

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

Genus *Quedius* STEPHENS, 1829. Part 2. Subgenus  
*Microsaurus* DEJEAN, 1833. Section 2

By

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**Abstract** Taxonomic, faunistic and bionomic data on the species of the genus *Quedius*, subgenus *Microsaurus*, from the People's Republic of China are provided. *Quedius (Microsaurus) mukuensis* BERNHAUER, 1933 is redescribed and four species, apparently related to it, are described as new: *Q. antoni* (Sichuan), *Q. epytus* (Gansu), *Q. haemon* (Sichuan), and *Q. nireus* (Sichuan). Additional three species of presently unknown relationships are also described as new: *Q. otho* (Yunnan), *Q. mnemon* (Beijing) and *Q. fonteius* (Quinhai).

This is the second of the series of papers dealing with the Quediina of the People's Republic of China (for the first paper see SMETANA, 1995). It deals with a group of species related to *Q. mukuensis* BERNHAUER, 1933, characterized primarily by the presence of additional setiferous punctures on the head (*Q. antoni*, *Q. epytus*, *Q. haemon*, *Q. nireus*), and with some additional species of presently unknown relationships: *Q. otho*, *Q. mnemon* and *Q. fonteius*.

*Quedius (Microsaurus) mukuensis* BERNHAUER, 1933

(Figs. 1–6)

*Quedius mukuensis* BERNHAUER, 1933, 40.

**Description.** Piceous-black, pronotum and apical margins of abdominal tergites vaguely paler; abdomen iridescent; maxillary and labial palpi brunneous to piceous, antennae piceous-black, legs brunneous to piceous, medial faces of middle and particularly of hind tibiae darkened. Head of rounded quadrangular shape, vaguely wider than long (ratio 1.10), distinctly narrowed posteriad behind eyes, posterior angles obsolete; eyes moderately large and convex, tempora about as long as eyes seen from above; no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture situated somewhat closer to

postero-medial margin of eye than to posterior margin of head, two additional punctures between it and postero-medial margin of eye, two punctures between it and posterior margin of head; temporal puncture situated slightly closer to posterior margin of head than to posterior margin of eye; tempora with a few fine punctures posteriorly; surface of head with very fine and dense microsculpture of transverse waves, with sparse, inconspicuous micropunctulation. Antenna with segment 3 appreciably longer than segment 2, segments 4 and 5 slightly longer than wide, segment 6 as long as wide, segments 7–10 slightly wider than long, last segment almost as long as two preceding segments combined. Pronotum about as long as wide, widest just behind middle, broadly rounded basally, markedly, arcuately narrowed anteriorly, transversely convex, lateral portions not explanate; dorsal rows each with three punctures, additional puncture between each dorsal and sublateral row, sublateral rows each with three fine punctures, posterior puncture situated behind level of large lateral puncture; microsculpture similar to that on head. Scutellum impunctate, with very fine and dense microsculpture of transverse striae. Elytra rather long, at base slightly narrower than pronotum at widest point, only vaguely widened posteriorly, at suture about as long as, at sides longer than pronotum at midline (ratio 1.20); punctation and pubescence rather fine, moderately dense, transverse interspaces between punctures mostly about twice as large as diameters of punctures; pubescence piceous-black; surface between punctures without microsculpture, but with some microscopical irregularities, particularly toward apical margin. Wings fully developed. Abdomen with tergite 7 (fifth visible) bearing distinct whitish apical seam of palisade fringe; punctation and pubescence of abdominal tergites similar to that on elytra, but punctation slightly finer, gradually becoming slightly sparser toward apex of each tergite and in general toward apex of abdomen; pubescence piceous-black; surface between punctures with exceedingly dense and fine microsculpture of transverse striae.

**Male.** First four segments of front tarsus markedly dilated, sub-bilobed, each covered with modified brownish setae ventrally; segment two about as wide as apex of tibia; segment four narrower than preceding segments. Sternite 8 with two long setae on each side; with very wide, shallow, arcuate medio-apical emargination, small triangular area before emargination flattened and smooth (Fig. 1). Genital segment with tergite 10 (partially damaged in holotype) markedly narrowed toward narrowly arcuate apex, with six long apical and two subapical, somewhat shorter setae, and with a few short setae on apical portion (Fig. 2); sternite 9 fairly short and wide, with slightly emarginate or subtruncate apex, with two slightly differentiated subapical setae (Fig. 3). Aedoeagus (Figs. 4–6) small; median lobe moderately, somewhat asymmetrically, constricted in about apical third, with apical portion narrowed into rather acute apex, with two fine, short, curved medial carinae below apex on face adjacent to paramere.

Paramere with apical portion lancet-shaped, obtuse apex not quite reaching apex of median lobe; three fine setae at apex and two similar setae at each lateral margin below apex; sensory peg setae on underside of paramere forming one longitudinal row of two to four peg setae along each lateral margin of apical portion; internal sac without larger sclerotized structures.

Female unknown.

Length 6.9–7.2 mm.

*Type material.* BERNHAUER (1933, 40) described the species from one male. The holotype, deposited in the collection of the Field Museum of Natural History, Chicago, Illinois, is labelled as follows: “Mukue Tatsienlu Szechuan China Em. Reitter” / “mukuensis Brnh. Typ.un” / “mukuensis Brnh. Typus unicus” / “Chicago NHMus M. Bernhauer Collection”.

*Material studied.* China; Sichuan, Gongga Shan, above Camp 3, 3,050 m, 22.VII.94, A. SMETANA (ASCC) 2♂♂.

*Geographical distribution.* *Quedius mukuensis* is at present known only from the type locality in west-central Sichuan and from the nearby Gongga Shan massif.

*Bionomics.* Nothing is known about the collection circumstances of the holotype. The two specimens from Gongga Shan were taken in an old *Abies* forest with lush undergrowth of deciduous trees, bushes and rhododendrons, by sifting moist moss, rhododendron and other leaf litter.

*Recognition and comments.* *Quedius mukuensis* may be recognized, in addition to the characteristic, wide and arcuate, medio-apical emargination of the male sternite 8 and the shape of the aedoeagus, by the moderate size and dark coloration, in combination with the chaetotaxy on the head and on the pronotum (see the description).

Both antennae are almost entirely missing in the holotype, with only the first three segments of the left antenna present.

BERNHAUER (1933, 40) gives the length of the holotype as “9 mm”, but the length is in fact distinctly less (see above).

The type locality “Tatsienlu” is known today as Kangding.

### *Quedius (Microsaurus) antoni* sp. nov.

(Figs. 7–14)

*Description.* In all characters very similar to *Q. mukuensis*, but different as follows: body entirely black, appendages piceous-black, all tarsi slightly paler. Head not narrowed posteriad behind eyes, posterior angles obtusely rounded; chaetotaxy similar, but only one additional puncture between posterior frontal puncture and postero-medial margin of eye (larger, more medially situated puncture missing), two or three additional punctures mediad and postero-mediad

of posterior frontal puncture (two of them between it and two usual punctures near posterior margin of head). Antenna moderately long, segment 3 slightly longer than segment 2, segment 4 vaguely longer than wide, segments 5 and 6 about as long as wide, segments 7–10 slightly wider than long, last segment about as long as two preceding segments combined. Pronotum in general somewhat shorter, vaguely wider than long (ratio 1.1), less markedly narrowed anteriorly in most specimens. Punctuation of abdominal tergites slightly sparser and more evenly covering each tergite.

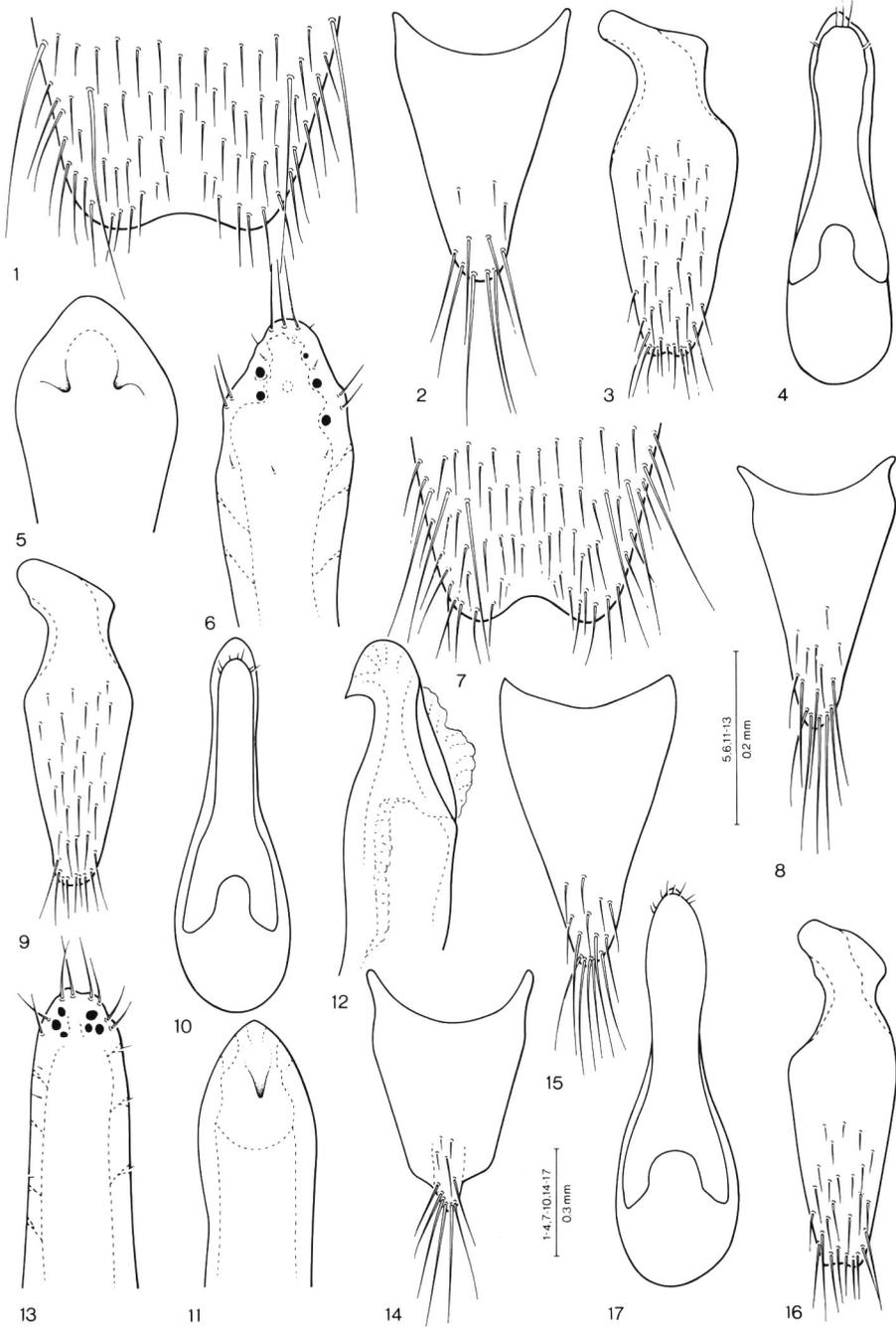
**Male.** First four segments of front tarsus similar to those of *Q. mukuensis*, but somewhat more dilated, segment two somewhat wider than apex of tibia (ratio 1.12). Sternite 8 similar, but with three long setae on each side, medio-apical emargination narrower, deeper, arcuate (Fig. 7). Genital segment with tergite 10 rather narrow, markedly narrowed toward subacute apex, with several apical and two subapical setae, and with a few shorter setae on apical portion (Fig. 8); sternite 9 similar to that of *Q. mukuensis*, but in general markedly narrower, except basal portion wider (Fig. 9). Aedoeagus (Figs. 10–13) narrow and elongate; median lobe slightly asymmetrically constricted in about apical third, with apical portion narrowed into narrowly obtuse apex, with large apical tooth on face adjacent to paramere. Paramere narrow and elongate, with arcuate apex distinctly not reaching apex of median lobe; with four unequally long setae at apex and with two somewhat finer setae at each lateral margin below apex; sensory peg setae on underside of paramere forming two small latero-apical groups, each with three peg setae; internal sac simple, without larger sclerotized structures.

**Female.** First four segments of front tarsus similar to those of male, but distinctly less dilated, segment two as wide as apex of tibia. Genital segment with tergite 10 wide, with medio-apical portion narrowly pigmented; markedly narrowed and just before apex abruptly narrowed into narrow, rod-like apical portion; with four long apical setae, medial pair longer than lateral pair, and with several shorter setae on pigmented apical portion (Fig. 14).

Length 7.8–8.1 mm.

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Figs. 1–17. — 1–6. *Quedius mukuensis*: 1, apical portion of male sternite 8; 2, tergite 10 of male genital segment; 3, sternite 9 of male genital segment; 4, aedoeagus, ventral view; 5, apical portion of median lobe of aedoeagus, paramere removed; 6, apical portion of underside of paramere. — 7–14. *Quedius antoni*: 7, apical portion of male sternite 8; 8, tergite 10 of male genital segment; 9, sternite 9 of male genital segment; 10, aedoeagus, ventral view; 11, apical portion of median lobe, paramere removed; 12, apical portion of median lobe, paramere removed, lateral view; 13, apical portion of underside of paramere; 14, tergite 10 of female genital segment. — 15–17. *Quedius epytus*: 15, tergite 10 of male genital segment; 16, sternite 9 of male genital segment; 17, aedoeagus, ventral view.



Figs. 1-17.

*Type material.* Holotype (male) and allotype (female): China: "CHINA, Sichuan, Gongga Shan, abv. camp 3, 3,300–3,350 m, 23.VII.1994 A. Smetana [C 19]". In the SMETANA collection, Ottawa, Canada.

Paratypes: 1♂, 3♀, same data as holotype, male in the collection of the National Science Museum (Natural History), Tokyo, females in the SMETANA collection, Ottawa; 2♂♂: "China, C-SICHUAN (KANGDING) GONGGA SHAN massive, 2900 m ca. 25 km NNW of Moxi village 29°49'N 102°03'E 30.V. 1993, B. Brezina", in the SMETANA collection, Ottawa; 1♀: "China, W-SICHUAN, CHOLA SHAN MANIGANGGO-SW env. 31°50'/99°07' 4000–4600 m L.+R. BUSINKSKY lgt. 12.6.92", in the collection of the Naturhistorisches Museum, Wien.

*Geographical distribution.* *Quedius antoni* is at present known only from the massif of Gongga Shan in western Sichuan and from the Chola Shan in north-western Sichuan.

*Bionomics.* The specimens of the original series, taken by the author, were collected along the edges of an old *Abies* forest with dense undergrowth of low bushes, by sifting fallen leaves and other debris in deep crevices of the forest floor.

*Comments.* The chaetotaxy of the head of *Q. antoni* varies to some extent. Some of the additional punctures mediad and posterio-mediad of the posterior frontal puncture may be absent, usually unilaterally.

*Etymology.* Patronymic; the species was named in honour of my friend K.-W. ANTON, Emmendingen, Germany, who provided exciting and stimulating company during the field work in Sichuan.

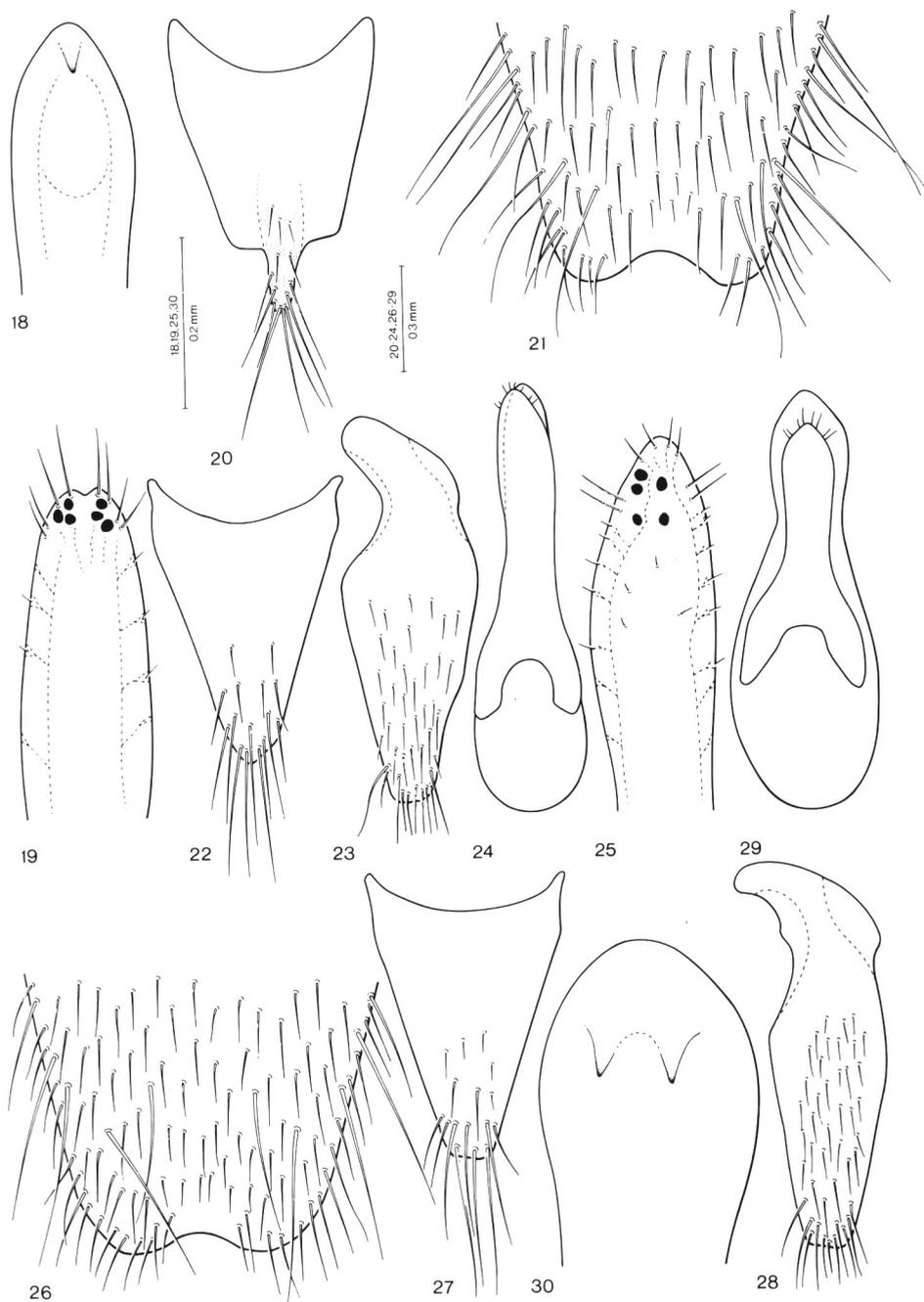
### *Quedius (Microsaurus) epytus* sp. nov.

(Figs. 15–20)

*Description.* In all characters similar to *Q. mukuensis*, but different as follows: coloration in general slightly paler, maxillary and labial palpi often testaceo-brunneous, elytra usually with suture and apical margin narrowly paler, apices of abdominal tergites and apex of abdomen usually more distinctly paler. Head with eyes smaller and less convex, tempora somewhat longer than eyes seen from above (ratio 1.18); chaetotaxy on head similar to that of *Q. antoni* (but see

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Figs. 18–30. — 18–20. *Quedius epytus*: 18, apical portion of median lobe of aedeagus, paramere removed; 19, apical portion of underside of paramere; 20, tergite 10 of female genital segment. — 21–25. *Quedius haemon*: 21, apical portion of male sternite 8; 22, tergite 10 of male genital segment; 23, sternite 9 of male genital segment; 24, aedeagus, ventral view; 25, apical portion of underside of paramere. — 26–30. *Quedius nireus*: 26, apical portion of male sternite 8; 27, tergite 10 of male genital segment; 28, sternite 9 of male genital segment; 29, aedeagus, ventral view; 30, apical portion of median lobe of aedeagus, paramere removed.



Figs. 18-30.

under *Recognition and comments*). Sublateral rows on pronotum often with four punctures, at least unilaterally.

**Male.** First four segments of front tarsus similar to those of *Q. mukuensis*, but markedly more dilated, segment 2 wider than apex of tibia (ratio 1.17). Sternite 8 not appreciably different from that of *Q. antoni*, except with four large setae, at least unilaterally. Genital segment with tergite 10 and sternite 9 as in Figs. 15–16, in general not appreciably different from those of similar related species. Aedoeagus (Figs. 17–19) similar to that of *Q. antoni*, but median lobe symmetrically constricted at about middle, with tooth on face adjacent to paramere smaller; paramere shorter and relatively wider, covering almost entire apical portion of median lobe, with minutely notched apex almost reaching apex of median lobe.

**Female.** First four segments of front tarsus similar to those of male, but less dilated, segment two about as wide as apex of tibia. Genital segment with tergite 10 similar to that of *Q. antoni*, but differentiated rod-like apical portion markedly longer (Fig. 20).

Length 7.2–8.0 mm.

**Type material.** Holotype (male) and allotype (female): China: “CHINA, Gansu, Mts. 25 km E Xiahe 3000 m, 5.VIII.1994 A. Smetana (C 30)”. In the SMETANA collection, Ottawa, Canada.

**Paratypes:** 1♂, 3♀, same data as holotype, 1♀ in the collection of the National Science Museum (Natural History), Tokyo, remaining paratypes in the SMETANA collection, Ottawa; 2♂♂, 4♀, same data as holotype, but elevation 2,805–2,925 m and date 3.VIII.1994, 1♂ in the collection of the National Science Museum (Natural History), Tokyo, remaining paratypes in the SMETANA collection, Ottawa; 1♀: “China, Gansu prov. 120 km SW Lanzhou PONGGARTANG 30.VI.–2.VII. 1992 Jaroslav Turna leg.”, in the collection of the Naturhistorisches Museum, Wien.

**Geographical distribution.** *Quedius epytus* is at present known only from the two localities in the southwestern portion of Gansu, that very likely refer to the same mountain range.

**Bionomics.** The specimens of the original series, collected by the author, were taken in a coniferous forest by sifting deeper, moist to wet layers of fallen leaves under broadleaved bushes along a small, almost dried out, creek, and by sifting wet wood chips and debris on the ground under branches of a felled *Picea* tree.

**Recognition and comments.** *Quedius epytus* may be best recognized by the shape of the aedoeagus and of tergite 10 of the female genital segment (Figs. 17, 20).

The chaetotaxy on the head varies in a way similar to that described for *Q. antoni*. There may be only one puncture present postero-mediad of the posterior

frontal puncture between it and the two punctures at the posterior margin of the head, in the male paratype all of these punctures are missing unilaterally.

One of the female paratypes (coll. SMETANA) is missing the apical half of the abdomen.

*Etymology.* The specific name is the name of *Epytus*, -i, m., a distinguished Trojan, in apposition.

*Quedius (Microsaurus) haemon* sp. nov.

(Figs. 21-25)

*Description.* In all characters similar to *Q. mukuensis*, but different as follows: head less narrowed posteriorly behind eyes, eyes about as long as tempora; posterior frontal puncture situated distinctly closer to postero-medial margin of eye than to posterior margin of head; one additional puncture between posterior frontal puncture and posterior margin of eye situated at margin of eye, two (left side) or four (right side) unequally large additional punctures anteriorly and anteriorly-medially of it, and three additional punctures between it and two usual punctures near posterior margin of head; temporal puncture situated distinctly closer to posterior margin of head than to posterior margin of eye; tempora with numerous relatively coarse punctures. Antenna longer, segments 4-7 longer than wide, gradually becoming shorter, segments 8-10 as long as wide, last segment shorter than two preceding segments combined.

*Male.* First four segments of front tarsus similar to those of *Q. mukuensis*, but slightly more dilated, segment two slightly wider than apex of tibia (ratio 1.12). Sternite 8 with five long setae at each side; medio-apical emargination as wide as that of *Q. mukuensis*, but distinctly deeper (Fig. 21). Genital segment with tergite 10 more narrowed toward subacute apex, with more numerous setae on apical portion (Fig. 22); sternite 9 similar, but with two pairs of differentiated subapical setae (one seta missing on one side) (Fig. 23). Aedoeagus (Figs. 24-25) narrow and elongate; median lobe almost parallel-sided in middle portion, apical portion narrowed into narrowly arcuate apex, with minute tooth on face adjacent to paramere. Paramere narrow and elongate, almost entirely covering middle and apical portion of median lobe, with narrowly arcuate apex not quite reaching apex of median lobe; with four setae at apex and two similar setae at each lateral margin below apex; sensory peg setae on underside of paramere forming two medial, short longitudinal rows, with two and three peg setae; internal sac simple, without larger sclerotized structures.

*Female.* Unknown.

Length 7.9 mm.

*Type material.* Holotype (male): China: "CHINA, Sichuan, Gongga Shan, above Camp 2 2850 m 26.VII.1994 A. Smetana [C 24]". In the SMETANA

collection, Ottawa, Canada.

*Geographical distribution.* *Quedius haemon* is at present known only from the massif of Gongga Shan in western Sichuan.

*Bionomics.* The holotype was collected in an original broadleaved forest with numerous, very large birches and with lush undergrowth of various bushes and rhododendrons, by sifting moist moss on standing large trees.

*Recognition and comments.* *Quedius haemon* may be distinguished externally from both *Q. mukuensis* and *Q. antoni* by the more numerous additional punctures on the head (see the description) and by the longer antennae. The aedeagus of *Quedius haemon* is entirely different from that of *Q. mukuensis* (Figs. 4, 24); it resembles that of *Q. antoni*, but differs in numerous details, particularly by the minute tooth of the median lobe on the face adjacent to the paramere, by the larger paramere covering extensive portions of the median lobe, and by the differently located sensory peg setae on the underside of the paramere (Figs. 19, 25).

A female specimen labelled "China-Sichuan 4-7.7.93 Mt. Emei 180 km S Chengdu Z. Jindra lgt." (in coll. SMETANA) agrees in most characters, including the chaetotaxy on the head and pronotum, with the holotype of *Q. haemon*, but it is missing the additional punctures anterior and anterior-medial of the posterior frontal puncture on the head and its antenna is shorter, with middle segments shorter and the outer segments slightly wider than long. It was tentatively associated with *Q. haemon*.

*Etymology.* The specific name is that of *Haemon*, -onis, m., the son of Creon, the king of Thebes, in apposition.

### *Quedius (Microsaurus) nireus* sp. nov.

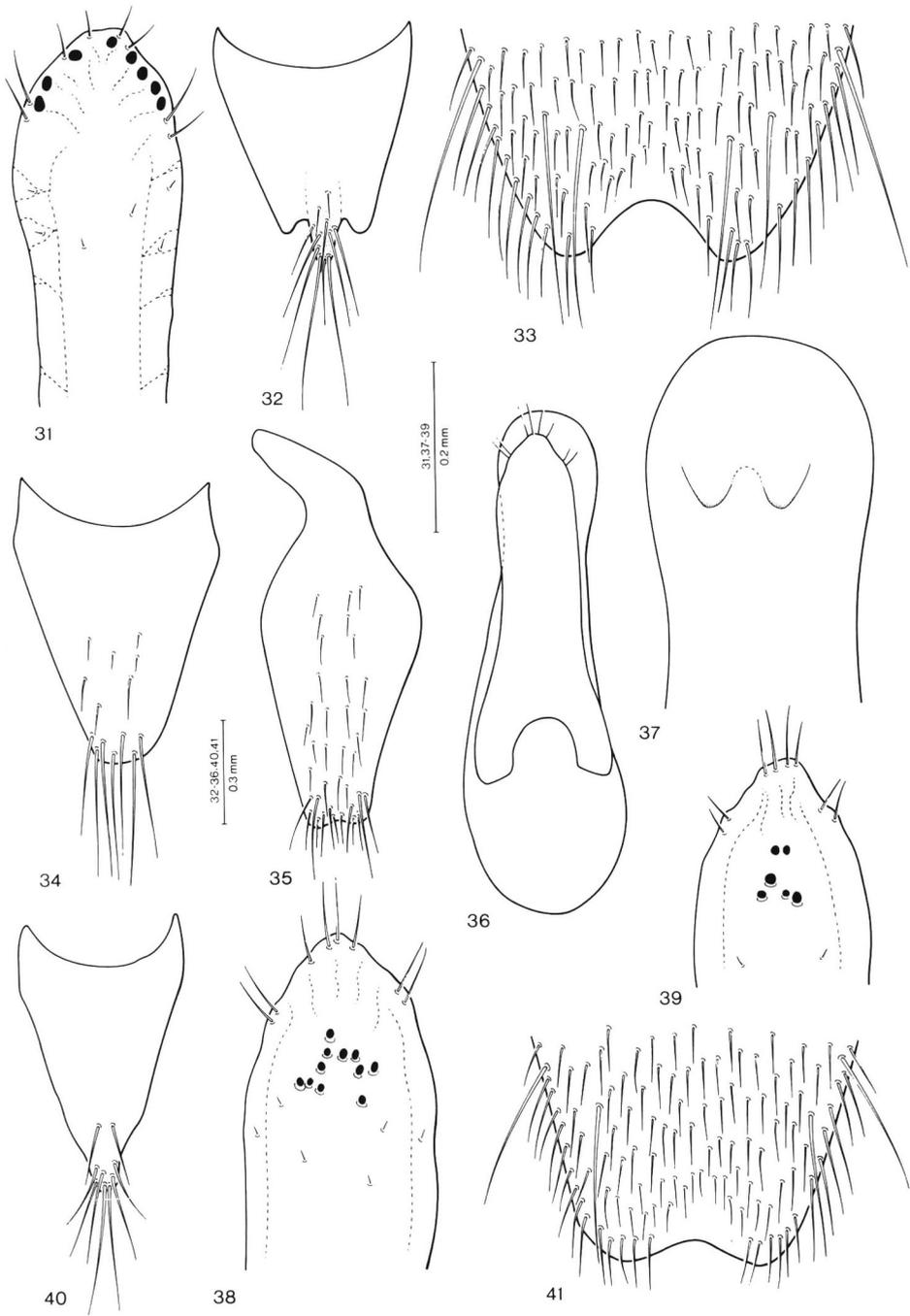
(Figs. 26-32)

*Description.* In all characters similar to *Q. mukuensis*, but different as follows: head with eyes somewhat larger, tempora vaguely shorter than eyes seen from above (ratio 0.92); dorsal rows on pronotum each with four punctures, sublateral rows irregular, each with four punctures, posterior puncture situated considerably behind level of large lateral puncture.

*Male.* First four segments of front tarsus not appreciably different from those of *Q. mukuensis*. Sternite 8 with four long setae on each side, medio-apical

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Figs. 31-41. — 31-32. *Quedius nireus*: 31, apical portion of underside of paramere; 32, tergite 10 of female genital segment. — 33-40. *Quedius otho*: 33, apical portion of male sternite 8; 34, tergite 10 of male genital segment; 35, sternite 9 of male genital segment; 36, aedeagus, ventral view; 37, apical portion of median lobe of aedeagus, paramere removed; 38, 39, apical portions of undersides of paramere; 40, tergite 10 of female genital segment. — 41. *Quedius mnemon*: apical portion of male sternite 8.



Figs. 31-41.

emargination not appreciably different from that of *Q. mukuensis* (Fig. 26). Genital segment with tergite 10 vaguely wider, with more numerous setae (Fig. 27); sternite 9 larger, more elongate, with vaguely differentiated two pairs of subapical setae (Fig. 28). Aedoeagus (Figs. 29–31) rather short and robust; median lobe markedly constricted in about apical third, markedly dilated anteriorly into wide, more or less pentagonal apical portion with subacute apex, with minute arc-like carina on face adjacent to paramere, appearing as a minute tooth in lateral view. Paramere with apical portion short, subparallel-sided, narrowed into subacute apex, distinctly not reaching apex of median lobe; four fine setae at apex and two somewhat longer setae at each lateral margin; sensory peg setae on underside of paramere arranged into longitudinal row along each lateral margin of apical portion, each row with three or five peg setae; internal sac simple, without larger sclerotized structures.

**Female.** First four segments of front tarsus similar to those of male, but distinctly less dilated, each with less numerous modified pale setae ventrally, segment two slightly narrower than apex of tibia (ratio 0.88). Genital segment with tergite 10 similar to that of *Q. epytus*, but differentiated rod-like apical portion shorter, and somewhat longer than that of *Q. antoni* (Fig. 32).

Length 7.5–8.0 mm.

**Type material.** Holotype (male) and allotype (female): China: “CHINA, Gansu, Mts. 25 km E Xiahe, 2805–2925 m, 3.VIII.1994 A. Smetana [C28]”. In the SMETANA collection, Ottawa, Canada.

**Paratypes:** 1♂, same data as holotype, in the collection of the National Science Museum (Natural History), Tokyo; 1♂: “CHINA: NW-Sichuan Luhuo – Sertar pass 35 km NNE Luhuo 3000–3500 m” / “29.VII.1994 leg J. Turna Picea and Thuya for.”. In the collection of the Naturhistorisches Museum, Wien.

**Geographical distribution.** *Quedius nireus* is at present known from one locality in the southwestern portion of Gansu and from one locality in northwestern Sichuan.

**Bionomics.** The specimens from Gansu were collected, together with *Q. epytus*, in a mixed deciduous and coniferous forest by sifting moist debris and needles under a pile of branches left behind from a felled *Picea* tree. The paratype from Sichuan was collected in a mixed coniferous forest, but no details are known about the actual habitat.

**Recognition.** *Quedius nireus* differs from all similar species by the distinctive aedoeagus, and by the presence of four punctures in both the dorsal and sublateral rows on the pronotum.

**Etymology.** The specific name is that of *Nireus*, -eos, m., the son of Charopus and Aglaia, the handsomest man among the Greeks before Troy, in apposition.

*Quedius (Microsaurus) otho* sp. nov.

(Figs. 33-40)

*Description.* Piceous-black, apical margins of abdominal tergites vaguely, narrowly paler, apex of abdomen slightly paler; abdomen slightly iridescent; maxillary and labial palpi piceous, last segment of each paler, brunneous; antennae piceous; legs brunneous, medial faces of at least middle and hind tibiae and hind femora darkened, piceous-black, tarsi distinctly paler, testaceo-brunneous. Head of rounded quadrangular shape, about as long as wide (small male) or slightly wider than long (large male) (ratio 1.16), markedly narrowed posteriad behind eyes, posterior angles obsolete, indistinct; eyes moderately large and convex, slightly protruding from lateral contours of head, tempora about as long as or slightly longer (allotype) than eyes seen from above (ratio 1.13); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture situated closer to postero-medial margin of eye than to posterior margin of head, two punctures between it and posterior margin of head; temporal puncture situated closer to posterior margin of head than to posterior margin of eye; tempora with a few fine punctures; surface of head with extremely fine, dense microsculpture of transverse striae and with sparse micropunctulation. Antenna moderately long, segment 3 longer than segment 2, segments 4 and 5 slightly longer than wide, segments 6 and 7 about as long as wide, segments 8-10 vaguely wider than long, last segment as long as two preceding segments combined. Pronotum slightly wider than long (ratio 1.10), widest just behind middle, broadly rounded basally, markedly narrowed anteriorly, transversely convex, lateral portions not explanate; dorsal rows each with three punctures; sublateral rows with two or three punctures, posterior puncture situated at least slightly before level of large lateral puncture; microsculpture similar to that on head, but somewhat finer and denser, micropunctulation almost absent. Scutellum impunctate, with dense and extremely fine microsculpture of transverse striae. Elytra moderately long, at base narrower than pronotum at widest point, vaguely dilated posteriad, at suture as long as to somewhat longer (ratio 1.12), at sides slightly to distinctly longer than pronotum at midline (ratio 1.15-1.25); punctuation and pubescence fine and moderately dense, transverse interspaces between punctures mostly two to three times as large as diameters of punctures; pubescence piceous; surface between punctures without microsculpture. Wings fully developed. Abdomen with tergite 7 (fifth visible) with whitish apical seam of palisade fringe; punctuation and pubescence of abdominal tergites similar to that on elytra, but denser, almost evenly covering surface of each tergite, middle portion of first visible tergite impunctate; pubescence piceous; surface between punctures with exceedingly fine and dense microsculpture of transverse striae.

*Male.* First four segments of front tarsus markedly dilated, sub-bilobed,

each densely covered with modified pale setae ventrally; segment two slightly wider than apex of tibia (ratio 1.12); segment four narrower than preceding segments. Sternite 8 with three long setae on each side; with wide and deep, almost semicircular medio-apical emargination, small triangular area before emargination vaguely flattened and smooth (Fig. 33). Genital segment with tergite 10 markedly narrowed toward rounded apex, with several apical and three subapical setae (Fig. 34); sternite 9 with apical portion wide, submarginate apically, with two slightly differentiated subapical setae on each side (Fig. 35). Aedoeagus (Figs. 36–39) rather wide, short; median lobe dilated into wide apical portion with subtruncate apex, with minute arc-like carina on face adjacent to paramere, appearing as a minute tooth in lateral view. Paramere large, obtusely angulate apex of apical portion distinctly not reaching apex of median lobe; four setae at apical margin, two similar setae at each lateral margin below apex; underside of paramere with six or ten sensory peg setae, forming an irregular medial group; internal sac without larger sclerotized structures.

**Female.** First four segments of front tarsus similar to those of male, but vaguely less dilated; segment two inconspicuously narrower than apex of tibia. Genital segment with tergite 10 large, rather suddenly constricted before narrowly arcuate apex, with two long and numerous shorter setae at apical margin (Fig. 40).

Length 7.0–8.8 mm.

**Type material.** Holotype (male): China: “CHINA, YUNNAN prov. HEI-SHUI 35 km N Lijiang 18.6–4.7.1993 27, 13N; 100, 19E lgt. S. Becvar”. In the collection of the Naturhistorisches Museum, Wien.

Allotype (female): China: “CHINA, Yunnan 1993 50 km N Lijiang, 24.–29.6. Yulongshan Nat. Res. leg. E. Jendek & O. Sausa”. In the collection of the Naturhistorisches Museum, Wien.

Paratype (male): China: “W SICHUAN 3–6.VII.1994 29. 35N 102. 00E 2900–3200 m Gonggashan–HAILUOGOU lgt. D. Král & J.F. Farkac”. In the SMETANA collection, Ottawa, Canada.

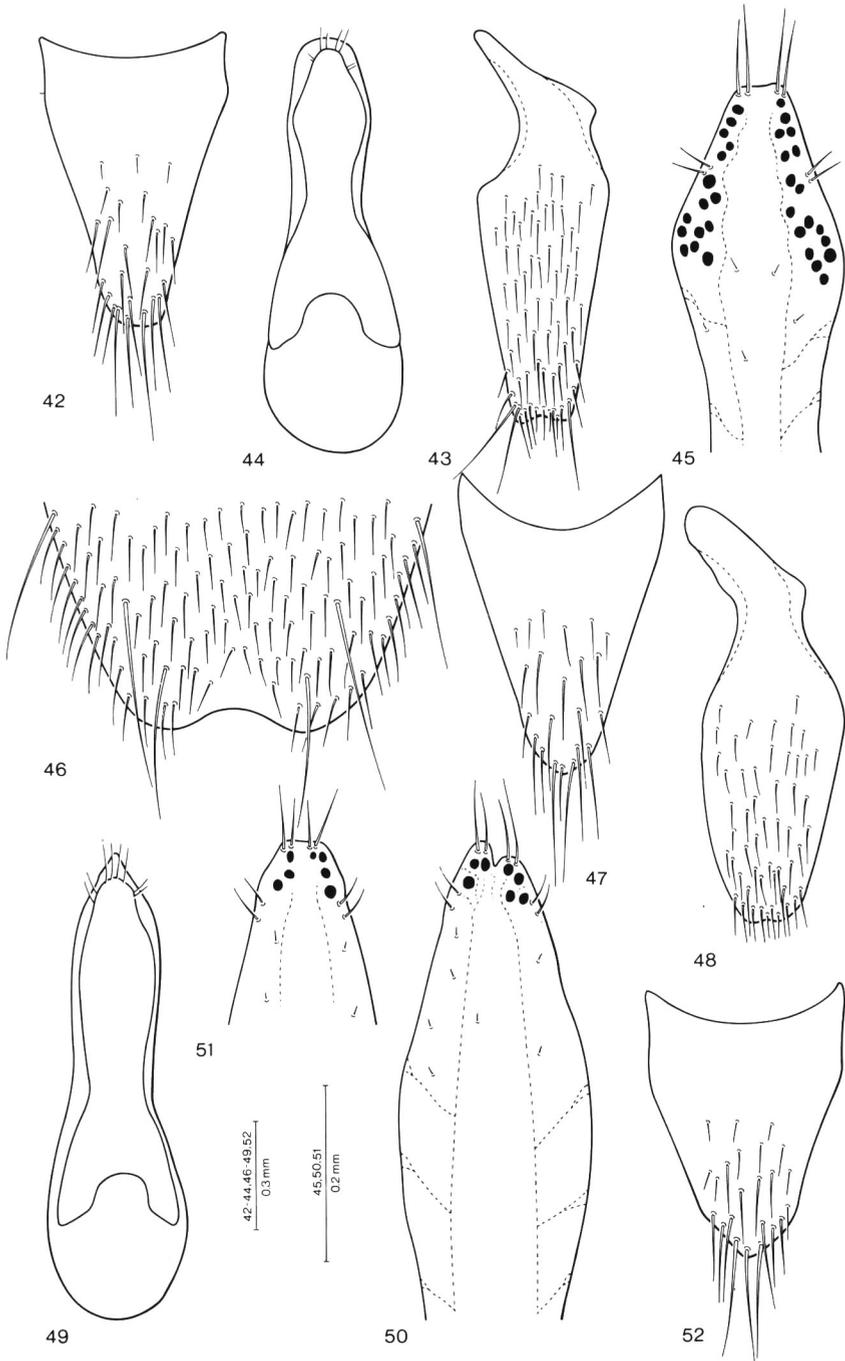
**Geographical distribution.** *Quedius otho* is at present known only from northern Yunnan and from Gongga Shan in western Sichuan.

**Bionomics.** Nothing is known about the collection circumstances of the specimens of the original series.

**Recognition and comments.** *Quedius otho* may be best recognized by the

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Figs. 42–52. — 42–45. *Quedius mnemon*: 42, tergite 10 of male genital segment; 43, sternite 9 of male genital segment; 44, aedoeagus, ventral view; 45, apical portion of underside of paramere. — 46–52. *Quedius fonteius*: 46, apical portion of male sternite 8; 47, tergite 10 of male genital segment; 48, sternite 9 of male genital segment; 49, aedoeagus, ventral view; 50, 51, apical portions of undersides of paramere; 52, tergite 10 of female genital segment.



Figs. 42-52.

shape of the aedoeagus, in combination with the chaetotaxy and the shape of the head, which is markedly narrowed posteriad behind the eyes.

The holotype is a slightly teneral, large male. The male paratype (small male) is missing the four outer segments of the left antenna.

*Etymology.* The specific name is that of *Otho*, *-onis*, m., a knight and a friend of Cicero, in apposition.

*Quedius (Microsaurus) mnemon* sp. nov.

(Figs. 41–45)

*Description.* Piceous-black, elytral suture and apical margin of each elytron, apices of abdominal tergites and apex of abdomen slightly paler, abdomen slightly iridescent; maxillary and labial palpi and antennae rufo-brunneous, front legs rufo-brunneous, middle and hind legs brunneous, with femora and medial faces of tibiae darkened. Head of rounded quadrangular shape, somewhat wider than long (ratio 1.13), posterior angles rounded, obsolete; eyes small, rather flat, not protruding from lateral contours of head; tempora distinctly longer than eyes seen from above (ratio 1.24); posterior frontal puncture situated distinctly closer to posterior margin of head than to postero-medial margin of eye; two punctures between it and posterior margin of head; temporal puncture situated distinctly closer to posterior margin of head than to posterior margin of eye; tempora with some fine punctures; surface of head with very fine and dense microsculpture of transverse and oblique waves, with scattered micropunctulation. Antenna short, segment 3 slightly longer than segment 2, segment 4 feebly longer than wide, segment 5 as long as wide, segments 6–10 wider than long, last segment shorter than two preceding segments combined. Pronotum relatively large, somewhat wider than long (ratio 1.12), widest at about posterior fourth, widely rounded basally, markedly narrowed anteriorly, transversely convex, lateral portions not explanate; dorsal rows each with two punctures; sublateral rows each reduced to one puncture close to anterior margin; microsculpture similar to that on head, but both waves and micropunctulation slightly finer. Scutellum impunctate, with dense and very fine microsculpture of transverse striae. Elytra relatively long, at base distinctly narrower than pronotum at widest point, inconspicuously widened posteriad, at suture as long as, at sides longer than pronotum at midline (ratio 1.20); punctation and pubescence fine, moderately dense, transverse interspaces between punctures mostly about twice as large as diameters of punctures; pubescence piceous; surface between punctures without microsculpture. Wings fully developed. Abdomen with tergite 7 (fifth visible) with whitish apical seam of palisade fringe; punctation and pubescence distinctly denser than that on elytra, more or less evenly covering surface of each tergite, with tendency to become somewhat finer toward apex of each tergite; pubescence piceous; surface between

punctures with exceedingly dense and fine microsculpture of transverse striae.

**Male.** First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment two slightly narrower than apex of tibia (ratio 0.87); segment four distinctly narrower than preceding segments. Sternite 8 with two long setae on each side, with fairly wide and shallow, subarcuate medio-apical emargination, small triangular area before emargination flattened and smooth (Fig. 41). Genital segment with tergite 10 relatively narrow, markedly narrowed toward arcuate apex, with numerous setae at and near apical margin (Fig. 42); sternite 9 as in Fig. 43, emarginate apically, with two long subapical setae (missing on one side). Aedoeagus (Figs. 44-45) moderately large, median lobe moderately constricted in middle portion, apical portion rather wide, with broadly arcuate apex, with small tooth on face adjacent to paramere. Paramere markedly constricted in middle portion, apical portion lancet-shaped, with apex not reaching apex of median lobe; four setae at apical margin, two shorter setae at each lateral margin below apex; underside of paramere with numerous sensory peg setae on apical portion, arranged into two irregular, lateral groups; internal sac without larger sclerotized structures.

**Female unknown.**

Length 8.8 mm.

**Type material.** Holotype (male): China: "leaf litter" / "CHINA Beijing Xiaolongmen 28-29.VI.1993 G. de Rougemont". In the collection of G. DE ROUGEMONT, London.

**Geographical distribution.** *Quedius mnemon* is at present known only from the Beijing area.

**Bionomics.** The holotype was taken from wet leaf litter by a small stream in a dense deciduous (mostly oak) forest at the elevation 1,250 m.

**Recognition and comments.** *Quedius mnemon* may be fairly easily recognized, in addition to the characters on the aedoeagus, by the chaetotaxy of the head (position of the posterior frontal puncture), in combination with the rather pale coloration of the appendages, the reduction of the sublateral rows of punctures on the pronotum, and by the rather densely punctate and pubescent abdominal tergites.

The type locality lies about 100 km east of Beijing City, in a forested valley leading to a pass below Donglingshan.

**Etymology.** The specific name is that of *Mnemon*, *-onis*, m., a Roman surname, in apposition.

*Quedius (Microsaurus) fontei* sp. nov.

(Figs. 46-52)

**Description.** Piceous to piceous-black, pronotum and elytra more or less

paler, elytra sometimes almost rufo-brunneous, abdomen iridescent; maxillary and labial palpi testaceous, antennae and legs testaceo-brunneous, medial faces of middle and hind tibiae markedly darkened. Head of rounded quadrangular shape, about as long as wide, posterior angles rounded, obsolete; eyes small and rather flat, not protruding from lateral contours of head; tempora considerably longer than eyes seen from above (ratio 2.25); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture situated closer to posterior margin of head than to postero-medial margin of eye, usually with one additional puncture between it and margin of eye and with two or three punctures between it and posterior margin of head; temporal puncture situated distinctly closer to posterior margin of head than to posterior margin of eye; tempora with a few fine punctures; surface of head with very fine and dense microsculpture of transverse waves with scattered, inconspicuous micropunctulation. Antenna fairly short, segment 3 hardly longer than segment 2, segments 4 and 5 about as long as wide, following segments wider than long, gradually becoming shorter, segments 9 and 10 distinctly transverse, last segment slightly shorter than two preceding segments combined. Pronotum somewhat wider than long (ratio 1.14), widest around middle, moderately rounded basally, almost equally narrowed both anteriad and posteriad, moderately transversely convex; dorsal rows each with three punctures; sublateral rows each with two punctures close to anterior margin, posterior puncture situated before level of large lateral puncture; microsculpture similar to that on head but finer, with micropunctulation almost absent. Scutellum impunctate, with dense and extremely fine microsculpture of transverse striae. Elytra short, at base distinctly narrower than pronotum at widest point, only vaguely dilated posteriad, at suture distinctly shorter (ratio 0.75), at sides about as long as pronotum at midline; punctation and pubescence very fine, moderately dense, transverse interspaces between punctures mostly about 2.5 as large as diameters of punctures; pubescence brownish-piceous; surface between punctures without microsculpture. Wings reduced to minute, non-functional stumps, each not quite one-third of length of elytron. Abdomen with tergite 7 (fifth visible) lacking whitish apical seam of palisade fringe; punctation and pubescence almost same as that on elytra, almost evenly covering surface of each tergite, in general becoming inconspicuously sparser toward apex of abdomen; pubescence brownish-piceous; surface between punctures with exceedingly dense and fine microsculpture of transverse striae.

**Male.** First four segments of front tarsus strongly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment two slightly wider than apex of tibia (ratio 1.16); segment four narrower than preceding segments. Sternite 8 with three long setae on each side; with rather wide, moderately deep, arcuate medio-apical emargination, small triangular area before emargination flattened and smooth (Fig. 46). Genital segment with tergite 10

strongly narrowed toward narrowly arcuate apex, with two stronger apical setae at apical margin and with numerous shorter setae on apical portion (Fig. 47); sternite 9 as in Fig. 48, subtruncate apically, without differentiated apical or subapical setae. Aedoeagus (Figs. 49-51) moderately large, median lobe subparallel-sided, rather abruptly narrowed into subacute apex, with tooth on face adjacent to paramere. Paramere large, apical portion with somewhat explanate lateral portions, subarcuate or minutely emarginate apex not quite reaching apex of median lobe; two setae at apical margin at each side of medio-apical emargination, two somewhat finer setae at each lateral margin below apex; underside of paramere with three or four sensory peg setae at each lateral margin just below apex; internal sac without larger sclerotized structures.

**Female.** First four segments of front tarsus similar to those of male, but slightly less dilated, second segment about as wide as apex of tibia. Genital segment with tergite 10 fairly narrow, subacute apex with three long apical setae and with numerous short setae on medio-apical portion (Fig. 52).

Length 6.9-7.7 mm.

**Type material.** Holotype (male) and allotype (female): China: "China E Quinghai prov. pass 30 km S of HUIZO 3600 m, 1.-3.8.1992". In the collection of the Naturhistorisches Museum, Wien.

**Paratypes:** 4♂♂: same data as holotype, 1♂ in the collection of the Naturhistorisches Museum, Wien; 2♂♂ in the SMETANA collection, Ottawa, Canada; 1♂ in the collection of the National Science Museum (Natural History), Tokyo.

**Geographical distribution.** *Quedius fonteius* is at present known only from the type locality in the eastern portion of the province of Quinghai.

**Bionomics.** Nothing is known about the collection circumstances of the specimens of the original series.

**Recognition.** *Quedius fonteius* may be easily recognized by the general habitus, which includes very small eyes, very short elytra, the loss of functional wings and the absence of the whitish apical seam of palisade fringe on abdominal tergite seven, in combination with the shape of the aedoeagus. It is likely that additional, similar species will be found at high elevations in different mountain ranges in the neighbouring areas.

**Etymology.** The specific name is that of *Fonteius*, -i, m., the name of a Roman gens, in apposition.

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