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Contributions to the knowledge of the Quediina (Coleoptera: Staphylinidae: Staphylinini) of China. Part 3. Genus *Quedius* Stephens, 1829. Subgenus *Raphirus* Stephens, 1829. Section 7

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Taxonomy, new species, geographical distribution, Coleoptera, Staphylinidae, Staphylinini, Quediina, *Quedius*, China

Abstract. Four new species of the genus *Quedius* Stephens, 1829, subgenus *Raphirus* Stephens, 1829 are described, based on specimens from the People's Republic of China: *Q. mniophilus* sp. n. (Chongqing), *Q. collinsi* sp. n. (Chongqing), *Q. viridimicans* sp. n. (Yunnan), and *Q. michaeli* sp. n. (Yunnan). Each species is described, illustrated and all available distributional and bionomic data are given. *Quedius*(*Raphirus*) *luae* Zheng, 2002 is placed in synonymy with *Quedius* (*Raphirus*) *torrentum* Smetana, 2002, and *Quedius* (*Raphius*) *coprobius* Zheng, Xiao et Lin, 2007 is placed in synonymy with *Quedius* (*Raphirus*) *rivulorum* Smetana, 2002.

INTRODUCTION

This is the seventh paper dealing with the species of the subgenus *Raphirus* Stephens, 1829 of the genus *Quedius* Stephens, 1829. It deals with the species of the *multipunctatus*- and *intricatus*- groups. It presents some taxonomic data on a few species of these species groups previously described by Zheng, and by Zheng and coauhors, as well as descriptions of four new species.

ACRONYMS

The acronyms used in text when referring to the deposition of the specimens are as follows:
ASC Collection of Aleš Smetana, Ottawa, Canada;
MSC Collection of Michael Schülke, Berlin, Germany.
For holotypes and allotypes all data are presented in full.

SYSTEMATICS

Quedius (*Raphirus) luae* Zheng, 2002

Quedius (*Raphirus*) *luae* Zheng, 2002: 106.

Comments. The species was described from several specimens of both sexes, all collected in Sichuan. The holotype is deposited in the collection of the Sichuan Teachers College, Nanchong, Sichuan.

I was able to study two male specimens labeled as follows: Spec. No 1: "Nan jian 2 a = Emei 3 a"/"Nan jian 20"/PARATYPE Quedius (R.) luae sp. nov. (♂) Zheng Fa-ke 2001"[white label]/"PARATYPE Quedius (R.) luae sp nov. (♂) Zheng Fa-ke 2001"[orange label]. Spec. No 2: label with Chinese symbols/"1983 VII. 25", Chinese symbols + IV-28"/"Emei 3 a"/"Q. luae sp. n.". The specimens were kindly donated to me by Mr. Zheng and are in my collection.

Both specimens are conspecific with the holotype of *Quedius* (*Raphirus*) *torrentum* Smetana, 2002. The publication date of the paper in which *Q. luae* is described is given as "Jun. 2002", the publication date of the paper in which *Q. torrentum* is described is "June 30". Following the Article 21.3.1 of the Code, the publication date for *Q. luae* must be considered as June 30, 2002. Considering the fact that the specimens of the original series of *Q. torrentum* are in much better condition that those of *Q. luae* and that they are more readily available for study, I consider *Q. luae* a junior objective synonym of *Q. torrentum* (syn. n.).

Quedius (*Raphirus*) *torrentum* Smetana, 2002

Quedius (*Raphirus*) *torrentum* Smetana, 2002: 124.

New records. China: Yunnan: "N-Yunnan Dali Bai Nat. Aut. Pref. Diancang Shan 3kn W Dali 25°41.1'N 100°06.8'E, 2650-2750 m, 29.viii.03 A. Smetana [C140]", 2 ♂♂, 3 ♀♀ (ASC); same data, but 25°41.1'N 100°07'E, 2700 m, [C138], 1 ♂ (ASC); "N-Yunnan [C03-19] Dali Bai Nat. Aut. Pref. Diancang Shan 3kn W Dali old town , creek valley and pine forest at "Cloud Road', right upper chairlift station, 25°41.1'N 100°06.8'E, 2650-2750 m, 29.viii. 2003, leg. M. Schülke, 3 ♂♂ (MSC); same data, but creek valley above cable car 25°35.1N 100°08.3'E, 2800 m, 26.viii.2003, M. Schülke [C 03-15], 2 ♂♂ (MSC); "N-Yunnan Diqing Tibet. Aut. Pref. Deqin Co., Meili Xue Shan E-side 12 km SW Deqin, 28°25.30N 98°48.47'E, 2890 m, 9.vi.2005, A. Smetana [C156], 3 ♂♂, 1 ♀ (ASC).

Comment. *Quedius torrentum* is at present known from Emei Shan in Sichuan, from Daba Shan in Hubei, and from Diancan Shan and Meili Xue Shan in Yunnan.

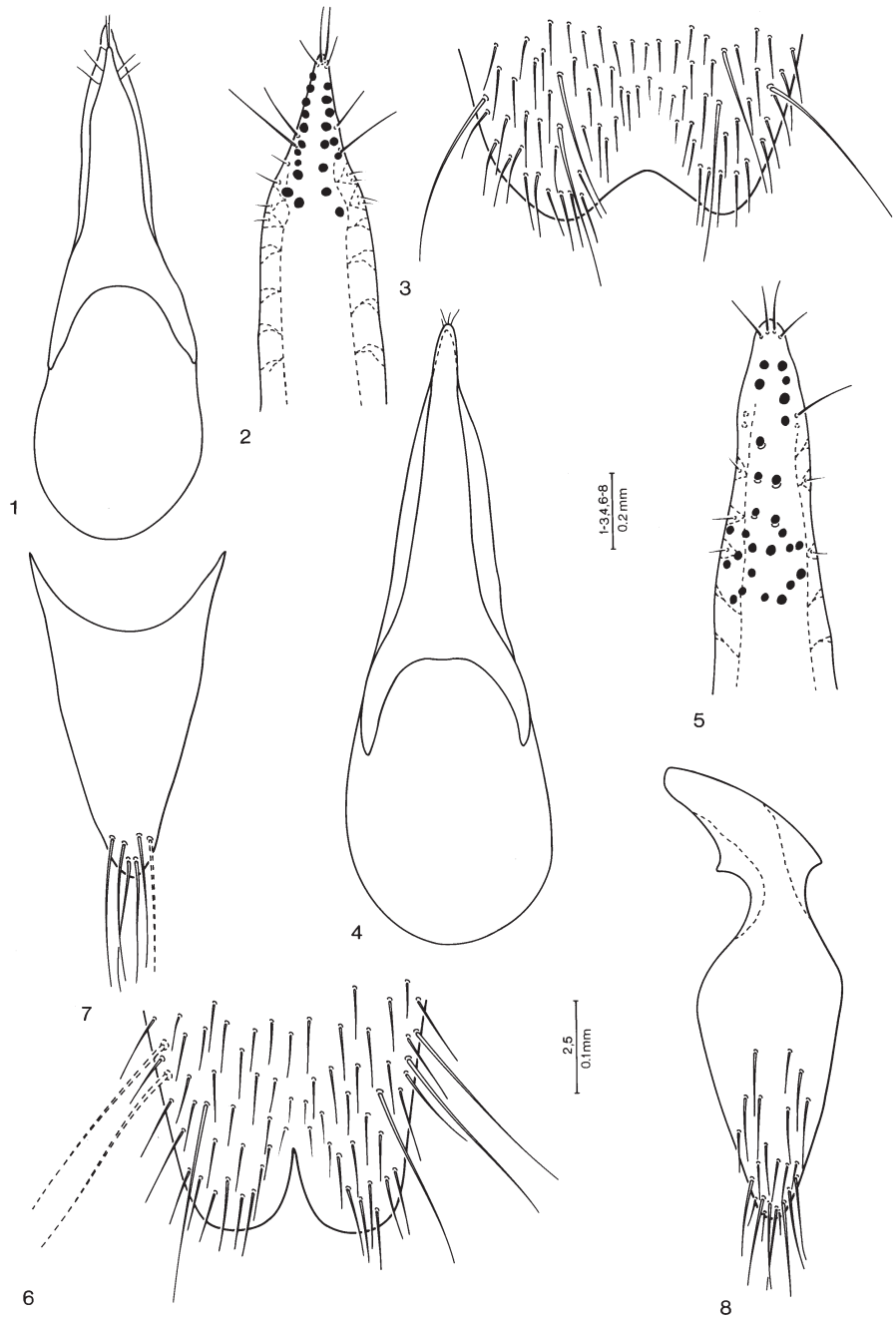
Quedius (*Raphirus*) *shu* Zheng, 2003

(Figs 1-2)

Quedius (*Raphirus*) *shu* Zheng, 2003: 291.

Comments. The species was described from two male specimens from Emei Shan, Sichuan. The holotype is deposited in the collection of the Sichuan Teachers College, Nanchong, Sichuan.

I was able to study the male paratype labeled as follows: "Q. (R.) shu (1)"/"PARATYPE Quedius (R.) shu sp. nov. (♂) Zheng Fa-ke 2001"[orange label]/label with Chinese symbols/"



Figs 1-8. *Quedius shu*: 1- aedeagus, ventral view; 2- apical portion of underside of paramere with sensory peg setae. *Quedius zhoui*: 3- apical portion of male sternite 8; 4- aedeagus, ventral view; 5- apical portion of underside of paramere with sensory peg setae. *Quedius mniophilus*: 6- apical portion of male sternite 8; 7- tergite 10 of male genital segment; 8- sternite 9 of male genital segment.

Chinese symbols “1982. vii. 28 ii-42”/”Emei 3 c”/“Q. (R.) shu (1)”/”PARATYPE Quedius (R.) shu sp. nov. (♂) Zheng Fa-ke 2001”[white label]. The specimen was kindly donated to me by Mr. Zheng and is in my collection. It is in fair condition, the head is cracked, right antenna is missing entirely, only three basal segments of right antenna are present.

Based on the study of the above paratype, *Q. shu* is well characterized among the similar species of the *intricatus*-group by the apices of middle and hind femora and bases of tibiae [“knies”] darkened, and by the different aedoeagus (Figs 1-2).

Quedius (*Raphirus*) *zhoui* Zheng, 2003

(Figs 3-5)

Quedius (*Raphirus*) *zhoui* Zheng, 2003: 289.

Comments. The species was described from two male and one female specimen, all collected in Sichuan. The holotype is deposited in the collection of the Sichuan Teachers College, Nanchong, Sichuan.

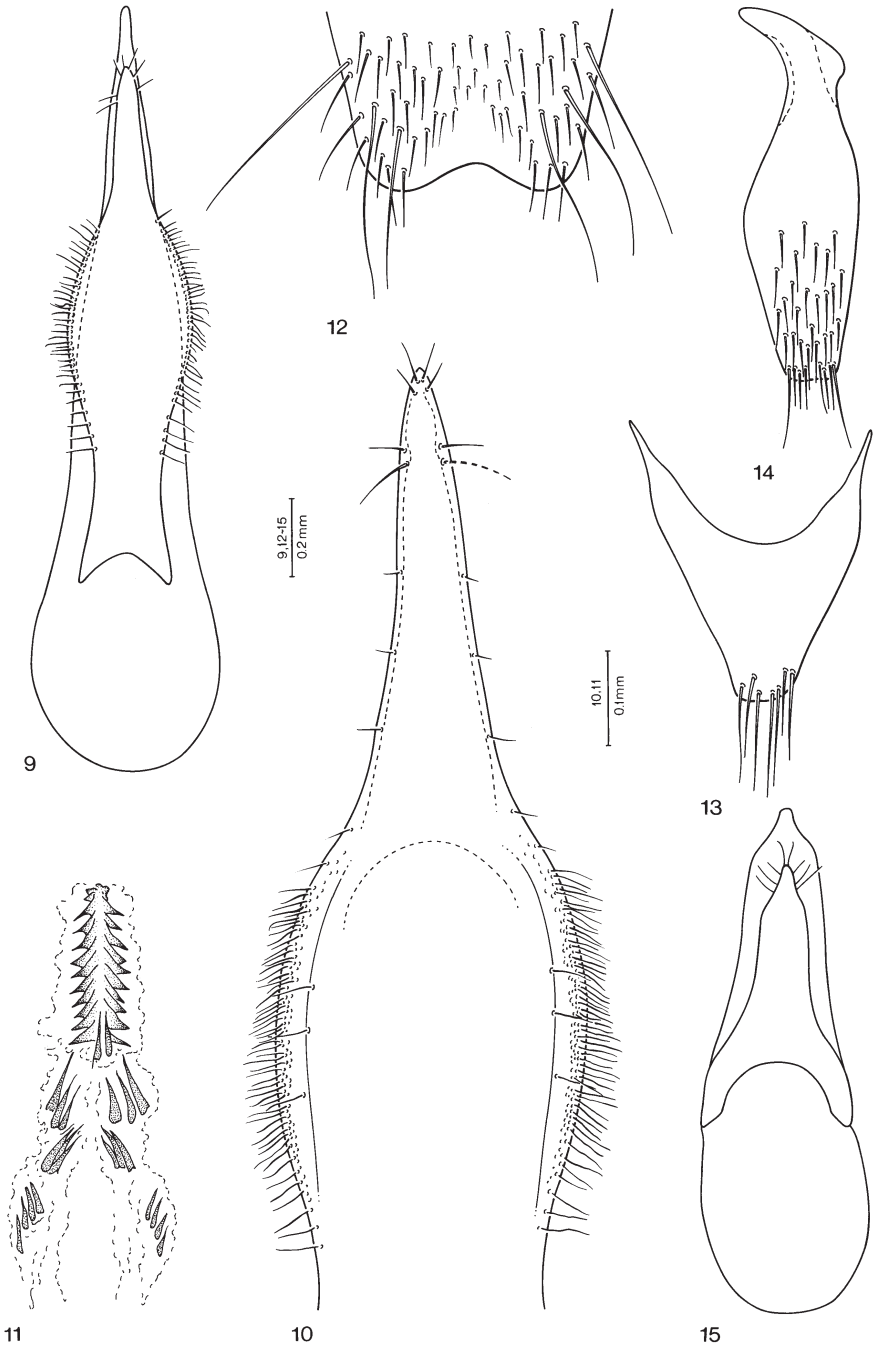
I was able to study one male specimen labeled as follows: label with Chinese symbols/”1990. IX. 25”, Chinese symbols/”PARATYPE Quedius (R.) zhoui sp.n. (♂) Zheng Fa-ke” [orange label]/” Nan jian 2 b”/”PARATYPE. Quedius (R.) zhoui sp.n. (♂) Zheng Fa-ke 2001”. The specimen was kindly donated to me by Mr. Zheng and is in my collection.

Based on the study of the above paratype, *Q. zhoui* is in all character states quite similar to *Q.* (*Raphirus*) *bisignatus* Smetana 2002 (Fig. 31), but differs by a few external characters, and by the characters on the aedoeagus.

Size slightly larger, body form more robust; pit-like punctures on head and pronotum slightly coarser, anterolateral and lateral areas of pronotum more densely and coarsely punctate and with more apparent whitish hairs. Elytra slightly longer, at sides more distinctly longer than pronotum at midline (ratio 1.18, corresponding ratio in *Q. bisignatus* is 1.15). Surface of abdominal tergites black (bluish in *Q. bisignatus*), and spots of rather thin yellowish-silvery tomentose hairs on each lateral portion of each tergite, present in *Q. bisignatus*, are missing.

Male. Medioapical emargination of male sternite 8 is distinctly deeper and more angulate (Fig. 3) than it is shown in Fig. 1 accompanying the original description (Zheng 2003, 297); tergite 10 and sternite 9 are accurately illustrated in Zheng (l.c.). Aedoeagus (Figs 4-5) is larger than that of *Q. bisignatus*, with paramere longer, evenly narrowed in straight line toward acute apex, apex barely exceeding apex of median lobe; sensory peg setae on underside of paramere arranged differently from those of *Q. bisignatus*.

Zheng (2003, 291) gives “a pile of fallen sunflower abandoned by the people of Daba Shan” as the habitat of this species. This is interesting, but quite unusual, since the habitat of the similar and closely related *Q. bisignatus*, as well as of several additional species of the lineage these two species belong to, is soaking wet moss in waterfalls and on large rocks directly in the streams of mountainous brooks and creeks.



Figs 9-15. *Quedius mniophilus*: 9- aedeagus, ventral view; 10- apical portion of underside of paramere; 11- internal sac. *Quedius collinsi*: 12- apical portion of male sternite 8; 13- tergite 10 of male genital segment; 14- sternite 9 of male genital segment; 15- aedeagus, ventral view.

Quedius (*Raphirus*) *coprobius* Zheng, Xiao et Lin, 2007

Quedius (*Raphirus*) *coprobius* Zheng, Xiao et Lin, 2007: 304.

Comments. The species was described from one male specimen taken in Yele Nature Reserve in Sichuan. The authors compare it to *Q. rivulorum* Smetana, 2002 and postulate that it differs from *Q. rivulorum* mainly "by the median lobe of aedeagus with three longitudinal carinae on face adjacent to paramere", by the difference in the arrangement of the sensory peg setae on the underside of the paramere, and by the different setation of tergite 10 of the male genital segment.

The nature of the three longitudinal carinae of median lobe is difficult to interpret from the attached illustrations. The only possible explanation is that the authors confused and combined the real, short median carina on the face of median lobe adjacent to the paramere with the two short spinose structures of the internal sac that appear in situ on each side of the real median carina in *Q. rivulorum,* and that may be in superficial viewing misinterpreted as carinae. The two longitudinal objects situated inside the median lobe in Fig. 17 (Zheng, Xiao & Lin, 2007, 305), showing the aedoeagus of *Q. coprobius*, undoubtedly represent the pair of long, spinose structures of the internal sac of *Q. rivulorum*. The postulated difference in the arrangement of the sensory peg setae on the underside of paramere of *Q. coprobius* does not realy exist, the two rows are quite similar in both species, and they are also composed of the same number of peg setae (11 and 13 in both species, see Smetana, 2002, and Zheng, Xiao & Lin, 2007, 305). There is no difference in the shape and setation of tergite 10 of the male genital segment of *Q. coprobius*, postulated by the authors (see Fig. 19 in Smetana, 2002, 129, and in Zheng, Xiao & Lin, 2007, 305), and also the sternites 9 of the male genital segment are absolutely identical in the shape and setation (see Fig. 20 in Smetana, 2002, 129, and Fig. 19 in Zheng, Xiao & Lin, 2007, 305). Since there is also no appreciable difference in general shape of the aedoeagus, including both the paramere and the median lobe, between the two species, I consider *Q. coprobius* a junior objective synonym of *Q. rivulorum* (syn. n.).

It should be perhaps stressed here again (see also Smetana, 2008, 317) that the character states of the aedoeagus may show some slight variability, just like most other character states, and that it is therefore not realistic to expect that the aedoeagus of every male specimen of certain species will match absolutely the published illustration. Similarly, every small difference in the setation and shape of the sclerites of the male/female genital segments does not necessarily support establishment of a new taxon. A careful, complex evaluation of sets of characters, ideally based on experience, is needed for establishment of a new taxon.

As in the case of *Q. zhoui* (see above), the habitat given for *Q. coprobius* ("found in excrement") is quite strange, since the real habitat of the species of the *intricatus*- group this species belongs to, is soaking wet moss in waterfalls and on large rocks directly in the streams of mountainous brooks and creeks.

Quedius (*Raphirus*) *mniophilus* sp. n.
(Figs 6-11, 32)

Type material. Holotype (♂): China: "CHINA: SE Sichuan Jinfo Shan, 29°01N 107°14E, 1800 m, 27.vi.1998, A. Smetana [C 70]"/"1998 China Expedition J. Farkač, D. Král, J. Schneider & A. Smetana" (ASC).

Description. In all external characters very similar to *Q. puetzi* Smetana, 1998, but different as follows: head with more numerous punctures on posterior half, punctation of elytra markedly sparser than that of *Q. puetzi*, punctation of abdominal tergites considerably sparser.

Male. First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment two about as wide as apex of tibia; segment four narrower than preceding segments. Sternite 8 with three large setae on each side, apical margin with narrow and very deep, acutely triangular medioapical emargination, flattened triangular area before emargination obsolete (Fig. 6). Genital segment with tergite 10 narrowly triangular with narrowly arcuate apex, with two apical setae and with four similar setae in front of them; sternite 9 with markedly differentiated, basally acute basal portion, apical portion wider, more markedly narrowed toward subacute apex and markedly less setose than that of *Q. puetzi*, without differentiated apical and subapical setae (Fig. 8). Aedoeagus (Figs 9-11) quite similar to that of *Q. puetzi*, but in general somewhat larger and more robust; paramere more distinctly widened in middle portion, each entire lateral margin of dilated middle portion bearing extensive seam of densely set, fine setae; internal sac entirely different, markedly more complex , as in Fig. 11. Length 6.2 mm.

Female unknown.

Geographical distribution. *Quedius mniophilus* is at present known only from Jinfo Shan in Chongqing.

Bionomics. The holotype was taken by sifting moist moss on trees near a waterfall.

Recognition and comments. *Quedius mniophilus* is well characterized among the members of the *multipunctatus* -group by the combination of external characters (sparse punctation of elytra, very sparse punctation of abdominal tergites) and male sexual characters (narrow, very deep, acutely triangular medioapical emargination of abdominal sternite 8, unique setation of dilated middle portion of paramere, and internal sac of the aedoeagus with numerous, characteristically situated sclerites).

At the time of the collection of the holotype, Jinfo Shan was in the province of Sichuan, therefore Sichuan is on the locality label. More recently eastern portion of Sichuan was segregated as a separate province of Chongqing, with Jinfo Shan included in it.

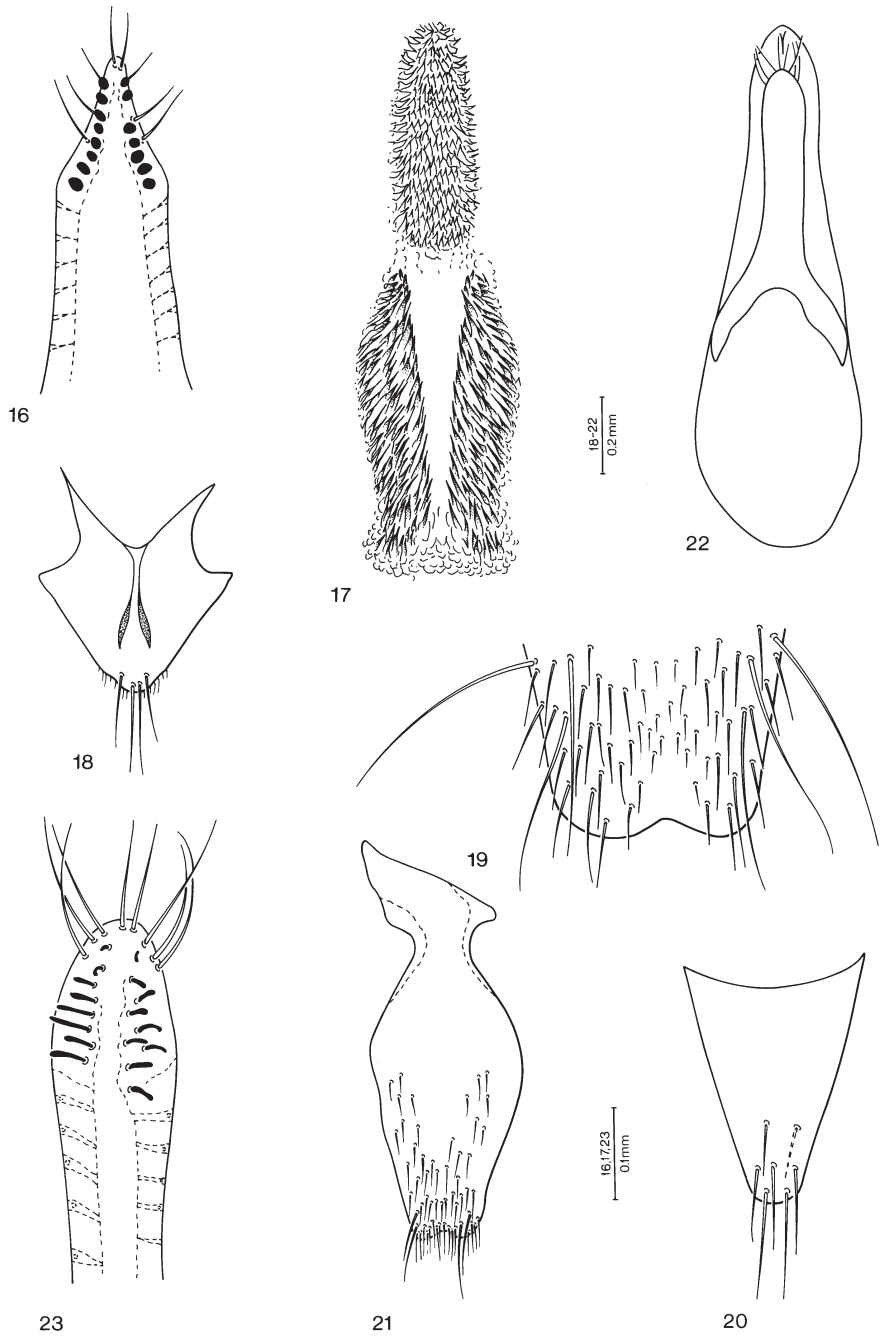
Etymology. The specific epithet is a combination of Greek nouns μνιον (moss) and φιλος (friend). It refers to the habitat the holotype of the species was collected from.

Quedius (*Raphirus*) *collinsi* sp. n.
(Figs 12-18)

Type material. Holotype (♂) and allotype (♀): China: "CHINA: SE Sichuan Jinfo Shan, 29°01N 107°14E, 1750 m, 26.vi.1998, A. Smetana [C 69]"/"1998 China Expedition J. Farkač, D. Král, J. Schneider & A. Smetana"(ASC). Paratypes: China: [Sichuan], same data as holotype, (3♂♂), (ASC).

Description. Head, pronotum and elytra brilliant metallic bluish green, elytra usually somewhat darker, with bluish hue more apparent, abdomen piceous-black to black; palpi, antennae and legs pale testaceo-yellowish. Head rounded, wider than long (ratio 1.35), markedly narrowed behind eyes, posterior angles entirely obsolete, indistinct; eyes very large and convex, tempora considerably shorter than eyes seen from above (ratio 0.22); dorsal surface with moderately coarse, somewhat irregular punctation, punctures becoming sparser toward middle of vertex; four large, pit-like punctures in transverse row at about anterior third of length of eyes, similar pit-like punctures present on area posterio-mediad of each eye; surface of head with fine microsculpture of transverse waves on clypeus, waves becoming gradually finer, more oblique elsewhere and appearing rudimentary on vertex. Antenna moderately long, segments 2 and 3 subequal in length, segments 4-7 longer than wide, gradually becoming shorter, segments 8-10 about as long as wide, last segment slightly shorter than two preceding segments combined. Pronotum about as long as wide, widest at about posterior third, distinctly narrowed anteriad, with lateral margins continuously arcuate with broadly rounded base; transversely convex, lateral portions not explanate; each lateral portion around middle of pronotal length with distinct, somewhat elongate pit-like impression; dorsal rows each irregular, composed of 6 or 7 large, pit-like punctures; sublateral rows each expanded into irregular group of 7 or 8 punctures, disc of pronotum with very irregularly dispersed fine punctures; entire surface of pronotum with very fine microsculpture of transverse and oblique waves. Scutellum impunctate, with fine microsculpture of transverse and oblique waves. Elytra relatively long, each with narrow, smooth, slightly elevated strip along suture, at base about as wide as pronotum, at suture vaguely (ratio 1.10), at sides distinctly (ratio 1.20) longer than pronotum at midline; punctation coarse and dense, becoming finer toward elytral base; punctures coalescent to form transverse rugae; interspaces between rugae without microsculpture; pubescence of elytra consisting of rather stiff and long, yellowish-golden setae. Wings fully developed. Abdomen with tergite 7 (fifth visible) bearing distinct whitish apical seam of palisade fringe; punctation of abdominal tergites very fine and quite sparse, becoming slightly denser toward lateral margin of each tergite, punctures each bearing rather long and strong yellowish-golden setae that become whitish close to lateral margin of each tergite; surface between punctures with very fine microsculpture of transverse waves that become rudimentary toward middle of each tergite.

Male. First four segments of front tarsus markedly dilated, each densely covered with long, modified pale setae ventrally; segment two markedly wider than apex of tibia (ratio 1.30), segment four narrower than preceding segments. Sternite 8 with three long setae



Figs 16-23. *Quedius collinsi*: 16- apical portion of underside of paramere with sensory peg setae; 17- internal sac; 18- tergite 10 of female genital segment. *Quedius viridimicans*: 19- apical portion of male sternite 8; 20- tergite 10 of male genital segment; 21- sternite 9 of male genital segment; 22- aedeagus, ventral view; 23- apical portion of underside of paramere with sensory peg setae.

on each side, with wide and shallow, arcuate medio-apical emargination, small triangular area before emargination flattened and smooth (Fig. 12). Genital segment with tergite 10 markedly narrowed toward subarcuate to subtruncate apex, with several apical setae, otherwise asetose (Fig. 13); sternite 9 as in Fig. 14, apical portion with two differentiated apical setae. Aedoeagus (Figs 15-17) rather small, median lobe parallelsided anteriorly and then narrowed into minute, knob-like apex; paramere of characteristic shape, apex by far not reaching apex of median lobe; two setae at apex and three similar setae at each lateral margin below apex; underside of paramere with sensory peg setae arranged into two longitudinal rows, slightly divergent posteriad; internal sac as in Fig. 17.

Female. First four segments of front tarsus similar to those of male, but markedly less dilated, segment 2 slightly narrower than apex of tibia (ratio 0.80). Genital segment with tergite 10 quite characteristic, as in Fig. 18.

Length 4.8- 5.3 mm.

Geographical distribution. *Quedius collinsi* is at present known only from Jinfo Shan in Chogqing Sichuan.

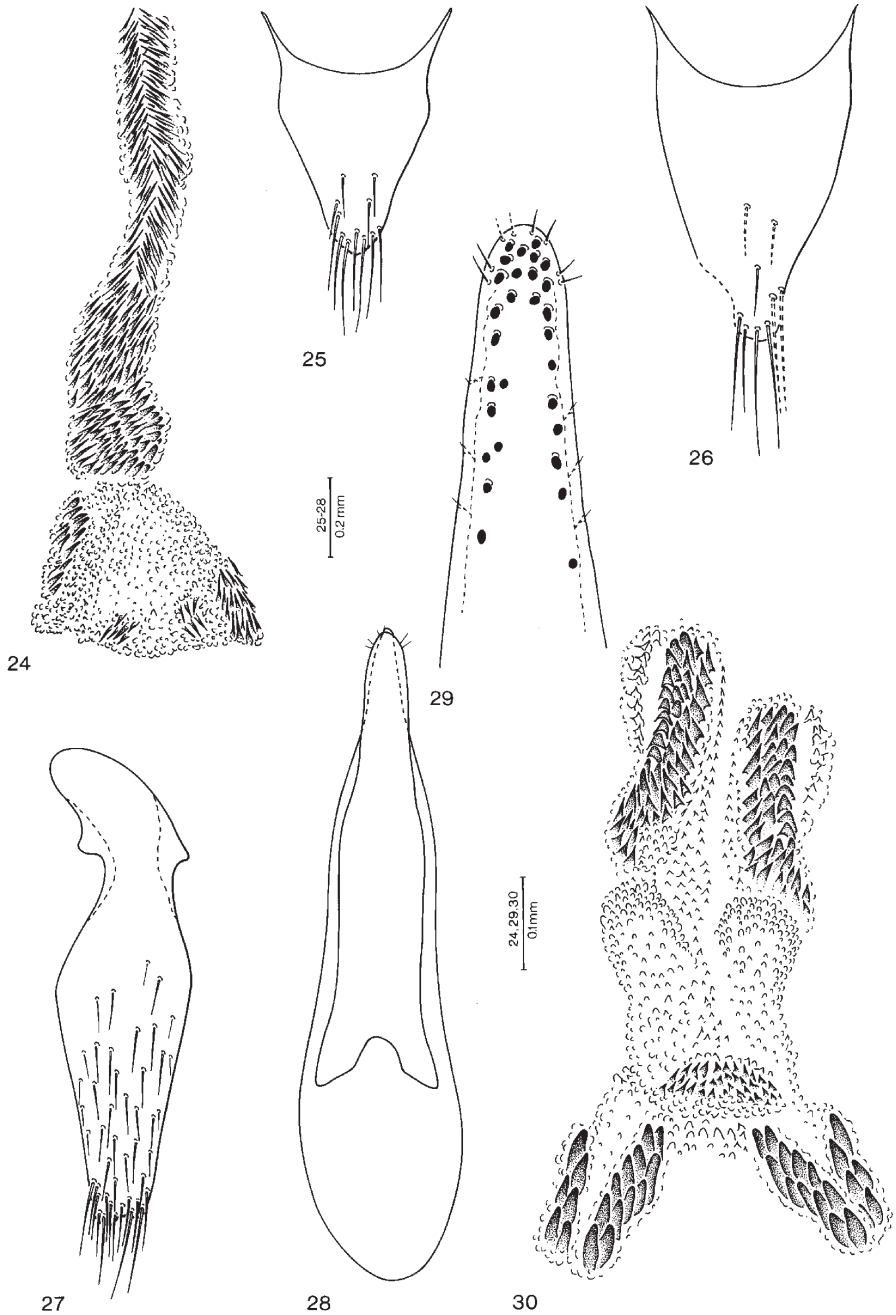
Bionomics. The specimens of the original series were taken by sifting moist moss on large rocks in broadleaved forest.

Recognition and comments. *Quedius collinsi* is very similar to *Q. shu*, but it differs from it by the uniformly testaceo-yellowish legs (apices of middle and hind femora and tibiae ["knies"] are darkened in *Q. shu*), and by the different shape of the aedoeagus (see Figs 1 and 2, 15 and 16).

Quedius collinsi is also similar to *Q. jindrai* Smetana, 1998, but the latter differs, in addition to the entirely different aedoeagus (see Figs 28-33 in Smetana, 1998), by the presence of some whitish hairs on lateral portions of pronotum (this character state is not mentioned in the original description of *Q. jindrai*), and by the rugose character of the punctures in dorsal rows of pronotum.

At the time of the collection of the specimens of the original series, Jinfo Shan was in the province of Sichuan, therefore Sichuan is on the locality labels. More recently eastern portion of Sichuan was segregated as a separate province of Chongqing, with Jinfo Shan included in it.

Etymology. Patronymic, the species was named for F. William ("Bill") Collins of Ottawa, the research scientist with Agriculture and Agri-Food Canada, the only non-entomologist of the coffee table discussion group in the K. W. Neatby Building, Central Experimental Farm, in recognition of his unique, inimitable rhetoric performances during the discussions.



Figs 24-30. *Quedius viridimicans*: 24- internal sac; 25- tergite 10 of female genital segment. *Quedius michaeli*: 26- tergite 10 of male genital segment; 27- sternite 9 of male genital segment; 28- aedeagus, ventral view; 29- apical portion of underside of paramere with sensory peg setae; 30- internal sac.

Quedius (*Raphirus*) *viridimicans* sp. n.
(Figs 19-24, 33)

Type material. Holotype (♂) and allotype (♀): China: "CHINA: N-Yunnan Dali Bai Nat. Aut. Pref. Diancang Shan 3km E Dali, 25°41'N 100°07'E. 29.viii. 2003, 2700 m, A. Smetana [C138]", (ASC). Paratypes: China: [Yunnan], same data as holotype, (3 ♂♂), (ASC); [C03-15] Dali Bai Nat. Aut. Pref., Diangcang Shan, 5 km SSW Dali old town, creek valley above cable car, 25°38.7'N 100°08.3'E, shrubs, bamboo, moss, old flood debris, 2800 m, 26.viii.2003, M. Schülke, (1 ♂, 1 ♀), (MSC).

Description. In all external characters similar to *Q. collinsi* but different as follows: surface of head, pronotum and elytra paler metallic green without bluish hue; punctation of dorsal side of head similar, but four large, pit-like punctures in transverse row at about anterior third of length of eyes, and particularly similar pit-like punctures present on area posterio-mediad of each eye markedly less coarse, general punctation of head less coarse, particularly on vertex, variable areas of vertex impunctate, microsculpture of dorsal side of head similar, but somewhat coarser. Punctation of pronotum similar, but punctures in dorsal rows finer and less aligned, dorsal rows therefore less apparent, microsculpture of surface coarser. Punctation of elytra similar, but in general less coarse, particularly on medial portion of each elytron.

Male. First four segments of front tarsus similar to those of *Q. collinsi*, but slightly less dilated, segment 2 about as wide as apex of tibia. Sternite 8 with three long setae on each side, medioapical emargination narrower and more angulate than that of *Q. collinsi*, small triangular area before emargintion flattened and smooth (Fig. 19). Genital segment with tergite 10 narrower and differently setose (Fig 20); sternite 9 wider than that of *Q. collinsi*, with slightly emarginate apex (Fig. 21). Aedoeagus (Figs 22-24) similar to that of *Q. collinsi*, but apical portion of median lobe of different shape, with short median carina on face adjacent to paramere, and with apex not knob-like; paramere of markedly different shape, with elongate, parallelsided middle portion, apex narrowly arcuate, by far not reaching apex of median lobe; two setae at apex of paramere, three longer setae at each lateral margin below apex; underside of paramere with sensory peg setae conspicuously elongate, forming two longitudinal rows; internal sac as in Fig. 24, distinctly different from that of *Q. collinsi*.

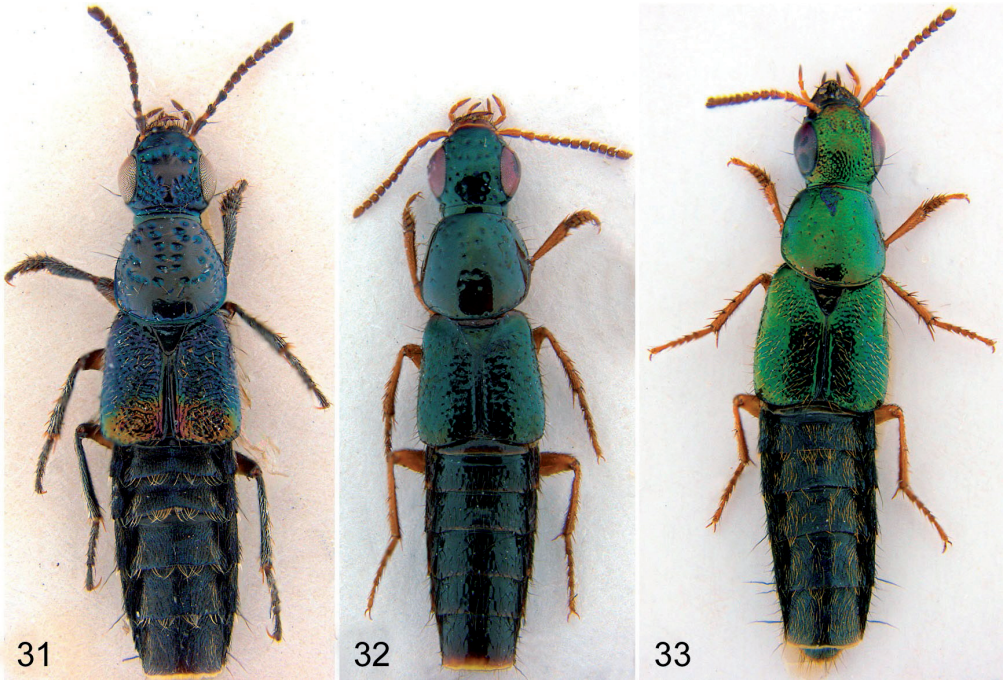
Female. First four segments of front tarsus similar to those of male, but less dilated, segment 2 slightly narrower than apex of tibia (ratio 0.85). Genital segment with tergite 10 as in Fig. 25, in general simple and quite different from that of *Q. collinsi*.

Length 5.0-5.8 mm.

Geographical distribution. *Quedius viridimicans* is at present known from Diancang Shan in northern Yunnan.

Bionomics. The specimens of the original series were taken by sifting moist moss on large rocks at and in a creek, as well as by sifting old flood debris on the same creek.

Recognition and comments. *Quedius viridimicans* is also similar to *Q. shu*, but it differs



Figs 31-33. Habitus. 31- *Quedius bisignatus*; 32- *Quedius mniophilus*; 33- *Quedius viridimicans*.

from it by the same set of external differences listed above in comparison with *Q. collinsi*, in addition to the uniformly testaceo-yellowish legs (apices of middle and hind femora and tibiae ["knies"] are darkened in *Q. shu),* and by the different shape of the aedoeagus Figs 1 and 2, 22 and 23).

Etymology. The specific epithet is a combination of Latin adjectives *viridis, -e* (green) and *micans* (shiny). It refers to the coloration of the body of the species.

***Quedius* (*Raphirus*) *michaeli* sp. n.**
(Figs 26-30)

Type material. Holotype (♂): China: "CHINA: N-Yunnan [C2005-13] Nujiang Lisu Aut. Pref., Gongshan Co., Gaoligong Shan, above "ranger station","/"27°47.65'N 98°35.41'E, 2000 m, broadleaved forest remnant, litter & moss sifted, 19.vi.2005, M. Schülke [C2005-13]".

Description. Head, pronotum and elytra dark olive green, abdomen piceous-black with apical margins of visible tergites 3-5 slightly paler; palpi, antennae and legs pale testaceo-yellowish. Head rounded, slightly wider than long (ratio 1.17), markedly narrowed behind eyes, posterior angles entirely obsolete, indistinct; eye very large and convex, tempora

considerably shorter than eyes seen from above (ratio 0.17); dorsal surface with moderately coarse to coarse, irregularly located, punctures, clypeus and vertex without coarse punctures, but bearing very fine punctures that are denser on clypeus; surface of head with fine microsculpture of transverse waves, becoming gradually submeshed to meshed on clypeus. Antenna moderately long, segments 2 and 3 subequal in length, segments 4-7 longer than wide, gradually becoming shorter, segments 8-10 about as long as wide, last segment shorter than two preceding segments combined. Pronotum about as long as wide, widest at about posterior third, distinctly narrowed anteriad, with lateral margins continuously arcuate with broadly rounded base; transversely convex, lateral portions not explanate; each lateral portion around middle of pronotal length with distinct, somewhat elongate pit-like impression; dorsal rows each quite irregular, composed of 7 and 8 variably large, pit-like punctures; sublateral rows each expanded into irregular group of 10 to12 markedly finer punctures; entire surface of pronotum with very fine microsculpture of transverse and oblique waves. Scutellum impunctate, with fine microsculpture of transverse and oblique waves. Elytra relatively long, at base about as wide as pronotum, at suture vaguely (ratio 1.12), at sides distinctly (ratio 1.20) longer than pronotum at midline; punctation moderately coarse and dense, interspaces between punctures equally large to slightly larger than diameters of punctures interspaces between punctures without microsculpture; pubescence of elytra consisting of rather stiff pale setae. Wings fully developed. Abdomen with tergite 7 (fifth visible) bearing distinct whitish apical seam of palisade fringe; punctation of abdominal tergites sparser and markedly finer than that on elytra, about evenly covering each tergite, pubescence yellowish; surface between punctures with extremely fine microsculpture of transverse waves.

Male. First four segments of front tarsus markedly dilated, each densely covered with long, modified pale setae ventrally; segment 2 about as wide as apex of tibia, segment 4 narrower than preceding segments. Sternite 8 unfortunately damaged, but apparently with only two long setae on each side, with medio-apical emargination likely rather wide and sharply triangular. Genital segment with tergite 10 with slightly differentiated apical portion and narrowly arcuate apex, setose as in Fig. 26; sternite 9 elongate, apical portion with two slightly differentiated apical setae (Fig. 27). Aedoeagus (Figs 28-30) relatively large, median lobe subparallelsided in middle portion and then narrowed into long apical portion with subacute apex; paramere large, anteriorly narrowed into long apical portion with narrowly arcuate apex about reaching apex of median lobe; four minute setae at apex and two slightly longer setae at each lateral margin below apex; underside of paramere with sensory peg setae forming apical field below apex of paramere, extended considerably posteriad as a single row along each lateral margin; internal sac as in Fig. 30. Length 6.8 mm.

Female unknown.

Geographical distribution. *Quedius michaeli* is at present known only from the type locality in Gaoligong Shan in the extreme northwest Yunnan near the Myanmar border.

Bionomics. *Quedius michaeli* was almost certainly taken by sifting moist moss in a broadleaved forest (during continuous rain).

Recognition and comments. *Quedius michaeli* is in external characters similar to *Q. freyi* Smetana, 1998 and *Q. wassu* Smetana, 1998, both from Sichuan, but it differs from both of them, in addition to the differently shaped aedoeagus with different internal sac, by the larger size, by the in general coarser punctation of the head and pronotum, by the longer elytra, and by the sparser punctation of the abdominal tergites.

Etymology. Patronymic, the species was named in honor of the collector, my friend Michael Schülke of Berlin, Germany.

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