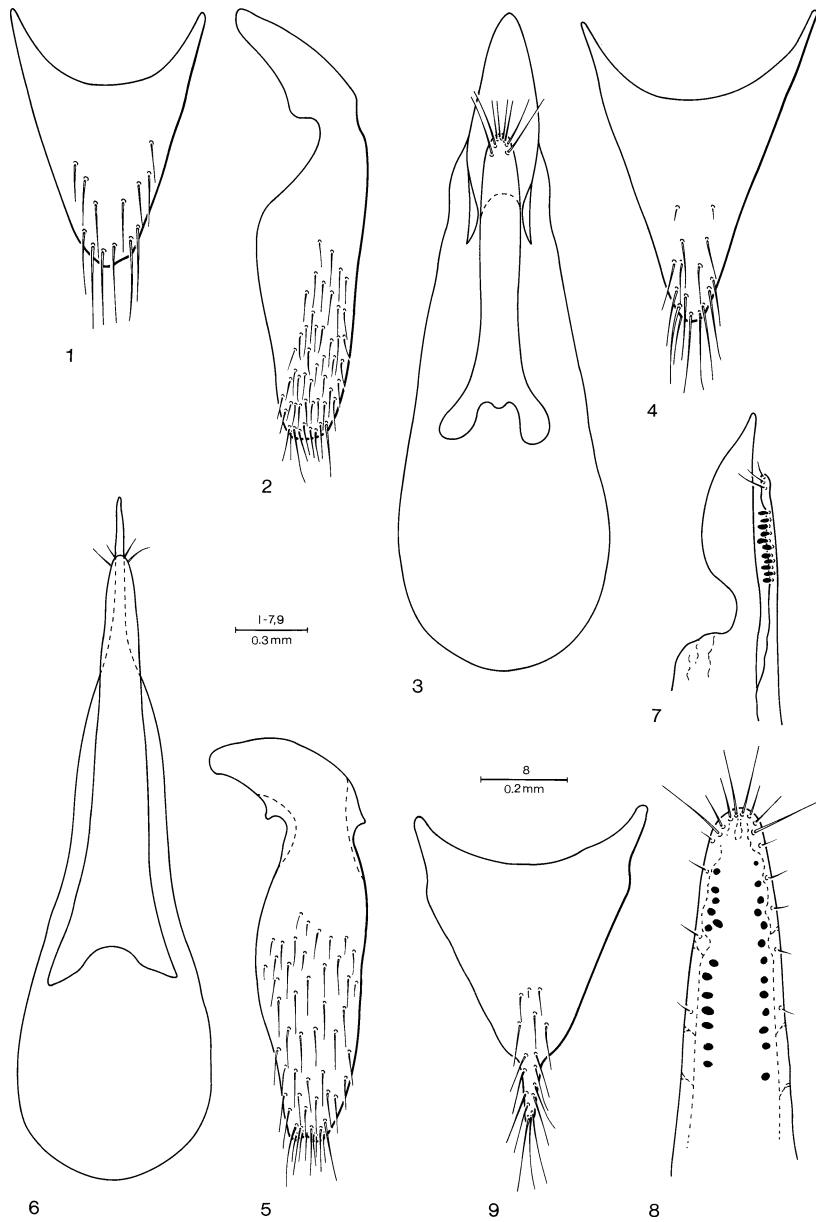
*Type material.* Holotype (male): China: “Xilingxue Shan Dujuanlin, 2,180 m, Dayi Xian C. Sichuan”/“SW CHINA 11–VI–2007 S. UÉNO leg.”/“*Quedius pluvialis* Smet. A. Smetana det. 2007”/“HOLOTYPE *Quedius shunichii* A. Smetana 2010”. In the SMETANA collection, Ottawa, Canada (to be eventually deposited in the Muséum d’histoire naturelle de Genève, Switzerland).

Paratype: same data as holotype, except for the last label “PARATYPE *Quedius shunichii* A. Smetana 2010”, 1♂ (NSM).

*Geographical distribution.* *Quedius shunichii* is at present known only from the type locality in central Sichuan.

*Bionomics.* The specimens were taken by sifting dead arrow-bamboo leaves, accumulated in a thicket of arrow-bamboo growing as undergrowth in a *Rhododendron* forest.

*Recognition and comments.* *Quedius shunichii* is the second largest species of the



Figs. 1-9. — 1-3. *Quedius shunichii*: 1, tergite 10 of male genital segment; 2, sternite 9 of male genital segment; 3, aedeagus, ventral view. — 4-9. *Quedius oui*: 4, tergite 10 of male genital segment; 5, sternite 9 of male genital segment; 6, aedeagus, ventral view; 7, apical portion of aedeagus, lateral view; 8, apical portion of underside of paramere; 9, tergite 10 of female genital segment.

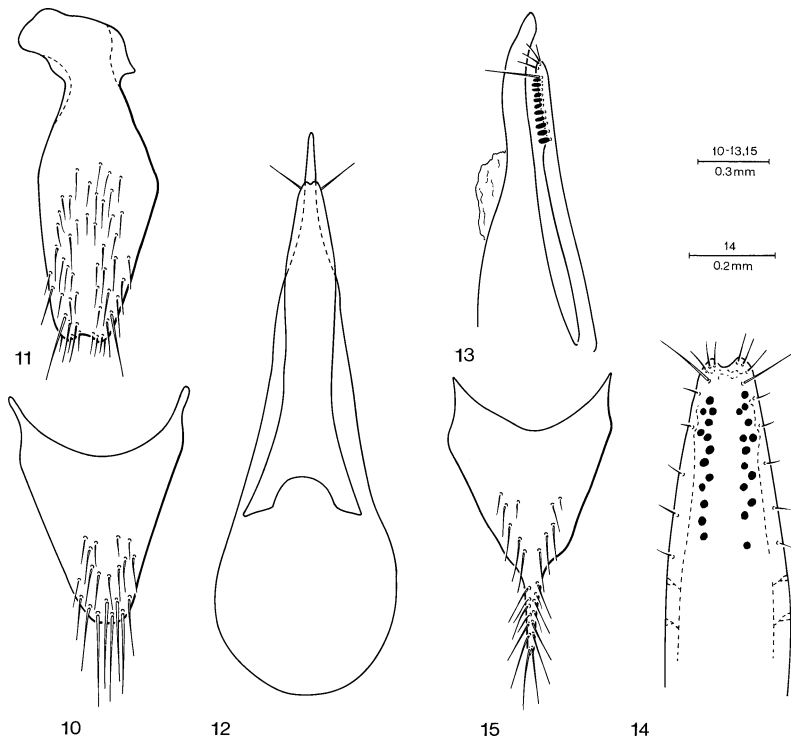
*pluvialis*-group. It differs from the both remaining species of the group by the highly developed male secondary sexual characters on abdominal sternites five to eight, and by the characteristic shape of the aedoeagus (Fig. 3). The males of *Q. pluvialis* have secondary sexual characters on sternites five to eight, but the characters are considerably simpler (see the description under *Q. pluvialis*).

*Etymology.* Patronymic. The species has been named in honour of Dr. Shun-Ichi UÉNO, National Museum of Nature and Science, Tokyo, in appreciation of our long lasting friendship, as well as in recognizing his outstanding contribution to the improvement of our knowledge of the beetle fauna of China and Japan.

*Quedius (Raphirus) oui* sp. nov.

(Figs. 4–9)

*Description.* Dark piceous to piceous-black, anterior portion of clypeus to various extent paler, rufobrunneous, elytra sometimes slightly paler; head and pronotum appearing dull. Maxillary and labial palpi brunneo-testaceous, antennae with first three segments rufobrunneous, middle segments somewhat darkened, outer four to five segments gradually becoming greyish-testaceous, legs piceous to piceous-black with slightly paler tarsi, medial faces of front tibiae rufo-brunneous. Head of rounded quadrangular shape, wider than long (ratio 1.18), posterior angles entirely rounded, obsolete. Eyes large, convex, tempora considerably shorter than eyes seen from above (ratio 0.23); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture situated close to posteriomedial margin of eye, separated from it by distance about as large as diameter of puncture, one puncture between it and posterior margin of head; temporal puncture touching posterior margin of eye; tempora without punctures; surface of head with dense, moderately coarse microsculpture of small isodiametric meshes changing gradually into slightly transverse meshes toward posterior margin of head; some scattered micropunctulae. Antenna long, segment 3 markedly longer than segment 2 (ratio 1.30), following segments markedly longer than wide, gradually becoming shorter, last segment elongate, shorter than two preceding segments combined. Pronotum voluminous, wider than long (ratio 1.19), widest at about posterior third, distinctly narrowed anteriorly, with lateral margins continuously arcuate with obtusely rounded base, transversely convex, lateral portions not explanate; dorsal rows each with three fine punctures, sublateral rows each with two or three punctures, posterior puncture (usually finer than the two previous) at about level of large lateral puncture (if only two punctures present, then posterior puncture before level of large lateral puncture); microsculpture similar to that on head but somewhat finer and denser, with micropunctulae more apparent. Scutellum with a few punctures, with fine submeshed microsculpture. Elytra very short, with apical margins each markedly oblique toward suture, at base markedly narrower than pronotum at widest point, slightly widened posteriorly, at suture considerably (ratio 0.66), at sides still markedly shorter (ratio 0.74) than pronotum at midline; punctuation moderately coarse



Figs. 10–15. *Quedius pluvialis*: 10, tergite 10 of male genital segment; 11, sternite 9 of male genital segment; 12, aedoeagus, ventral view; 13, apical portion of aedoeagus, lateral view; 14, apical portion of underside of paramere; 15, tergite 10 of female genital segment.

and dense, punctures slightly asperate, transverse interspaces between punctures about as large as diameters of punctures; pubescence piceous; surface between punctures with appreciable microscopical irregularities. Wings reduced to minute, non-functional stumps. Abdomen with tergite 7 (fifth visible) without whitish apical seam of palisade fringe; tergite 2 (in front of first visible tergite) entirely, finely and not densely punctate and pubescent; punctation of abdominal tergites finer than that of elytra, becoming gradually somewhat sparser toward apex of abdomen; pubescence piceous; surface between punctures with exceedingly dense and fine microsculpture of transverse striae.

**Male.** First four segments of front tarsus markedly dilated, each densely covered with modified pale setae ventrally; segment 2 wider than apex of tibia (ratio 1.27), segment 4 markedly narrower than preceding segments. Sternite 6 with apical margin vaguely, widely concave, with a small field of denser setae mediobasally; sternite 7 with apical margin moderately, subarcuately emarginate at middle, large triangular area before emargination depressed/flattened and smooth; sternite 8 with wide, deep, obtusely triangular medioapical emargination, large triangular area before emargination depressed and smooth. Genital segment with tergite 10 narrowly triangular, markedly,

evenly narrowed toward subacute apex, with a few setae at apex and on apical third, otherwise asetose (Fig. 4); sternite 9 with markedly differentiated basal portion, narrowly subtruncate to subemarginate apically, with two differentiated apical setae (Fig. 5). Aedoeagus (Figs. 6–8) very large, with voluminous basal bulb, median lobe of quite characteristic shape, anteriorly attenuated into long, narrow, dagger-like apical portion; paramere very long, shaped as in Figs. 6, 8, with narrowly arcuate apex reaching about apical third of the dagger-like apical portion of median lobe; sensory peg setae on underside of paramere forming two longitudinal rows, each with 9 to 14 setae; apex of paramere with two long setae and one equally long seta at each lateral margin below apex, and with two minute setae at each side between them; internal sac with complex sclerites.

**Female.** First four segments of front tarsus only slightly dilated, vaguely subbilobed, each with modified setae ventrally; segment two narrower than apex of tibia (ratio 0.78); segment four narrower than preceding segments. Sternite 8 with two long setae on each side. Genital segment with second gonocoxites long and narrow, each with extremely minute stylus bearing one long, strong seta; tergite 10 rather wide, markedly narrowed, apically rather abruptly narrowed into moderately long, dagger-like apical portion; setae present on dagger-like apical portion and for short distance medially in front of it, otherwise tergite asetose (Fig. 9).

Length 9.0–10.2 mm

**Type material.** Holotype (male): China: “P. R. CHINA, Sichuan, Emei Shan N29°32.806' E103°20.106', 03. vii. 2009, 2,349 m, sifting 15, V. Grebennikov”. Allotype (female): same data as holotype, but N29°33.605' E103°20.603'. 05. vii. 2009, 1947 m. Holotype temporarily in the Canadian National Collection of Insects, to be eventually deposited in the Institute of Zoology, Chinese Academy of Sciences, Beijing. Allotype in the SMETANA collection, Ottawa, Canada (to be eventually deposited in the Muséum d'histoire naturelle, Genève, Switzerland);

Paratypes: China: [Sichuan]: same data as allotype, 1 ♂, 3 ♀♀, in ASC and IZB; same data as holotype, but N29°33.775' E103°21.051', 29. vi. 2009, 1882 m, sifting 12, 1 ♂, 1 ♀ (ASC, IZB); same data as holotype, but N29°33.605' E103°20.633', 27. vi. 2009, 1947 m, sifting 11, 1 ♂ (ASC).

**Geographical distribution.** *Quedius oui* is at present known only from Emei Shan. It is likely endemic to that mountain range.

**Bionomics.** The specimens of the original series were taken by sifting layers of leaf litter on the broadleaved forest floor.

**Recognition and comments.** *Quedius oui* is the largest of the three species of the *pluvialis*-group. It differs from *Q. shunichii*, the second largest species of the group, by the absence of the male secondary sexual characters on the abdominal sternites five and six (see the description), and by the characteristic shape of the aedoeagus (Fig. 6). It differs from *Q. pluvialis* by the absence of the male secondary sexual characters on the abdominal sternite five (see the description of the male of *Q. pluvialis*), by the entirely different aedoeagus, and by the markedly larger tergite 10 of the female genital segment,

with shorter, more robust dagger-like apial portion (Figs. 9, 15). The female of *Q. shunichii* is not known at present.

*Etymology.* Patronymic, the species was named in honor of Mr. OU Dingxiang, the Deputy Secretary of Environmental Protection Agency, in appreciation of his support during the field work on Emei Shan.

*Quedius (Raphirus) pluvialis* SMETANA

(Figs. 10–15)

*Quedius pluvialis* SMETANA, 1998, 99.

*New record.* China: [Sichuan]: “P. R. CHINA, Sichuan, Emei Shan, N29° 32.932' E103° 20.466' 01. vii. 2009, 2310m, sifting 14, V. Grebennikov”, 3 ♂♂, 4 ♀♀ (ASC, ZIB).

*Comments.* The specimens were taken by sifting layers of leaf litter on the broadleaved forest floor.

*Quedius pluvialis* was described from a single female taken at Emei Shan, Sichuan, and the holotype was until now the only known specimen of the species. The previous description of the male of the species (SMETANA, 2007, 466) was a misidentification and referred actually to a new species (see *Q. shunichii* above).

*Male.* First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 wider than apex of tibia (ratio 1.33), segment 4 narrower than preceding segments. Sternite 5 with apical margin slightly bisinuate in middle, and with punctation and pubescence denser on middle portion of sternite; sternite 6 with apical margin subtruncate in middle, small square medial area before it flattened and smooth, square area bordered along each side by long, dark setae; sternite 7 with apical margin inconspicuously notched in middle, small square medial area before it flattened and smooth, medial area of sternite bordered along each side by long, dark setae extending to about basal third of sternite; sternite 8 with wide and deep, obtusely triangular medioapical emargination, small triangular area before emargination depressed and smooth. Genital segment with tergite 10 rather small, evenly narrowed toward arcuate apex, setose as in Fig. 10; sternite 9 rather short and wide, with markedly differentiated basal portion, widely subtruncate to subemarginate apically, with two differentiated subapical setae (Fig. 11). Aedoeagus (Figs. 12–14) similar to that of *Q. oui*, but in general smaller, with apical dagger-like portion markedly shorter; paramere markedly shorter and of somewhat different shape, with apex slightly emarginate, sensory peg setae on underside of paramere forming two longitudinal rows which are shorter and more irregular than those of *Q. oui* (Fig. 14).

*Quedius pluvialis* is the smallest species of the three species of the group, the length of the specimens studied fluctuates between 8.0–8.8 mm. An additional character, distinguishing it from the remaining two species of the group, is the presence of an additional setiferous puncture between the posterior frontal puncture and the puncture

at the posterior margin of the head.

### 要 約

A. SMETANA: 中国産ツヤムネハネカクシ亜族に関する知見. 38. ツヤムネハネカクシ属 *Raphirus* 亜属の 8. — 四川省の峨眉山から記載された *Quedius pluvialis* の雄を詳しく検討した結果, 2 新種の混在が確認されたので, それらを新たに記載し, 西岭雪山の固有種に *Q. shunichii* という新名を, また峨眉山固有の第二の種に *Q. oui* という新名を与えた.

### References

- SMETANA, A., 1998. Contributions to the knowledge of the Quediina (Coleoptera, Staphylinidae, Staphylinini) of China. Part 10. Genus *Quedius* STEPHENS, 1829. Subgenus *Raphirus* STEPHENS, 1829. Section 3. *Elytra, Tokyo*, **26**: 99–113.
- 2007. Ditto. Part 28. Genera *Strouhalium* SCHEERPELTZ, 1962 (section 5) and *Quedius* STEPHENS, 1829 (subgenus *Microsaurus* DEJEAN, 1833, section 16 and *Raphirus* STEPHENS, 1829, section 5). *Ibid.*, **35**: 461–469.
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