

Contributions to the Knowledge of the Quediina (Coleoptera, Staphylinidae, Staphylinini) of China

Part 21. Genus *Quedius* STEPHENS, 1829.
Subgenus *Raphirus* STEPHENS, 1829. Section 4

Aleš SMETANA

Agriculture and Agri-Food Canada, Research Branch,
Central Experimental Farm, K.W. Neatby Bldg.,
Ottawa, Ontario K1A 0C6, Canada

Abstract Taxonomic and faunistic data on the species of the genus *Quedius*, subgenus *Raphirus*, from the People's Republic of China are provided. Five new species are described as follows: *Q. herbicola* (Hubei); *Q. torrentum* (Hubei), *Q. barbarossa* (Hubei, Shaanxi), *Q. rivulorum* (Yunnan) and *Q. bisignatus* (Shaanxi). *Quedius herbicola* belongs to the *himalayicus* group, the remaining species to the *intricatus* group. The female sexual characters are described for the first time for *Q. jindrai*. *Quedius chinensis* is recorded for the first time from Guandong, *Q. puetzi* from Hubei and Yunnan, *Q. jindrai* from Shaanxi and Hubei, and *Q. caelestis* from Shaanxi and Hunan.

This is the twenty-first of a series of papers dealing with the Quediina of the People's Republic of China. It presents further taxonomic and faunistic data on some previously described species of the subgenus *Raphirus*, as well as descriptions of five new species of the same subgenus, most based on specimens collected recently (July 2001) during a joint field trip of Michael SCHÜLKE (Berlin), David WRASE (Berlin), and the author, to the provinces Shaanxi and Hubei. Most collecting was done in the mountain ranges Qinling Shan and Daba Shan.

Quedius (Raphirus) chinensis BERNHAUER

Quedius chinensis BERNHAUER, 1915, 74.

New records. China: [Guandong]: Qino Zhang [sic!], 5. IV. 93, 1 ♂; Guo Fou Shan [sic!], 1 ♀; in DE ROUGEMONT (London) and SMETANA (Ottawa) collections.

Comments. These are the first records of this species from Guandong. It was previously known from Fujian, Guanxi Zhuang Autonomous Region, Sichuan and Zhejiang (SMETANA, 1996 b, 228).

***Quedius (Raphirus) fen* SMETANA**

Quedius fen SMETANA, 1996 b, 229.

New records. China: [Sichuan]: Qincheng Shan NW Chengdu, 650–700 m 30.54N 103.33E, 18.V. 1997, Wrase, 1 ♂, 1 ♀; Qincheng Shan, 65 km NW Chengdu, 8 km W Taiping, 30.53N 103.33E, 800–1000 m, 18.V.–4.VI.1997, A. Pütz, 1 ♀; Emei Shan, 2500 m, 4.–20.V.1989, 1 ♀; in the PÜTZ (Eisenhüttenstadt), SCHÜLKE (Berlin) and SMETANA (Ottawa) collections.

Comments. *Quedius fen* was until now known only from the Emei Shan (SMETANA, 1996 b, 232).

***Quedius (Raphirus) puetzi* SMETANA**

Quedius puetzi SMETANA, 1998, 106.

New records. China: [Yunnan]: Baishui, 2700N 100 12E, 10.–17.VI.98, E. Kučera, 1 ♂, in the SMETANA collection, Ottawa. [Hubei]: Daba Shan, pass east of Mt. Da Shennongjia, 12 km NW Muyuping 31°30'N 110°21'E, 1950 m, 22.VII. 01, A. Smetana [C117], 1 ♂, 1 ♀, in the SMETANA collection.

Comments. These are the first records of this species from both Yunnan and Hubei. It was previously known only from Shaanxi (SMETANA, 1998, 107). The specimens from Hubei were taken by sifting moist moss on tree trunks fallen across a small creek.

***Quedius (Raphirus) jindrai* SMETANA**

(Fig. 1)

Quedius jindrai SMETANA, 1998, 110.

New records. China: [Hubei]: Daba Shan, mtn. range NE Muyuping, creek valley 4 km N Muyuping, 1700 m, 21.7.01, A. Smetana [C116], 5 ♂, 1 ♀, in the SMETANA collection. [Shaanxi]: border Shaanxi–Sichuan, Daba Shan, pass 20 km SSE Zhenping, 31°44'N 109°35'E, 1700–1800 m, 9.VII.2001, 1 ♂, 1 ♀, leg. M. Schülke [C0–07], in the SCHÜLKE collection; Daba Shan, creek valley, SE pass, 20 km NW Zhenping, 31°59'N 109°22'E, 1680 m, 11.VII.2001, 1 ♂, 2 ♀, leg. M. Schülke [C01–10A], in the SCHÜLKE and SMETANA collections; Qinling Shan, pass on rd. Zhouzhi–Foping, 105 km SW Xi'an, N-slope, 33°44'N 107°59'E, 1990 m, 2./4. VII.2001, 2 ♂, leg. M. Schülke [C01–01], in the SCHÜLKE collection.

Comments. These are the first records of this species from both Hubei and Shaanxi. It was previously known only from Sichuan (see SMETANA, 1998, 111). In the two specimens of the original series the pubescence of the abdominal tergites was disturbed and partly missing, therefore the not very conspicuous, small tuft of golden-red-dish tomentose pubescence on each lateroapical portion of the first visible tergite, that is always present in this species, was not mentioned in the original description. Also,

the coloration of the dorsal side of the body of the two specimens of the original series was given as “dark metallic bluish”, while in fact in most of the recently collected specimens (in all of those collected by myself, and killed by ethyl acetate vapours in sawdust) the dorsal side of the body is brightly metallic green. However, in two specimens collected by SCHÜLKE, and killed and preserved in alcohol, the coloration is exactly as given originally. This may suggest that the bright metallic interference colors, such as in this case, may be artificially affected by killing and preserving methods.

The specimens collected by SMETANA were taken by sifting moist to soaking wet moss growing on large rocks in a mountain creek. Those collected by SCHÜLKE bear the following habitat labels: “moss (sifted)”.

Since the female of this species was not known until now, the female sexual characters are described below.

Female. First four segments of front tarsus similar to those of male, but less dilated, segment 2 about as wide as apex of tibia. Genital segment with tergite 10 shaped as in Fig. 1, distinctly pigmented medioapically, with four long setae at apex, and with two somewhat shorter setae in front of them.

Quedius (Raphirus) caelestis SMETANA

Quedius caelestis SMETANA, 1996 a, 54.

New records. China: [Hunan]: Zhang Jia Jie N.P., 1400–1600 m, 15.–17.VII.92, Holzschuh, 4♂♂, in the Naturhistorisches Museum, Wien, Austria, and in the SMETANA collection, Ottawa. [Shaanxi]: Qinlingshan, 12 km SW Xunyangba, 1900–2250 m, 14.–18.6.2000, C. Holzschuh, 2♂♂, 2♀♀, in the Naturhistorisches Museum, Wien, Austria, and in the SMETANA collection, Ottawa. [Sichuan]: Gongga Shan, Hailuogou, lake above Camp 2, 29°35'N 102°00'E, 2750 m, 4.VII.98, [C74], A. Smetana, 1♂, 2♀♀; same, above Camp 2, 2800 m, 5.VII.98, [C75], A. Smetana, 2♂♂, 1♀; same, in front of Glacier 1, 2850 m, 7.VII.98, [C76], A. Smetana, 1♂, 2♀♀, all specimens in the SMETANA collection, Ottawa; Gongga Shan, 2800 m, 229°41'N 101°58'E, 14.–19.VI.1999, Siniaev & Plutenko, 2♂, 1♀, in the SCHÜLKE collection, Berlin.

Comments. Only one record of this species from Sichuan (Mt. Emei) was known previously (SMETANA, 1996 a, 57). The specimens from the Hailuogou valley were typically found by the author in large, white flowers of the common *Sambucus*-like shrub, often together with members of the genus *Eucibdelus*. Most specimens were sitting on the underside of the flowers and were not readily visible. Visiting flowers on a regular basis is in general rarely observed with species of the genus *Quedius*. The only other instance known to me is the regular appearance of *Q. limbifer* HORN, 1878 on the vegetation, including flowers of “buckeye” (*Aesculus* sp.) (see SMETANA, 1971, 115).

Quedius caelestis was previously known only from northern Yunnan and Sichuan (SMETANA, 1996 a, 58). These are the first records from Shaanxi and Hunan. The species is obviously widely distributed in mainland China.

The following new species belongs to the *himalayicus* group (see SMETANA, 1988, 275).

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

(Figs. 2–6)

Description. In all external characters very similar to *Q. chinensis* BERNHAUER, 1915 and different mainly by male sexual characters.

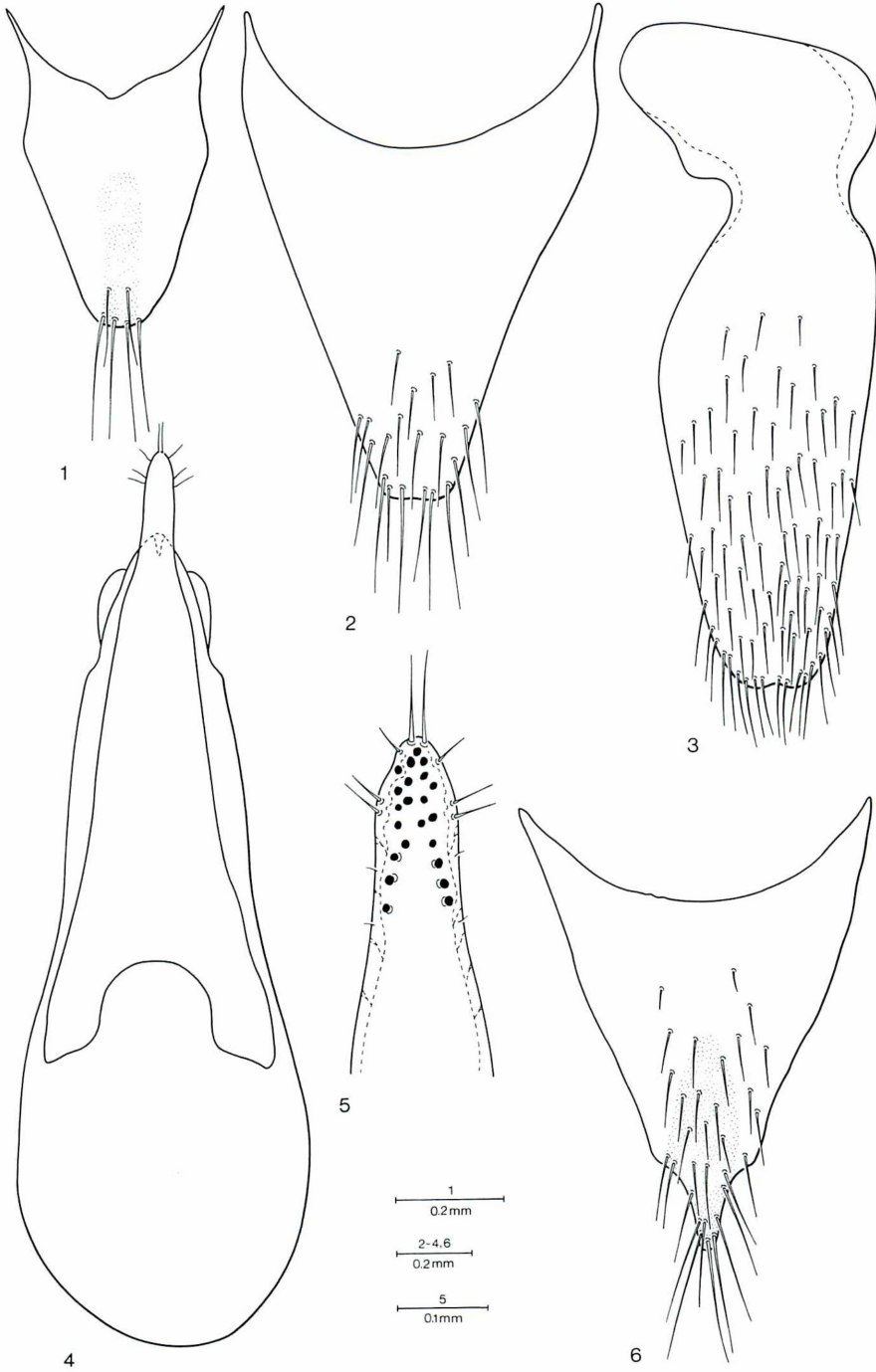
Male. First four segments of front tarsus slightly more dilated than those of *Q. chinensis*, segment 2 distinctly wider than apex of tibia (ratio 1.34). Sternite 7 with apical margin hardly concave apically. Sternite 8 with two long setae on each side; with moderately wide and deep, arcuate medioapical emargination, similar to that of *Q. chinensis*, small triangular area before emargination flattened and smooth. Genital segment with tergite 10 relatively narrow, triangular, with several longer setae at and near apical margin and with numerous shorter setae in front of them (Fig. 2); sternite 9 with basal portion similar to that of *Q. chinensis*, apical portion large, minutely notched in middle of apical margin, without differentiated apical or subapical setae (Fig. 3). Aedoeagus (Figs. 4, 5) large and voluminous, of characteristic shape; median lobe markedly, evenly narrowed anteriorly, in about apical fourth abruptly attenuated into narrowly arcuate apical portion; apical portion with minute medioapical carina on face adjacent to paramere, and with small lateral lobe at each side. Paramere large and long, almost evenly attenuated anteriorly into narrow apical portion with narrowly arcuate apex, apex of paramere markedly exceeding apex of median lobe; four setae at apex, medial pair markedly longer than lateral pair, two fairly long setae at each lateral margin below apex; underside of paramere with moderately numerous sensory peg setae, forming a solid apical field extending posteriorly as a short, longitudinal row along each lateral margin; internal sac with two paired spinose structures, a short distal and a long proximal.

Female. First four segments of front tarsus distinctly less dilated than those of male, segment 2 about as wide as apex of tibia. Genital segment with tergite 10 triangular, pigmented medioapically, with differentiated, narrow apical portion with numerous long setae (Fig. 6).

Length 8.0–10.0 mm.

Type material. Holotype (male) and allotype (female): China: “CHINA (W-Hubei) Daba Shan pass E Mt. Da Shennongjia 12 km NW Muyuping 31°30'N 110°21'E, 1950 m (dry creek vall./mix.decid.forest) 16.–22.VII.2001 Wrase [13]”. Allotype (female): “CHINA (W-Hubei) Daba Shan creek vall. 8 km NW Muyuping 31°29'N 110°22'E, 1540 m (edge of small creek) 18.VII.2001 Wrase [16]”. Both

Figs. 1–6. — 1. *Quedius jindrai*: tergite 10 of female genital segment. — 2–6. *Quedius herbicola*: 2, tergite 10 of male genital segment; 3, sternite 9 of male genital segment; 4, aedoeagus, ventral view; 5, apical portion of underside of paramere; 6, tergite 10 of female genital segment.



holotype and allotype in the SCHÜLKE collection, Berlin.

Paratypes: China: [Hubei]: same data as holotype, 1 ♂, 1 ♀, in the SCHÜLKE collection; same data as allotype, 1 ♂, 1 ♀, in the SMETANA collection.

Geographical distribution. *Quedius herbicola* is at present known only from Daba Shan in western Hubei. It is likely more widely distributed.

Bionomics. The specimens of the original series were collected by David WRASE mostly among the grassy and herbaceous vegetation on forest clearings, especially along the forest edges, together with many carabid species.

Recognition and comments. *Quedius herbicola* may be positively distinguished from *Q. chinensis* only by the male sexual characters, particularly by the characteristic shape of the paramere of the aedeagus.

Etymology. The specific epithet is the Latin noun *herbicola*, -ae, m. (living among plants), in apposition. It refers to the apparently preferred habitat of the species.

The following four species belong to the *intricatus* group (see SMETANA, 1995, 103).

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

(Figs. 7–12)

Description. Shiny, head and pronotum metallic dark blue to black, with irregularities and deep punctures to various extent bright emerald green, elytra dark metallic green, usually with areas along suture appearing less green, abdomen black with conspicuous, dark greenish-blue iridescence; maxillary and labial palpi piceous to piceous-black, antennae piceous, first three segments black (except for pale bases) with metallic hue; legs black with front coxae and femora, except for apices and dorsal edge, pale yellowish. Head rounded, vaguely wider than long (ratio 1.10); eyes very large and convex, tempora considerably shorter than eyes seen from above (ratio 0.15); dorsal surface of head with coarse and dense punctation, punctures becoming considerably coarser and deeper, occasionally subrugose, toward posterior margin; clypeus impunctate, variably large area on vertex with variably numerous fine punctures; punctation in general obscuring usual setiferous punctures that can only be traced by presence of long setae; surface between punctures with hardly visible, very fine, superficial, submeshed microsculpture. Antenna moderately long, segments 2 and 3 subequal in length, segments 4 and 5 slightly longer than wide, segments 6–10 about as long as wide, last segment about as long as two preceding segments combined. Pronotum vaguely wider than long (ratio 1.09), widest at about middle, slightly more narrowed anteriorly than posteriorly, with lateral margins continuously arcuate with broadly rounded base; transversely convex, lateral portions inconspicuously explanate posteriorly; dorsal rows irregular, each with 10–13 deep, pit-like punctures, each row with tendency to expand in a group of punctures posteriorly; lateral portions each with a group of 5 or 6 punctures similar to those in dorsal rows and with rather dense and

moderately fine punctation in a wide strip along lateral margin, some of punctures bearing whitish hairs; disc of pronotum with only very few, scattered fine punctures; surface of pronotum with microsculpture similar to that on head. Scutellum impunctate, with extremely fine, rudimentary microsculpture. Elytra with elevated, smooth suture; moderately long, at base somewhat narrower than pronotum at widest point; at suture about as long as, at sides slightly longer (ratio 1.18) than pronotum at midline; punctation coarse and dense, on disc forming more or less distinct, mostly transverse rugae, deflexed portion of each elytron with relatively fine and sparse, simple punctation; pubescence mixed, darker hairs intermixed with some golden or whitish ones, particularly on lateral portion of each elytron; surface between punctures without appreciable microsculpture. Wings fully developed. Abdomen with tergite 7 (fifth visible) bearing distinct, whitish apical seam of palisade fringe; punctation of abdominal tergites very fine, almost obscured by distinct, dense transverse microsculpture; pubescence dark on middle portion but becoming golden-yellow on lateral portion of each tergite, some golden-yellow hairs may be also present on apical margins of visible tergites 1–4.

Male. First four segments of front tarsus markedly dilated, each densely covered with long, modified pale setae ventrally; segment 2 distinctly wider than apex of tibia (ratio 1.30); segment 4 narrower than preceding segments. Sternite 7 with wide, shallow, subarcuate medioapical emargination. Sternite 8 with two long setae on each side, with wide and moderately deep, triangular medio-apical emargination, small triangular area before emargination flattened and smooth (Fig. 7). Genital segment with tergite 10 as in Fig. 8, with fimbriate apex and with 7 or 8 long setae on apical portion; sternite 9 as in Fig. 9, apex of apical portion minutely notched, without differentiated setae. Aedoeagus (Figs. 10, 11) with median lobe evenly narrowed anteriad, with narrowly arcuate apex. Paramere elongate, slightly curved toward left, with subacute apex slightly exceeding apex of median lobe; with four minute setae at apex and two unequally developed setae at each lateral margin below apex; underside of paramere with sensory peg setae very numerous, forming a dense subapical field; internal sac with a pair of long, spinose structures.

Female. First four segments of front tarsus similar to those of male, but less dilated, segment 2 slightly wider than apex of tibia (ratio 1.18). Genital segment with tergite 10 pigmented medioapically, markedly narrowed toward arcuate apex, with numerous long setae near apex and a few much smaller setae in front of them (Fig. 12).

Length 5.8–6.3 mm.

Type material. Holotype (male) and allotype (female): China: “CHINA W-Hubei Daba Shan crk. valley 8 km NW Muyuping 31°29’N”/“110°22’E 1550–1650 m 18.VII.2001 A. Smetana [C115a]”. In the SMETANA collection, Ottawa, Canada.

Paratypes: China: [Hubei]: same data as holotype, 2♂, 2♀, in the SMETANA collection; Daba Shan, mtn. range NE Muyuping, creek valley 4 km N Muyuping, 1700 m, 21.VII.01, A. Smetana [C116], 1♂, in the SMETANA collection; same data as holotype, but leg. M. Schülke [CO1–16A], 3♂, 7♀, in the SCHÜLKE and SMETANA collections.

Geographical distribution. *Quedius torrentum* is at present known only from Daba Shan in western Hubei.

Bionomics. All specimens of this species were taken from moist to wet moss growing on rocks directly in fast running mountain creeks, either by sifting the moss, or by submerging the moss in water.

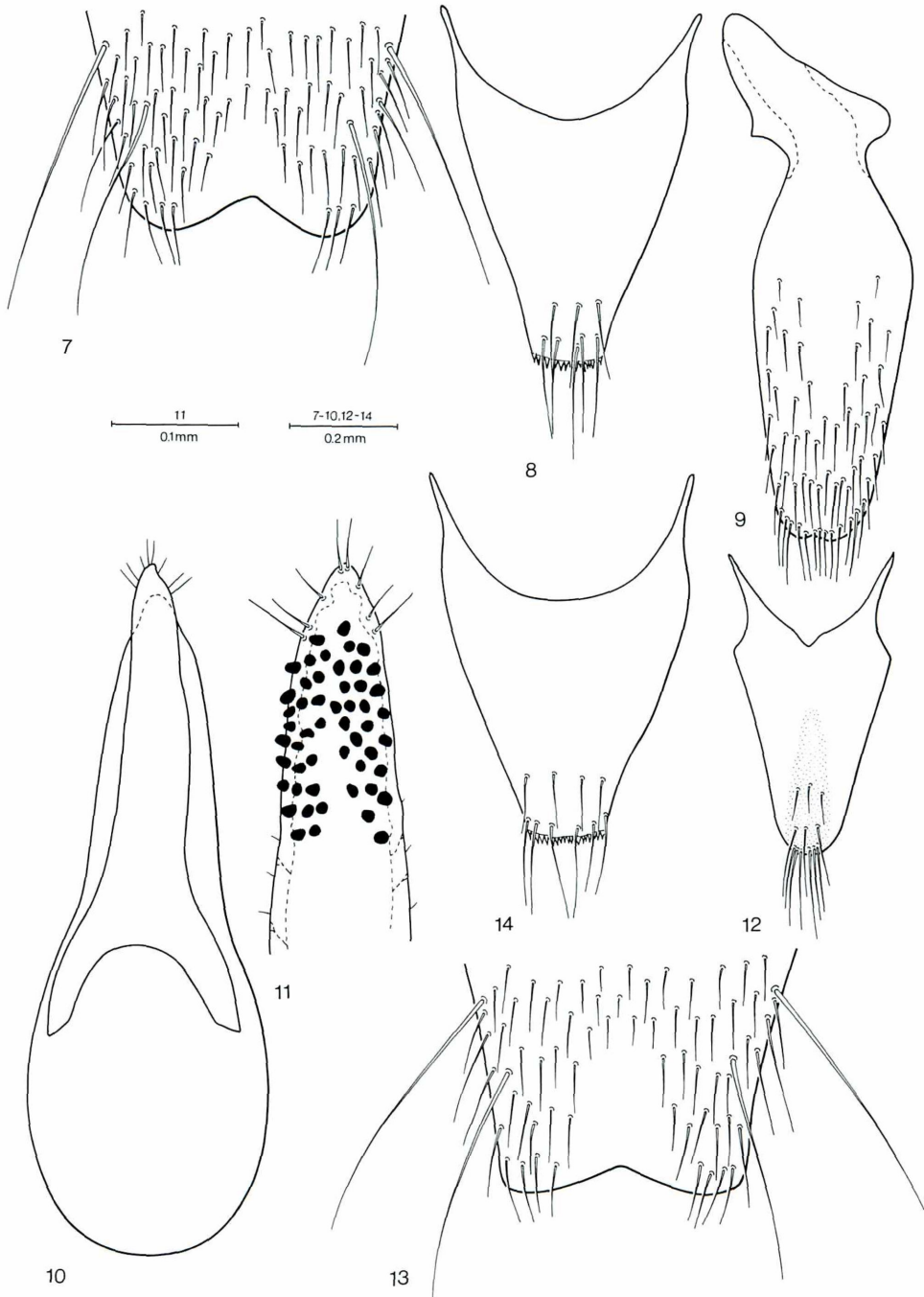
Recognition and comparisons. *Quedius torrentum* may be best recognized, in addition to the characters of the aedoeagus, by the coloration of the body, combined with the dense and relatively not so coarse sculpture/punctuation of the forebody, which gives the specimens a rather dull appearance, and with the absence of the tufts of golden-reddish tomentose pubescence on the first visible abdominal tergite. The coloration of the appendages is similar to those of *Q. taiwanensis* SHIBATA, 1986 and *Q. barbarossa* (see below), but the latter two species differ, in addition to the differently shaped aedoeagus, by the coarser and not so dense sculpture/punctuation of the forebody, which gives the specimens rather shiny appearance, and by the presence of the golden-reddish tufts of tomentose pubescence on the first visible abdominal tergite. *Quedius torrentum* and *Q. bisignatus* (see below) are at present the only two species of the *intricatus* group occurring in mainland China, that are lacking the tufts of golden-reddish tomentose pubescence on the first visible abdominal tergite. However, *Q. bisignatus* differs easily, in addition to the sculptural differences in the dorsal surface of the forebody and the differences on the aedoeagus, by the presence of the conspicuous coppery spot in the medioapical corner of each elytron.

Etymology. The specific epithet is the plural genitive of the Latin noun *torrens*, *-entis*, m. (rushing stream) in apposition. It refers to the habitat of this species that includes moss growing on rocks in creeks.

Quedius (Raphirus) barbarossa sp. nov.

(Figs. 13–18)

Description. Shiny, head and pronotum black, with irregularities and deep punctures, especially on head, variably bright emerald green, elytra dark metallic blue to bluish-black, abdomen black, markedly iridescent; maxillary and labial palpi piceous to piceous-black, antennae piceous, first three segments black (except for pale bases) with metallic hue; legs black with front coxae and femora, except for apices and dorsal edge, pale yellowish. Head rounded, vaguely wider than long (ratio 1.12); eyes very large and convex, tempora considerably shorter than eyes seen from above (ratio 0.14); dorsal surface of head with coarse, moderately dense, irregular punctuation, punctures becoming considerably coarser and deeper, frequently subrugose, toward posterior margin; clypeus impunctate, variably large area on vertex impunctate or with a few fine punctures; punctuation in general obscuring usual setiferous punctures that can only be traced by presence of long setae; surface between punctures with hardly visible, very fine, rudimentary submeshed microsculpture. Antenna moderately long, segments 2 and 3 subequal in length, segments 4 and 5 slightly longer than wide, segments 6–10

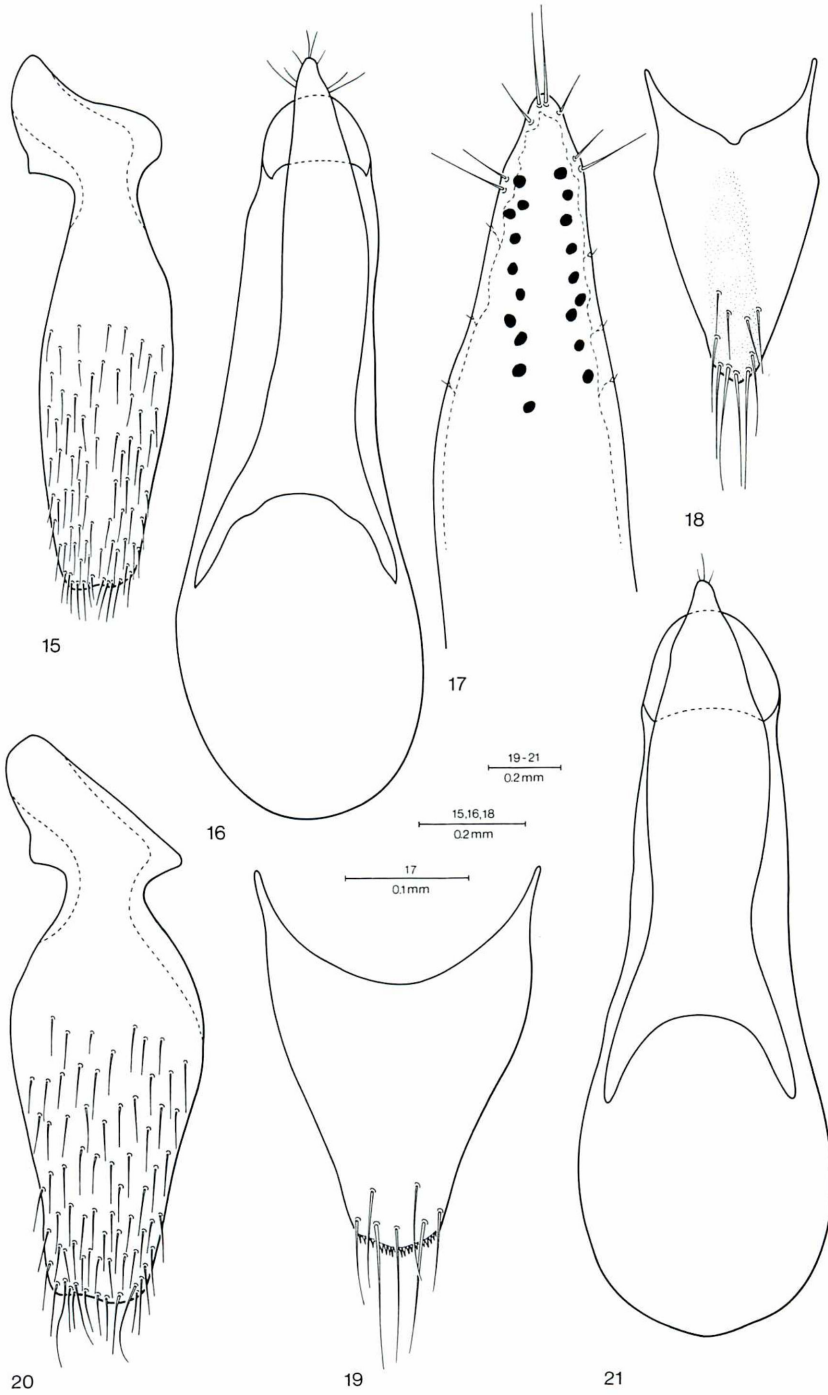


Figs. 7-14. — 7-12. *Quedius torrentum*: 7, apical portion of male sternite 8; 8, tergite 10 of male genital segment; 9, sternite 9 of male genital segment; 10, aedeagus, ventral view; 11, apical portion of underside of paramere; 12, tergite 10 of female genital segment. — 13, 14. *Quedius barbarossa*: 13, apical portion of male sternite 8; 14, tergite 10 of male genital segment.

about as long as wide, last segment about as long as two preceding segments combined. Pronotum vaguely wider than long (ratio 1.10), widest at about middle, slightly more narrowed anteriorly than posteriorly, with lateral margins continuously arcuate with broadly rounded base; transversely convex, lateral portions inconspicuously explanate posteriorly; dorsal rows irregular, each with 8–10 deep, pit-like punctures, each row with tendency to expand in a group of punctures posteriorly; lateral portions each with a group of 4 or 5 punctures slightly less coarse than those in dorsal rows, and with rather dense and fine punctation in a wide strip along lateral margin, most punctures bearing whitish hairs; disc of pronotum with hardly any fine punctures; surface of pronotum with microsculpture similar to that on head. Scutellum impunctate, with extremely fine, rudimentary microsculpture. Elytra with elevated, smooth suture; moderately long, at base somewhat narrower than pronotum at widest point; at suture about as long as, at sides slightly longer (ratio 1.20) than pronotum at midline; punctation quite coarse and deep, on disc forming distinct, mostly transverse and oblique rugae, deflexed portion of each elytron with irregular, fine and sparse, simple punctation; pubescence mixed, darker hairs intermixed with whitish ones, particularly on lateral portion of each elytron; surface between punctures without appreciable microsculpture. Wings fully developed. Abdomen with tergite 7 (fifth visible) bearing distinct, whitish apical seam of palisade fringe; punctation of abdominal tergites very fine, moderately dense, becoming slightly sparser toward apex of each tergite, and in general toward apex of abdomen; first visible tergite with a distinct tuft of golden-reddish tomentose pubescence on each lateral portion, both tufts usually connected by golden-reddish hairs along apical margin of tergite; pubescence dark on middle portion, with small patch of sparse yellowish hairs on both lateral portions and at apical margin of each tergite; surface between punctures with very fine and dense microsculpture of transverse striae.

Male. First four segments of front tarsus markedly dilated, each densely covered with long, modified pale setae ventrally; segment 2 distinctly wider than apex of tibia (ratio 1.25); segment 4 narrower than preceding segments. Sternite 7 with inconspicuous, rounded medioapical emargination. Sternite 8 with two long setae on each side, with wide and shallow, obtusely triangular medioapical emargination, small triangular area before emargination flattened and smooth (Fig. 13). Genital segment with tergite 10 as in Fig. 14, with fimbriate apex and with five or six long setae near apical margin and a few shorter setae in front of them; sternite 9 as in Fig. 15, apex of apical portion minutely notched, without differentiated setae. Aedoeagus (Figs. 16, 17) with median lobe slightly, evenly narrowed toward slightly differentiated apical portion with broadly rounded apex, each lateral margin minutely notched before apical portion.

Figs. 15–21. — 15–18. *Quedius barbarossa*: 15, sternite 9 of male genital segment; 16, aedoeagus, ventral view; 17, apical portion of underside of paramere; 18, tergite 10 of female genital segment. — 19–21. *Quedius rivulorum*: 19, tergite 10 of male genital segment; 20, sternite 9 of male genital segment; 21, aedoeagus, ventral view.



Paramere elongate, slightly asymmetrical and slightly curved toward left margin of median lobe, with subacute apex exceeding apex of median lobe; with two setae at apex, medial pair markedly longer than lateral setae and with two unequally developed setae at each lateral margin below apex; underside of paramere with sensory peg setae moderately numerous, forming two irregular longitudinal rows, each with 7–10 peg setae; internal sac with a pair of long, spinose structures.

Female. First four segments of front tarsus similar to those of male, but less dilated, segment 2 about as wide as apex of tibia. Genital segment with tergite 10 pigmented medioapically, markedly narrowed toward narrowly arcuate apex, with numerous long setae near apex and a few smaller setae in front of them (Fig. 18).

Length 5.6–6.3 mm.

Type material. Holotype (male) and allotype (female): China: “CHINA Shaanxi Qinling Shan above Houzhenzi 115 km WSW Xi’an”/”1450 m 33°50’N 107°47’E 5.VII.2001 A. Smetana [C95a]”. In the SMETANA collection, Ottawa, Canada.

Paratypes: China: [Shaanxi]: same data as holotype, 4♂, 2♀; same data as holotype, but leg. M. Schülke [CO1–06], 9♂, 3♀, in the SCHÜLKE (Berlin) and SMETANA collections; Qinling Shan, pass rd. Zhouzhi–Foping, 105 km SW Xi’an/N slope, 1700 m, 33°46’N 107°58’E, 3.VII.2001, A. Smetana [C91], 1♀, in the SMETANA collection; same data, but leg. M. Schülke [C01–02], 6♂, 8♀, in the SCHÜLKE and SMETANA collections; Daba Shan, creek valley SE pass 20 km NW Zhenping/31°59’N 109°22’E, 1680 m, 11.VII.2001, A. Smetana [C100], 4♂, 2♀, in the SMETANA collection and in the National Science Museum, Tokyo; same data, but leg. M. Schülke [C01–10A], 1♂, 1♀, in the SCHÜLKE collection; border Shaanxi–Sichuan, Daba Shan, pass 20 km SSE Zhenping, 1700–1800 m, 31°44’N 109°35’E, 9.VII.2001, leg. M. Schülke [C01–07], 2♂, in the SCHÜLKE collection. [Hubei]: Daba Shan, creek valley 8 km NW Muyuping, 32°29’N 110°22’E, 1550–1650 m, 18.VII.2001, leg. M. Schülke [C01–16A], 6♀, in the SCHÜLKE and SMETANA collections; Daba Shan, pass E of Mt. Da Shennongjia, 12 km NW Muyuping, 31°30’N 110°21’E, 22.VII.2001, 1950–2050 m, leg. M. Schülke [C01–13E], in the SCHÜLKE collection.

Geographical distribution. *Quedius barbarossa* is at present known from Daba Shan in southern Shaanxi and in western Hubei.

Bionomics. All specimens of this species were taken from moist to wet moss growing on rocks directly in fast running mountain creeks, either by sifting the moss, or by submerging the moss in water. At the creek in the valley 8 km NW Muyuping (Hubei), this species occurs together with *Q. torrentum*, and at the creek near the pass 20 km SSE Zhenping (Shaanxi) together with *Q. jindraei*.

Recognition and comparisons. *Quedius barbarossa* resembles closely the Taiwanese species *Q. taiwanensis*, but the latter species differs, in addition to the differently shaped aedeagus, mainly by the dense, deep and coarse, unequal, irregular punctation of the surface of the pronotum, without noticeable dorsal rows. *Quedius bisignatus* differs from *Q. barbarossa* easily by the presence of a coppery spot in the medioapical corner of each elytron, and by the absence of the tufts of the golden-red-

dish tomentose pubescence on the first visible abdominal tergite. *Quedius rivulorum* differs mainly by the differently shaped aedoeagus.

Etymology. The specific epithet is the name "Barbarossa" (meaning "red beard"), an attribute of Frederick I, the holy Roman emperor of the 12th century, in apposition. It refers to the presence of the tufts of the golden-reddish tomentose pubescence on the first visible abdominal tergite of this species.

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

(Figs. 19–22)

Description. In all characters very similar to *Q. barbarossa*, but different as follows: slightly larger and more robust than average specimens of *Q. barbarossa*, head somewhat larger and wider, more distinctly wider than long (ratio 1.21), with tempora slightly longer (corresponding ratio 0.24), antenna somewhat longer, with segments 4–6 longer than wide (gradually becoming shorter), elytra longer, at suture slightly (ratio 1.16), at sides more distinctly longer than pronotum at midline (ratio 1.30), tufts of golden-reddish tomentose pubescence on first visible abdominal tergite smaller and thinner than in most specimens of *Q. barbarossa*, and therefore less apparent.

Male. First four segments of front tarsus similar to those of *Q. barbarossa*, but somewhat more dilated. Sternites 7 and 8 not appreciably different from those of *Q. barbarossa*. Genital segment with tergite 10 as in Fig. 19, with five long setae at apical margin and two shorter setae in front of them; sternite 9 wider, with two slightly differentiated apical setae (Fig. 20). Aedoeagus (Figs. 21, 22) similar to that of *Q. barbarossa*, but stouter. Paramere distinctly larger and wider, symmetrical, lanzet-shaped, with apex distinctly exceeding apex of median lobe, setae at apex extremely minute, lateral setae below apex apparently missing (see Comments); sensory peg setae on underside of paramere arranged similarly to those of *Q. barbarossa*, but rows longer, each with 11 and 13 peg setae, slightly diverging posteriad; internal sac with a pair of long, spinose structures, similar to those of *Q. barbarossa*.

Female. Unknown.

Length 6.0 mm.

Type material. Holotype (male): China: "CHINA, YUNNAN prov. 18.6.–4.7.1993 HEISHUI=33 km N Lijiang 27, 13 N; 100, 19 E lgt. S. Becvar". In the Naturhistorisches Museum in Wien, Austria.

Geographical distribution. The species is at present known only from the type locality in northern Yunnan.

Bionomics. The collection circumstances of the holotype are not known, but it may be safely assumed that the species lives in a way similar to that of the other species of the *intricatus* group.

Recognition and comments. The species is obviously closely related and quite similar to *Q. barbarossa*. It was separated from it mainly based on the differences in the development of the aedoeagus, particularly those concerning the paramere. The ex-

ternal characters mentioned above will hopefully be confirmed when additional specimens of this species become available for study.

There is only one apical seta on the paramere, the other one is very likely broken off. The usual pair of setae at each lateral margin below apex is apparently missing. The minute seta on the right side below apex (Fig. 22) may fall in the category of the microscopical setae that regularly appear along lateral parameral margins.

Etymology. The specific epithet is the plural genitive of the Latin noun *rivulus*, -i, m. (small creek, brook) in apposition. It refers to the presumed habitat of this species that includes moss growing on rocks in creeks.

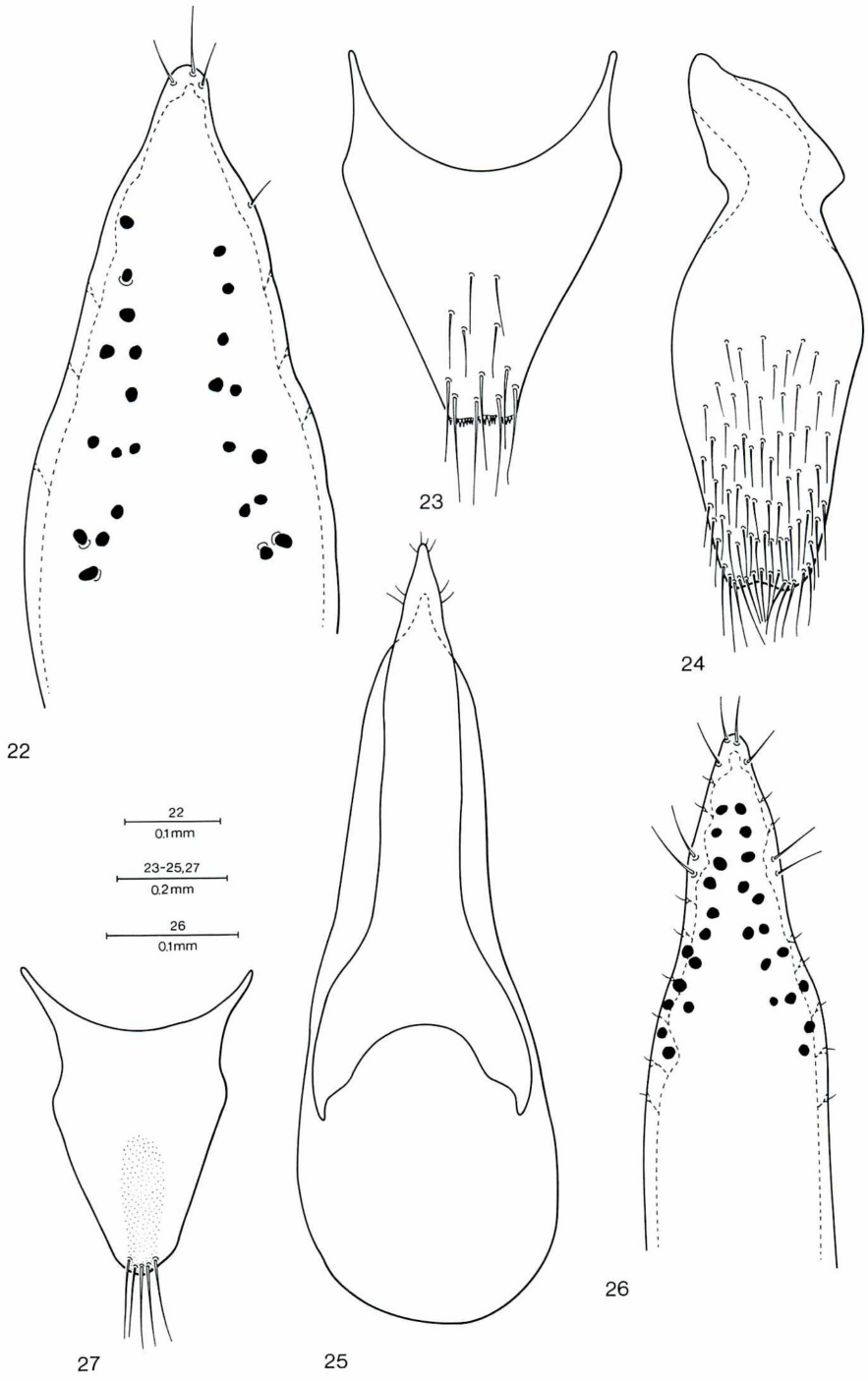
Quedius (Raphirus) bisignatus sp. nov.

(Figs. 23–27)

Description. In all external characters similar to *Q. barbarossa*, but different as follows: on average smaller, narrower and appearing more parallel-sided. Coloration of appendages and body similar to those of *Q. barbarossa*, but each elytron with conspicuous coppery spot on medioapical corner. Pubescence of abdominal tergites black, each tergite, including first visible one, with a spot of rather thin yellowish-silvery tomentose hairs on each lateral portion, and with similar hairs in middle of apical margin. Head smaller and narrower, about as long as wide, eyes smaller and less convex, with tempora slightly longer (corresponding ratio 0.28); clypeus extensively impunctate, separated from vertex by six deep, pit-like punctures forming an anteriorly convex arc, large area on vertex convex and lacking any punctation, surface behind vertex evenly covered by large, deep, pit-like punctures. Pronotum narrower, about as long as wide, appearing more parallel-sided, with lateral portion not at all explanate posteriorly; dorsal rows each with 6 to 8 coarse, pit-like punctures, ending at about posterior third of pronotal length at a transverse row of similar punctures than connects to usual lateral group of coarse, pit-like punctures (this group usually markedly expanded); disc behind transverse row of pit-like punctures entirely smooth, lacking any punctation. Elytra narrower, appearing more parallel-sided, each with sculpture on disc similar, but appearing somewhat less coarse and denser.

Male. First four segments of front tarsus similar to those of *Q. barbarossa*, but slightly less dilated. Sternite 7 with inconspicuous, arcuate medioapical emargination. Sternite 8 with two or three (unilaterally) long setae on each side, medioapical emargination similar to that of *Q. barbarossa*. Genital segment with both tergite 10 and sternite 9 similar to those of *Q. barbarossa* (Figs. 23, 24). Aedoeagus (Figs. 25, 26) with median lobe evenly narrowed anteriorly, anteriorly rather abruptly narrowed into

Figs. 22–27. — 22. *Quedius rivulorum*: apical portion of underside of paramere.— 23–27. *Quedius bisignatus*: 23, tergite 10 of male genital segment; 24, sternite 9 of male genital segment; 25, aedoeagus, ventral view; 26, apical portion of underside of paramere; 27, tergite 10 of female genital segment.



small, narrow subacute apex. Paramere largely parallel-sided, anteriorly slightly sinuately narrowed into subacute apex distinctly exceeding apex of median lobe; with four minute setae at apex and two setae at each lateral margin below apex; underside of paramere with sensory peg setae numerous, arranged as in Fig. 26; internal sac with a pair of short distal and a pair of long proximal spinose structure.

Female. First four segments of front tarsus similar to those of male, but slightly less dilated, segment 2 about as wide as apex of tibia. Genital segment with tergite 10 pigmented medioapically, with five long, strong setae at apex (Fig. 27).

Length 5.4–5.9 mm.

Type material. Holotype (male) and allotype (female): China: “CHINA: S-Shaanxi (Qinling Shan) river bank above Houzhenzi, 115 km WSW Xi’an, 1450 m, 33°50’N, 107°47’E, leg. M. Schülke [C01–06]”/”5.VII.2001 gravel bank (floating), mixed deciduous forest, moss, mushrooms (sifted) [C01–06]”. In the SCHÜLKE collection, Berlin, Germany.

Paratypes: China: [Shaanxi]: same data as holotype, 1 ♂, 1 ♀, in the SMETANA collection.

Geographical distribution. *Quedius bisignatus* is at present known only from Qinling Shan in southern Shaanxi.

Bionomics. The specimens of the original series were collected by sifting moist to wet moss growing on large rocks directly in a mountain creek, together with specimens of *Q. barbarossa*.

Recognition and comments. *Quedius bisignatus* is to my knowledge the only *Quedius* species (at least in the north temperate zone) displaying a pair of conspicuous, coppery metallic spots on the elytra, that single it out immediately from all other Chinese species of the *intricatus* group. These coppery spots are of exactly same character and appearance as those of some dark bluish *Lesteva* species known from China and living in the same habitat; at least one of these species was collected together with *Q. bisignatus* at the same creek. *Quedius bisignatus* is certainly one of the prettiest species known to me from the north temperate zone.

Quedius bisignatus cannot be confused with any other Chinese species of the *intricatus* group, not only because of the presence of the coppery metallic spots on the elytra, but also because of the characteristic arrangement of the sculpture on both the head and pronotum, combined with the characteristic shape of the aedeagus.

Etymology. The specific epithet is a combination of the Latin adverb *bis* (twice) and the Latin adjective *signatus*, -a, -um (marked). It refers to the presence of the pair of coppery spots on the elytra of this species.

Acknowledgments

My colleagues D. E. BRIGHT and A. DAVIES, Agriculture and Agri-Food Canada, Research Branch, Ottawa, reviewed and commented on the original draft of the manuscript. Mr. Go SATO from the same establishment finished the line drawings.

要 約

A. SMETANA: 中国産ツヤムネハネカクシ亜族に関する知見. 21. ツヤムネハネカクシ属 *Raphirus* 亜属の4. — 中国産 *Raphirus* 亜属のツヤムネハネカクシ類について, 5新種 *Quedius herbicola*, *Q. torrentum*, *Q. barbarossa*, *Q. rivulorum* および *Q. bisignatus* を湖北, 陝西および云南の各省から記載するとともに, 既知の4種について新しい産地を記録し, またそのうちの1種については初めて雌の特徴を報告した.

References

- BERNHAEUER, M., 1915. Neue Staphyliniden des paläarktischen Faunengebietes. *Wien. ent. Ztg.*, **34**: 69–81.
 HORN, G. H., 1878. Synopsis of the Quediini of the United States. *Trans. Amer. ent. Soc.*, **7**: 149–167.
 SMETANA, A., 1971. Revision of the tribe Quediini of America north of Mexico. *Mem. ent. Soc. Canada*, **79**, 303 pp. Ottawa.
 ——— 1988. Revision of the tribes Quediini and Atanygnathini. Part II. The Himalayan Region (Coleoptera: Staphylinidae). *Quaest. ent.*, **24**: 163–464.
 ——— 1995. Revision of the tribes Quediini and Tanygnathini. Part III. Taiwan (Coleoptera; Staphylinidae). *Spec. Publ. natn. Mus. nat. Sci., Taichung*, (6), 145 pp. Taichung.
 ——— 1996 a. Contributions to the knowledge of the Quediina (Coleoptera, Staphylinidae, Staphylinini) of China. Part 4. Genus *Quedius* STEPHENS, 1829. Subgenus *Raphirus* STEPHENS, 1829. Section 1. *Elytra, Tokyo*, **24**: 49–49.
 ——— 1996 b. Ditto. Part 7. Genus *Quedius* STEPHENS, 1829. Subgenus *Raphirus* STEPHENS, 1829. Section 2. *Ibid.*, **24**: 225–237.
 ——— 1998. Ditto. Part 10. Subgenus *Raphirus* STEPHENS, 1829. Section 3. *Ibid.*, **26**: 99–113.
 STEPHENS, J. F., 1829. The Nomenclature of British Insects; being a compendious list of such species as are contained in the Systematic Catalogue of British Insects, and forming a guide to their classification. 68 columns. Baldwin & Cradock, London.

Elytra, Tokyo, **30** (1): 135–136, June 30, 2002

A New Record of *Themus kambaiticus* (Coleoptera, Cantharidae) from Northern Vietnam

Yûichi OKUSHIMA

Kurashiki Museum of Natural History, Chûô 2–6–1,
Kurashiki-shi, Okayama Pref., 710–0046 Japan

Themus (s. str.) *kambaiticus* was described from “NE Burma” (=NE. Myanmar), and also