

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

Part 5. Genus *Quedius* STEPHENS, 1829.

Subgenus *Microsaurus* DEJEAN, 1833. Section 4

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**Abstract** Taxonomic data on the species of the genus *Quedius*, subgenus *Microsaurus*, from the People's Republic of China are provided. *Quedius (Microsaurus) douglasi* BERNHAUER, 1929 and *Q. (Microsaurus) szechuanus* BERNHAUER, 1933 are redescribed and five species are described as new: *Q. becvari* (Yunnan), *Q. kubani* (Yunnan), *Q. klapperichi* (Fujian), *Q. kucerai* (Yunnan), *Q. pallens* (Fujian).

This is the fifth paper of the series of papers dealing with the Quediina of the People's Republic of China. It deals with several rather heterogenous species of the subgenus *Microsaurus* DEJEAN, 1833. The relationships and species-group assignments of *Q. douglasi* BERNHAUER, 1929, *Q. szechuanus* BERNHAUER, 1933 and *Q. pallens* sp. nov. have yet to be determined pending better knowledge of the east Asian *Quedius* fauna. *Quedius becvari* sp. nov. is related and similar to the Himalayan species *Q. ripicola* CAMERON, 1926 and *Q. milansaar* SMETANA, 1988. *Quedius kubani* sp. nov. and *Q. klapperichi* sp. nov. are two species with a punctate scutellum, related to *Q. kiangsiensis* BERNHAUER, 1916. *Quedius kucerai* sp. nov. is a very distinctive species of the newly established *Apicicornis* Group of species (SMETANA, 1996).

### *Quedius (Microsaurus) douglasi* BERNHAUER

(Fig. 1)

*Quedius douglasi* BERNHAUER, 1929, 3.

**Description.** Piceous-black with black head, elytra and apical margins of abdominal tergites inconspicuously paler; abdomen slightly iridescent; maxillary and labial palpi brownish, antennae and legs dark brownish, first antennal segment and medial faces of middle and hind tibiae darkened, tarsi slightly paler than rest of legs. Head of rounded quadrangular shape, slightly wider than long

(ratio 1.15), almost parallel-sided behind eyes, posterior angles obsolete; eyes small and rather flat, not appreciably protruding from lateral contours of head, tempora distinctly longer than eyes seen from above (ratio 1.37); infraorbital ridge fine, rudimental, gradually disappearing anteriorly and appreciable only in posterior third of head; no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture and temporal puncture both situated distinctly closer to posterior margin of head than to posterior margin of eye; two punctures between posterior frontal puncture and posterior margin of head, situated close to posterior margin; tempora with some very fine punctures; surface of head with dense and very fine microsculpture of transverse waves with scattered micropunctulation. Antenna moderately long and moderately widened toward apex, segment 3 somewhat longer than segment 2, segment 4 vaguely longer than wide, segment 5 as long as wide, following segments wider than long, gradually becoming wider, last segment as long as two preceding segments combined. Pronotum somewhat wider than long (ratio 1.17), widest at about posterior third, slightly narrowed anteriorly, with lateral margins continuously arcuate with broadly rounded base, transversely convex, lateral portions not explanate; dorsal rows each with three punctures; sublateral rows each reduced to one puncture at anterior margin of pronotum; microsculpture similar to that on head. Scutellum impunctate, with fine and dense microsculpture of transverse waves. Elytra moderately long, at base somewhat narrower than pronotum at widest point, almost parallel-sided, at suture slightly (ratio 1.11), at sides distinctly (ratio 1.26) longer than pronotum at midline; punctation and pubescence moderately dense and coarse, transverse interspaces between punctures mostly about 1.5 as large as diameters of punctures; pubescence piceous; surface between punctures without microsculpture, but with some microscopic irregularities on apical portion of elytra. Wings fully developed. Abdomen with tergite 7 (fifth visible) bearing distinct whitish apical seam of palisade fringe; punctation and pubescence of abdominal tergites very fine and dense, considerably finer and denser than that of elytra, evenly covering each tergite, gradually becoming slightly sparser toward apex of abdomen; pubescence piceous; surface between punctures with extremely dense and fine microsculpture of transverse striae, so that surface appears somewhat opaque.

**Female.** First four segments of front tarsus moderately dilated, subbilobed, each densely covered with modified pale setae ventrally; segment two slightly narrower than apex of tibia (ratio 0.88); segment four narrower than preceding segments. Genital segment with tergite 10 (slightly damaged in specimen studied) wide, triangular, with numerous setae at and near apical margin, apical and subapical setae not differentiated (Fig. 1).

**Male.** Not available for study.

Length 9.1 mm.

*Type material.* BERNHAUER (1929, 3) described the species from at least two specimens from "Nord-China". I was able to study one paratype deposited in the BERNHAUER collection at the Field Museum of Natural History, Chicago, Illinois. It is labelled as follows: "Yung-ting-Shan Mts. 90 m. W. of Tai-yan-fu, Shensi, N. China.)/"7000 ft.)/"8.10.08. H.E.M. Douglas 1910-332"/"Quedius douglasi Brh. Cotypus"/"douglasi Brnh. Cotypus"/"Chicago NHMus M. Bernhauer Collection". The specimen is in perfect condition. It was remounted and the genital segment was mounted in Canada balsam on transparent plate attached to the pin with the beetle. The specimen is hereby designated as the lectotype of *Q. douglasi*; the label "Lectotype *Quedius douglasi* Bernhauer A. Smetana des. 1995" has been attached to it.

The remaining specimen(s?) is apparently deposited in the collection of the Natural History Museum, formerly British Museum (Natural History), London. The sex is unknown, but since BERNHAUER (l.c.) did not describe the male sexual characters on the abdominal sternite 8, it is assumed that it is also a female.

*Geographical distribution.* *Quedius douglasi* is at present known only from the type locality which is believed to be in the province of Shanxi in the Yunzhong Shan Mts. NW of Taiyuan.

*Bionomics.* Nothing is known about the collection circumstances of the species.

*Recognition.* *Quedius douglasi* may be fairly easily recognized by the combination of the following characters: the small eyes, the position of both the posterior frontal and temporal punctures on the head, the reduction of sublateral punctures on the pronotum to one puncture at the anterior margin of the pronotum, the very fine and dense punctation of the abdominal tergites, and the slightly coarser than usual microsculpture of the surface of the abdominal tergites, causing the surface to appear somewhat opaque.

### *Quedius (Microsaurus) szechuanus* BERNHAUER

(Figs. 2-6)

*Quedius szechuanus* BERNHAUER, 1933, 41.

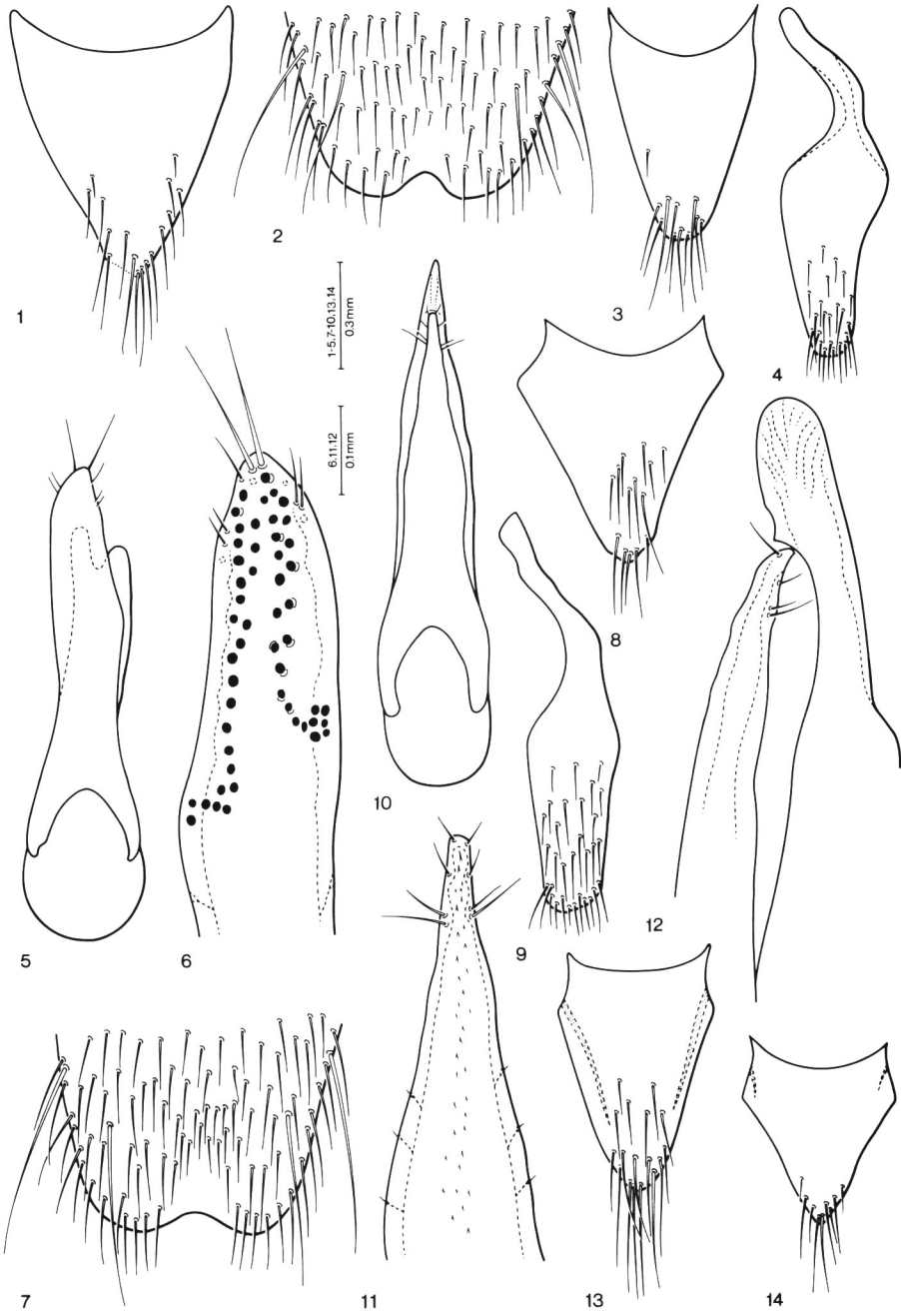
*Description.* Piceous with black head, elytra and apical margins of abdominal tergites and apex of abdomen paler, rather dark brownish; abdomen slightly iridescent; maxillary and labial palpi brownish, antennae piceous with first three segments vaguely paler, legs brown with medial faces of middle and hind tibiae darkened. Head fairly small, of rounded quadrangular shape, slightly wider than long (ratio 1.13), markedly narrowed posteriad behind eyes, posterior angles entirely obsolete; frons with three shallow impressions, one at each antennal insertion and one in middle behind them; eyes large and convex, protruding from

lateral contours of head, tempora distinctly shorter than eyes seen from above (ratio 0.62); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture situated close to postero-medial margin of eye, separated from it by distance about equal to diameter of puncture, two punctures between it and posterior margin of head, almost forming an oblique row with posterior frontal puncture; temporal puncture situated vaguely closer to posterior margin of eye than to posterior margin of head (almost midway on right side); tempora with numerous fine punctures; surface of head with fine and dense microsculpture of transverse waves. Antenna moderately long, segment 3 somewhat longer than segment 2 (ratio 1.25), segment 4 slightly longer than wide, segment 5 as long as wide, following segments wider than long, gradually becoming wider, last segment as long as two preceding segments combined. Pronotum slightly wider than long (ratio 1.12), widest around middle, narrowed anteriorly, with lateral margins continuously arcuate with broadly rounded base, transversely convex, lateral portions not explanate; dorsal rows each with three punctures; sublateral rows each with two punctures, posterior puncture situated before level of large lateral puncture; microsculpture similar to that on head; scutellum impunctate, surface with dense and fine microsculpture of mostly transverse waves. Elytra moderately long, at base slightly narrower than pronotum at widest point, inconspicuously widened posteriorly, at suture slightly (ratio 1.17), at sides distinctly (ratio 1.26) longer than pronotum at midline; punctation and pubescence rather coarse, dense, transverse interspaces between punctures slightly larger than diameters of punctures; pubescence piceous; surface between punctures without microsculpture. Wings fully developed. Abdomen with tergite 7 (fifth visible) bearing whitish apical seam of palisade fringe; punctation in general somewhat finer than that on elytra, first visible segment with fairly large medial area impunctate, second visible tergite with small medio-apical area impunctate, remaining tergites fairly evenly punctate; pubescence piceous; surface between punctures with exceedingly dense and fine microsculpture of transverse striae.

**Male.** First four segments of front tarsus distinctly 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

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Figs. 1–14. — 1. *Quedius douglasi*: tergite 10 of female genital segment. — 2–6. *Quedius szechuanus*: 2, apical portion of male sternite 8; 3, tergite 10 of male genital segment; 4, sternite 9 of male genital segment; 5, aedoeagus, ventral view; 6, apical portion of underside of paramere. — 7–14. *Quedius becvari*: 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 underside of paramere; 12, apical portion of aedoeagus, lateral view; 13, tergite 10 of female genital segment. — 14. *Quedius stevensi*: tergite 10 of female genital segment.



8 with two long setae on each side; with rather shallow, moderately wide, obtusely triangular medio-apical emargination, small triangular area before emargination flattened and smooth (Fig. 2). Genital segment with tergite 10 fairly narrowly triangular, arcuate apically, with numerous setae at and near apical margin (Fig. 3); sternite 9 with narrow and elongate basal portion, apical portion slightly asymmetrical, apex arcuate, with several differentiated subapical setae (Fig. 4). Aedoeagus (Figs. 5, 6) asymmetrical, of quite characteristic shape; median lobe slightly curved apically, apex divided into two unequal lobes. Paramere large, covering most of median lobe, markedly asymmetrical, apical portion curved to left, exposing right medial and apical portion of median lobe; two very long, strong setae at apex, with one additional, much weaker seta on one side, two weak setae at each lateral margin below apex; underside of paramere with very numerous sensory peg setae, covering apical portion of paramere and extending posteriad as two irregular, unequally long, longitudinal rows. Internal sac without larger sclerotized structures.

*Female.* Unknown.

Length 7.2 mm.

*Type material.* BERNHAUER (1933, 41) described the species from a single male from Sichuan. The holotype, deposited in the BERNHAUER collection at the Field Museum of Natural History, Chicago, Illinois, is labelled as follows: "Szechuan China Em. Reitter"/"Tatsienlu Tjiji Urwald Rodungen"/"szechuanus Brnh. Typ.un."/"szechuanus Bernh. Typus unic."/"Chicago NHMus M. BERNHAUER Collection". The specimen is in perfect condition; it was dissected; sternite 8, the genital segment and the aedoeagus were mounted into Canada balsam on two transparent plates, which were attached to the pin with the beetle; tergite 8 was glued to the plate with the beetle.

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

*Bionomics.* Nothing is known about the collection circumstances of the holotype.

*Recognition and comments.* *Quedius szechuanus* may be best recognized, in addition to the spectacular aedoeagus (see below), by the relatively small size, the small head, markedly narrowed posteriad behind the large, convex eyes, the chaetotaxy of both the head and pronotum, the rather coarsely punctate, fairly long elytra, and by the characteristically punctate first two visible abdominal tergites (see the description).

The shape of the aedoeagus, particularly the emargination of the apex of the median lobe and the conspicuously asymmetrical paramere, is spectacular an extent suggesting it may be teratological in nature. On the other hand, similarly spectacular, unique aedoeagi occur sporadically within the genus, e.g. in *Quedius (Microsaurus) xanthopus* ERICHSON, 1839 (see Fig. 259 in SMETANA, 1958, 370).

*Quedius (Microsaurus) becvari* sp. nov.

(Figs. 7-13)

*Description.* Black; head and pronotum slightly, abdomen distinctly, iridescent; maxillary and labial palpi piceous-black with apices of last segments paler; antennae piceous-black, basal third of segment 2 reddish-testaceous; legs piceous-black to black with vaguely paler tarsi. Head rounded, slightly wider than long (ratio 1.10), distinctly narrowed posteriad behind eyes, posterior angles entirely obsolete; eyes moderately large and convex, tempora distinctly shorter than eyes seen from above (ratio 0.58); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture almost touching postero-medial margin of eye, two punctures between it and posterior margin of head; temporal puncture about midway between posterior margin of eye and posterior margin of head; tempora with a few very fine punctures; surface of head with dense and very fine microsculpture of transverse waves, with intermixed micropunctulation. Antenna moderately long, segment 3 markedly longer than segment 2 (ratio 1.33), following segments longer than wide, gradually becoming shorter, segments 9 and 10 only scarcely longer than wide; segments 4-10 slightly shorter in female, with segments 9 and 10 as long as wide; last segment almost as long as two preceding segments combined. Pronotum about as long as wide, widest around middle, scarcely narrowed anteriorly, broadly rounded basally, transversely convex, lateral portions not explanate, dorsal rows divergent anteriorly, each with three punctures; sublateral rows each with three punctures, posterior puncture situated distinctly behind level of large lateral puncture; microsculpture similar to that on head but scarcely denser. Scutellum impunctate, surface with very fine and dense microsculpture of transverse waves. Elytra moderately long, at base slightly narrower than pronotum at widest point, scarcely widened posteriad, at suture about as long as, at sides longer than pronotum at midline (ratio 1.15); punctation and pubescence fairly coarse, moderately dense, scarcely asperate, transverse interspaces between punctures mostly about 1.5 as large as diameters of punctures; pubescence piceous-black; surface between punctures without microsculpture. Wings fully developed. Abdomen with tergite 7 (fifth visible) bearing distinct whitish apical seam of palisade fringe; punctation of abdominal tergites finer and sparser than that on elytra, becoming finer and distinctly sparser toward apex of each tergite and in general toward apex of abdomen, middle portion of first visible tergite and apical portions of all tergites almost impunctate; 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 densely covered with modified pale setae ventrally; segment two slightly wider than apex of tibia (ratio 1.14); segment four narrower than preceding

segments. Sternite 8 with two long setae on each side; with moderately wide and rather shallow, almost arcuate medio-apical emargination, small triangular area before emargination flattened and smooth (Fig. 7). Genital segment with tergite 10 rather short and wide, strongly narrowed toward narrowly arcuate apex, with two apical and two subapical setae, general setation considerably reduced (Fig. 8); sternite 9 long, with basal portion narrow and very long, apical portion subangulately arcuate apically, without differentiated apical or subapical setae (Fig. 9). Aedoeagus (Figs. 10–12) narrow and elongate; median lobe attenuated into long, acuminate apical portion, forming a long, large hook in lateral view. Paramere elongate, attenuated into long and narrow apical portion with narrowly subtruncate apex, well short of reaching apex of median lobe; two minute setae at apical margin, one minute seta below apex and two long setae far below apex at each lateral margin; underside without sensory peg setae, but with numerous thick minute setae along midline; internal sac without larger sclerotized structures.

**Female.** First four segments of front tarsus not appreciably different from those of male. Genital segment with tergite 10 narrowly triangular, strongly narrowed toward subacute apex, with fine longitudinal carina along each lateral margin, extending from base to about apical fourth; with several unequally long setae at apical margin and on apical portion (Fig. 13).

Length 6.3–8.0 mm.

**Type material.** Holotype (male) and allotype (female): China: “China Yunnan 27.–28. VI. DAJU (50 km N of LIJIANG) 27.21N 100.19E lgt. S. BEČVAR 1992”. Holotype in the Naturhistorisches Museum, Wien, Austria. Allotype in the SMETANA collection, Ottawa, Canada.

**Paratype:** China: [Yunnan]: Yuan-shan, Kunming, 5. XI. 1992, Y. WATANABE, 1 ♀ in the collection of the Shanghai Institute of Entomology, Academia Sinica, Shanghai.

**Geographical distribution.** *Quedius becvari* is at present known only from two localities in Yunnan, one near Kunming and one in the northern part of the province.

**Bionomics.** Nothing is known about the habitat requirements of this species.

**Recognition, comparisons and comments.** *Quedius becvari* is closely related and similar to two Himalayan species, *Q. ripicola* (known from Himachal Pradesh, Uttar Pradesh and Nepal) and *Q. milansaar* (known from Himachal Pradesh). The three species apparently form a monophyletic species-group, based on several synapomorphies, such as the absence of the sensory peg setae from the underside of the paramere, the development and location of the setae on the apical portion of the paramere, and the characteristic configuration of the apical portion of the median lobe of the aedoeagus. *Quedius becvari* differs from both Himalayan species by the shape of the aedoeagus (Figs. 10–12 and figs. 46–49, 51–54 in



SMETANA, 1988, 400, 401). Particularly, the shape of the apical portion of the median lobe, as seen in lateral view, is significantly different in the three species.

*Quedius becvari* is also similar in external characters to another Himalayan species, *Q. stevensi* CAMERON, 1932 (known from Nepal and Sikkim), but *Q. stevensi* differs, in addition to some minor external differences, by the entirely differently shaped, quite voluminous, aedoeagus (see fig. 44 in SMETANA, 1988, 400), and by the absence of complete lateral carinae on tergite 10 of the female genital segment (in *Q. stevensi* the carinae are absent, or there is only a rudiment of each carina near the base of the tergite (Fig. 14).

The entire right antenna is missing in the paratype.

*Etymology.* Patronymic, the species was named in honor of the collector, Mr. S. BEČVÁŘ, Suchdol n./Lužnici, Czech Republic.

*Quedius (Microsaurus) kubani* sp. nov.

(Figs. 15–18)

*Description.* Black, head and pronotum slightly, abdomen more distinctly iridescent; maxillary and labial palpi piceous-black, antennae and legs black, front tarsi dark brown, middle and hind tarsi gradually becoming somewhat paler toward apex. Head of rounded quadrangular shape, with wide neck, about as long as wide, almost parallel-sided behind eyes, posterior angles rounded; eyes moderately large and convex, scarcely to slightly protruding from lateral contours of head, tempora longer than eyes seen from above (ratios 1.13–1.15); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture situated distinctly closer to postero-medial margin of eye, two punctures between it and posterior margin of head; temporal puncture situated about midway between posterior margin of eye and posterior margin of head; tempora with numerous fine punctures; surface of head with very fine, dense microsculpture of transverse waves, becoming slightly irregular and confused on clypeus. Antenna short and rather robust, segment 3 somewhat longer than segment 2 (ratio 1.21), segment 4 scarcely to slightly transverse, segments 5–10 becoming increasingly transverse and scarcely asymmetrical, each with apicolateral portion inconspicuously prolonged, last segment about as long as two preceding segments combined. Pronotum slightly wider than long (ratio 1.14), widest at about posterior third, markedly narrowed anteriorly, with lateral margins continuously arcuate with broadly rounded base, distinctly transversely convex, lateral portions slightly explanate posteriorly; dorsal rows each with three punctures; sublateral rows each with two punctures, posterior puncture situated at least slightly before level of large lateral puncture; microsculpture similar to that on head but denser and somewhat finer. Scutellum densely punctate and pubescent on apical two-thirds, surface with extremely fine and dense microsculpture of

transverse waves. Elytra relatively long, at base distinctly narrower than pronotum at widest point, scarcely widened posteriad, at suture as long as, at sides markedly longer than pronotum at midline (ratio 1.19); punctuation and pubescence fine and dense, transverse interspaces between punctures mostly no larger than diameters of punctures; pubescence piceous-black; surface between punctures without microsculpture. Wings fully developed. Abdomen with tergite 7 (fifth visible) bearing distinct whitish apical seam of palisade fringe; bases of visible tergites two and three transversely impressed; punctuation and pubescence of abdominal tergites finer and about as dense as that on elytra, fairly evenly covering surface of each tergite and in general not becoming appreciably sparser 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 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 long setae on each side; with rather wide and deep, obtusely triangular medio-apical emargination, small triangular area before emargination flattened and smooth (Fig. 15). Genital segment not available for study (see *Comments*). Aedoeagus (Figs. 16–18) elongate and narrow; median lobe gently attenuate in middle part, anteriorly narrowed into acute apical portion, in lateral view with inconspicuous tooth on face adjacent to paramere. Paramere large, covering most of apical half of median lobe, with apex of its lancet-shaped apical portion not quite reaching apex of median lobe; four setae at apex, middle pair distinctly longer than lateral setae, two moderately long setae at each lateral margin below apex; sensory peg setae on underside of paramere very numerous, forming two irregular lateral groups joined anteriorly, each with 20–22 peg setae; internal sac without larger sclerotized structures.

**Female.** Unknown.

Length 8.2–10.2 mm.

*Type material.* Holotype (male): China: “China. Yunnan Dong-Chuan 28.6.–3.7.94 lgt. V. Kubáň”. In the SMETANA collection, Ottawa, Canada.

Paratypes: China: [Yunnan]: same data as holotype, 1♂ in the KUČERA collection, Soběslav, Czech Republic; Lijiang, 11.6.–16.6. 1995 E. KUČERA leg., 1♂ in the KUČERA collection; Dali, 28.5.–9.6.1994 lgt. E. KUČERA, 1♂ in the SMETANA collection.

*Geographical Distribution.* *Quedius kubani* is at present known from central and northern Yunnan.

*Bionomics.* Nothing is known about the collection circumstances of the specimens of this species. It seems to occur at lower elevations.

*Recognition, comparisons and comments.* *Quedius kubani* may be easily recognized by the combination of two characters: the punctate scutellum and the

shape of the aedeagus. It may be confused only with *Q. kiangsiensis* BERNH-AUER, 1916, but the latter species differs mainly by the robust, incrassate antenna and by the differently shaped aedeagus (see fig. 7–9 in SMETANA, 1995, 237).

*Quedius kubani* varies considerably in body form. The holotype is a large, robust male with relatively large head, whereas all paratypes are variably smaller, slenderer males with smaller heads.

All specimens of the original series were received dissected, each with the genital segment missing.

*Etymology.* Patronymic, the species was named in honor of Mr. V. KUBÁŇ, Brno, Czech Republic, the collector of the holotype.

*Quedius (Microsaurus) klapperichi* sp. nov.

(Figs. 19–25)

*Description.* Piceous-black to black; head and pronotum slightly, abdomen distinctly iridescent; maxillary and labial palpi testaceo-rufous, antennae brunneo-piceous with first three segments paler, rufo-brunneous; legs rufo-brunneous, slightly darker in holotype. Head of rounded quadrangular shape, slightly wider than long (ratio 1.12), only scarcely narrowed behind eyes, posterior angles obsolete; eyes moderately long and convex, tempora scarcely (male, ratio 0.90) or slightly (female, ratio 0.75) shorter than eyes seen from above; no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture situated distinctly closer to postero-medial margin of eye than to posterior margin of head, separated from it by distance about twice as large as diameter of puncture, two punctures between it and posterior margin of head; temporal puncture situated about midway between posterior margin of eye and posterior margin of head; tempora with some fine punctures; surface of head with fine and dense microsculpture of transverse waves, with intermixed, distinct micropunctulation. Antenna short, segment 3 longer than segment 2 (ratio 1.27), segment 4 about as long as wide, following segments wider than long, gradually becoming increasingly transverse, last segment about as long as two preceding segments combined. Pronotum slightly wider than long, widest at about posterior third, narrowed anteriorly, with lateral margins continuously arcuate with broadly rounded base, transversely convex, lateral portions not appreciably explanate; dorsal rows each with three punctures; sublateral rows each with two punctures, posterior puncture situated at least slightly before level of large lateral puncture; microsculpture similar to that on head, but finer, distinctly denser and without micropunctulation. Scutellum variably densely punctate and pubescent on apical two-thirds, surface with extremely fine and dense microsculpture of transverse waves. Elytra moderately long, at base scarcely narrower than pronotum at widest point, only slightly widened posteriorly, at suture vaguely (ratio 1.07), at

sides slightly (ratio 1.18) longer than pronotum at midline; punctation and pubescence fine and dense, transverse interspaces between punctures mostly about 1.5 as large as diameters of punctures; pubescence brownish-piceous; surface between punctures without microsculpture. Wings fully developed. Abdomen with tergite 7 (fifth visible) bearing distinct whitish apical seam of palisade fringe; punctation and pubescence of abdominal tergites about similar to that on elytra, but slightly sparser, gradually becoming somewhat sparser toward apex of each tergite and in general 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 distinctly 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 long setae on each side; with rather wide and deep, obtusely triangular, medio-apical emargination, small triangular area before emargination flattened and smooth (Fig. 19). Genital segment with tergite 10 fairly narrow, markedly narrowed toward subemarginate apex, with two weakly differentiated apical setae (Fig. 20); sternite 9 elongate, with rather narrow basal portion, slightly emarginate apically, with two weakly differentiated subapical setae (Fig. 21). Aedoeagus (Figs. 22–24) elongate; median lobe with lancet-shaped, sub-acute apical portion, with minute tooth on face adjacent to paramere. Paramere elongate with narrow, almost parallel-sided middle portion, then dilated into lancet-shaped apical portion matching that of apical portion of median lobe and almost entirely covering it; four setae at apex, medial pair longer than lateral pair, two similar setae at each lateral margin below apex; underside of paramere with numerous sensory peg setae forming long, irregular row along each lateral margin; internal sac without larger sclerotized structures.

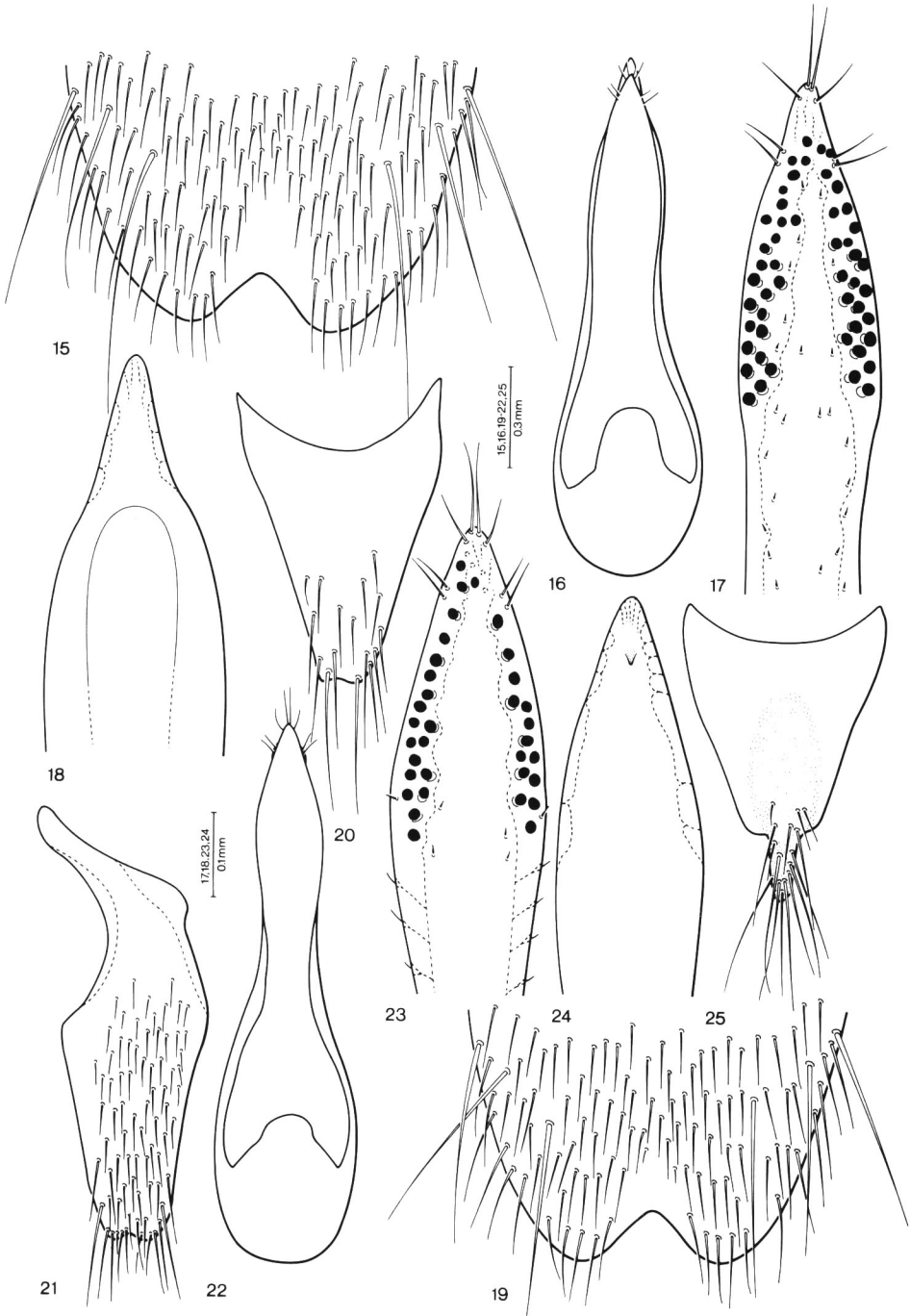
**Female.** First four segments of front tarsus similar to those of male, but somewhat less dilated; segment two slightly narrower than apex of tibia (ratio 0.85). Genital segment with tergite 10 pigmented medio-apically, anteriorly suddenly narrowed into narrow, rod-like apical portion with numerous long, strong setae (Fig. 25).

Length 7.7–7.9 mm.

*Type material.* Holotype (male) and allotype (female): China: "KUA-

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Figs. 15–25. — 15–18. *Quedius kubani*: 15, apical portion of male sternite 8; 16, aedoeagus, ventral view; 17, apical portion of underside of paramere; 18, apical portion of median lobe, ventral view, paramere removed. — 19–25. *Quedius klapperichi*: 19, apical portion of male sternite 8; 20, tergite 10 of male genital segment; 21, sternite 9 of male genital segment; 22, aedoeagus, ventral view; 23, apical portion of underside of paramere; 24, apical portion of median lobe, ventral view, paramere removed; 25, tergite 10 of female genital segment.



TUN, FUKIEN China, 14.5.46 leg. Tschung-Sen". In the Naturhistorisches Museum, Wien, Austria.

Paratype: China: "Kuatun (2300 m) 27,47 n.Br. 117,40 ö.L. J. Klapperich 19.3. 1938 (Fukien)", 1♂ in the SMETANA collection, Ottawa, Canada.

*Geographical distribution.* *Quedius klapperichi* is at present known from the type locality in the province of Fujian.

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

*Recognition and comments.* *Quedius klapperichi* may be easily recognized, in addition to both the male and female sexual characters, by the combination of the following characters: scutellum punctate, appendages (particularly legs) pale, antenna short, with outer segments transverse. It cannot be confused with any other Chinese species of the subgenus *Microsaurus* with punctate scutellum.

The last two segments of the left antenna are missing in the holotype.

The type locality "Kuatun" is at present known as Guadun Village, Wuyi Shan, and lies in the northern part of Fujian.

*Etymology.* Patronymic. The species was named in honor of one of its collectors, Mr. J. KLAPPERICH, the German coleopterist and insect collector, who became famous by his successful collecting expeditions to many areas in Asia and elsewhere.

*Quedius (Microsaurus) kucerai* sp. nov.

(Figs. 26–32)

*Description.* Piceous-black, elytra at least slightly paler, dark brownish-piceous to dark reddish-brown, apex of abdomen inconspicuously paler; head and pronotum vaguely, abdomen distinctly iridescent; maxillary and labial palpi brunneo-testaceous, antennae brunneous with first three segments slightly, partially darkened, legs piceous with tarsi and lateral faces of front tibiae paler. Head of rounded quadrangular shape, markedly wider than long (ratio 1.37), markedly narrowed posteriad behind eyes, posterior angles entirely obsolete; eyes large and convex, protruding from lateral contours of head, tempora distinctly shorter than eyes seen from above (ratio 0.58); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture situated very close to postero-medial margin of eyes, separated from it by distance distinctly smaller than diameter of puncture, sometimes almost touching it, two punctures between it and posterior margin of head; temporal puncture separated from posterior margin of eye by distance slightly smaller than diameter of puncture; tempora with numerous fine punctures; dorsal surface of head with fine, very dense microsculpture of transverse waves, randomly, obliquely connected with each other, with intermixed microscopic punctulation. Antenna moderately long, only

slightly widened toward apex, segment 3 slightly longer than segment 2 (ratio 1.15), segments 4–7 longer than wide, gradually becoming shorter, segments 8–10 about as long as wide, last segment slightly shorter than preceding two segments combined. Pronotum rather large and voluminous, slightly wider than long (ratio 1.12), widest around middle, slightly more narrowed anteriorly than posteriorly, with lateral margins continuously arcuate with broadly rounded base, transversely convex, lateral portions hardly explanate posteriorly; dorsal rows each with three punctures; sublateral rows each with three punctures, posterior puncture situated just before level of large lateral puncture; microsculpture similar to that on head but appreciably finer and denser, waves without oblique connections. Scutellum fairly large, impunctate, surface with very fine and dense microsculpture of transverse waves. Elytra short, at base markedly narrower than pronotum at widest point, scarcely widened posteriorly, at suture considerably shorter (ratio 0.66), at sides distinctly shorter than pronotum at midline (ratio 0.77); punctation and pubescence fine and dense, slightly asperate, transverse interspaces between punctures mostly about as large as diameters of punctures; pubescence piceous; surface between punctures without microsculpture but with some microscopic irregularities, particularly toward apical margin. Wings reduced to non-functional stumps, each distinctly shorter than elytron. Abdomen with tergite 7 (fifth visible) without whitish apical seam of palisade fringe; punctation and pubescence of abdominal tergites finer and sparser than that on elytra, rather evenly covering surface of each tergite, in general becoming only inconspicuously sparser toward apex of abdomen; surface between punctures with exceedingly dense and fine microsculpture of transverse striae.

**Male.** First four segments of front tarsus considerably dilated, subbilobed, each densely covered with modified pale setae ventrally; segment two distinctly wider than apex of tibia (ratio 1.27); segment four narrower than preceding segments. Sternite 8 with two long setae on each side; with rather narrow and shallow, subarcuate medio-apical emargination, small triangular area before emargination flattened and smooth (Fig. 26). Genital segment with tergite 10 narrow, markedly narrowed toward narrowly arcuate apex, without differentiated apical or subapical setae (Fig. 27); sternite 9 elongate, with moderately narrow basal portion, apex widely, shallowly emarginate; with one weakly differentiated apical and subapical seta on each side of emargination (Fig. 28). Aedoeagus (Figs. 29–32) large, elongate; median lobe conspicuously dilated in about apical fourth and then suddenly narrowed into apical portion with subarcuate or subemarginate apex; apical portion of median lobe excavated on side opposite to paramere. Paramere narrow, elongate, slightly attenuate in front of wide basal portion, with variably, mostly rather widely and moderately deeply, emarginate apex not quite reaching apex of median lobe; two rather fine setae at apex on each side of emargination and with two longer setae at each lateral

margin close to apex; underside of paramere without sensory peg setae. Internal sac as in Fig. 31.

Female. Not known.

Length 7.9–9.0 mm.

*Type material.* Holotype (male): China: "CHINA–YUNNAN ZONGDIAN 17.6.–19.6. 1995 E. KUČERA leg.". In the SMETANA collection, Ottawa, Canada.

Paratypes: same data as holotype, 2♂♂ in the KUČERA collection, Soběslav, Czech Republic; 1♂ in the SMETANA collection, Ottawa.

*Geographical distribution.* *Quedius kucerai* is at present known only from the type locality in northern Yunnan.

*Bionomics.* No details are known about the collection circumstances of the specimens of the original series.

*Recognition, comparisons and comments.* *Quedius kucerai* is another member of the *Apicicornis*-Group that was established quite recently (SMETANA, 1996). It is very well characterized among the members of the group by the very short elytra, the reduction of the wings to non-functional stumps, by the absence of the whitish apical seam of palisade fringe on abdominal tergite 7, and by the quite characteristic shape of the aedoeagus.

The specimens of the original series were received dissected, with the parameres separated from the median lobe. Figure 29 is therefore a reconstruction of the entire aedoeagus. The genital segments of two paratypes were missing.

The type locality is correctly spelled "Zhongdian".

*Etymology.* Patronymic, the species is dedicated to Mr. E. KUČERA, Soběslav, Czech Republic, the collector of the type series.

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

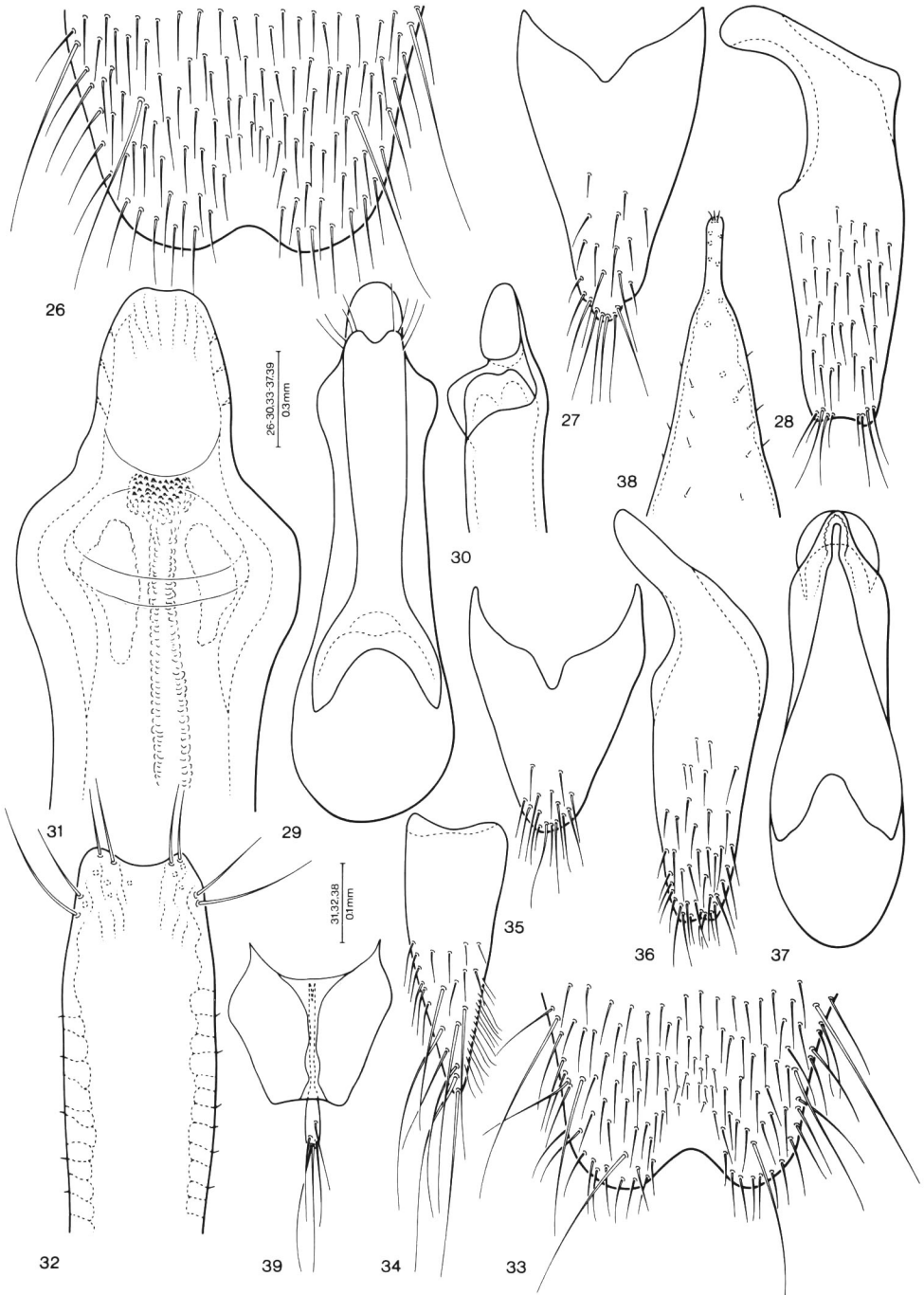
(Figs. 33–39)

*Description.* Head piceous-black to black, inconspicuously, indefinitely paler around antennal insertions; pronotum brownish-piceous to piceous, basal and lateral margins fairly widely, apical margin sometimes narrowly, yellowish to brownish-yellowish transparent; scutellum brownish-piceous, usually variably

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Figs. 26–39. — 26–31. *Quedius kucerai*: 26, apical portion of male sternite 8; 27, tergite 10 of male genital segment; 28, sternite 9 of male genital segment; 29, aedoeagus, ventral view; 30, apical portion of median lobe, oblique lateral view; 31, apical portion of median lobe, ventral view, paramere removed. — 32–39. *Quedius pallens*: 33, apical portion of male sternite 8; 34, stylus of tergite 9 of male genital segment; 35, tergite 10 of male genital segment; 36, sternite 9 of male genital segment; 37, aedoeagus, ventral view; 38, apical portion of underside of paramere; 39, tergite 10 of female genital segment.





paler around edges, or almost entirely testaceo-yellowish; elytra pale testaceous, rufo-testaceous to brownish, usually indefinitely, inconspicuously darkened along lateral margins; abdomen testaceo-yellowish to rufous, middle portions of tergites distinctly darkened, only slightly so on first visible tergite, however, dark area becoming gradually larger toward apex of abdomen, so that abdomen appears piceous from fifth visible tergite; head and pronotum scarcely, abdomen appreciably iridescent; maxillary and labial palpi pale testaceous; antennae testaceous, indefinitely, inconspicuously darkened toward apex; legs entirely pale testaceous to testaceous. Head of rounded quadrangular shape, with rather wide neck, slightly wider than long (ratio 1.12), distinctly narrowed posteriad behind eyes, posterior angles entirely obsolete; eyes large and convex, protruding from lateral contours of head, tempora much shorter than eyes seen from above (ratio 0.52); no additional setiferous punctures between anterior frontal punctures; posterior frontal punctures situated very close to postero-medial margin of eye, almost touching it, two punctures between it and posterior margin of head; temporal puncture situated about midway between posterior margin of eye and posterior margin of head; tempora with a few fine punctures; surface of head with fine and dense microsculpture of transverse waves. Antenna moderately long, segment 3 distinctly longer than segment 2 (ratio 1.35), segments 4–6 longer than wide, gradually becoming shorter, segments 7–10 about as long as wide, last segment about as long as two preceding segments combined. Pronotum about as long as wide, widest at posterior third, moderately narrowed anteriorly, with lateral margins continuously arcuate with rounded base, transversely convex, lateral portions not explanate; dorsal rows each with three punctures, markedly diverging anteriorly; sublateral rows each with three punctures, two situated close to anterior margin, third puncture shifted considerably posteriad behind level of large lateral puncture; microsculpture similar to that on head but slightly denser and finer. Scutellum impunctate, with dense and very fine microsculpture of transverse waves. Elytra relatively long, at base slightly narrower than pronotum at widest point, slightly widened posteriad, at suture slightly (ratio 1.12), at sides distinctly (ratio 1.25) longer than pronotum at midline; punctation and pubescence fairly coarse and rather sparse, transverse interspaces between punctures mostly about twice as large as diameters of punctures; pubescence pale, yellowish-testaceous; surface between punctures without microsculpture. Wings fully developed. Abdomen with tergite 7 (fifth visible) with distinct whitish apical seam of palisade fringe; punctation and pubescence of abdominal tergites sparser and distinctly finer than that on elytra, becoming slightly sparser toward apex of each tergite and in general toward apex of abdomen, first visible tergite with small impunctate area in middle; pubescence brownish-testaceous; 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 somewhat wider than apex of tibia (ratio 1.13); segment four narrower than preceding segments. Sternite 8 with three long setae on each side; with rather wide and deep, obtusely triangular medio-apical emargination, triangular area before emargination flattened and smooth (Fig. 33). Genital segment with styli of tergite 9 very short and stout (Fig. 34); tergite 10 rather small, markedly narrowed toward arcuate apex, with numerous unequally long setae at and near apical margin (Fig. 35); sternite 9 with very narrow and rather short basal portion, apex subtruncate, with two weakly differentiated subapical setae (Fig. 36). Aedoeagus (Figs. 37, 38) rather robust, of characteristic shape. Median lobe rather abruptly narrowed into short, narrowly arcuate apical portion; with wide, broadly arcuate additional sclerite. Paramere large and broad basally, markedly and almost conically narrowed anteriorly, anteriorly attenuate into short, rod-like apical portion, fitted between two fine carinae of apical portion of median lobe, but not reaching apex of median lobe; with three exceptionally minute apical setae; underside of paramere without sensory peg setae; internal sac without larger sclerotized structures.

**Female.** First four segments of front tarsus similar to those of male, but somewhat less dilated; segment two about as wide as apex of tibia. Genital segment with tergite 10 of quite characteristic shape, wide and short, subdivided medially, markedly narrowed toward widely truncate apex bearing narrow, rod-like apical portion with three long apical setae and a few short setae in front of them (Fig. 39).

Length 5.9–6.8 mm.

**Type material.** Holotype (male) and allotype (female): China: "Kuatun (2300 m) 27,40 n.Br. 117,40 ö.L. J. Klapperich 20.4. 1938 (Fukien)". In the Naturhistorisches Museum, Wien, Austria.

**Paratypes:** same data as holotype, dates 25.2., 19.4. and 21.4. 1938, 1♂ and 1♀ in the collection of the Naturhistorisches Museum, Wien; 1♂ and 1♀ in the SMETANA collection, Ottawa, Canada; 1♂ in the collection of the National Science Museum (Natural History), Tokyo, Japan.

**Geographical distribution.** *Quedius pallens* is at present known only from the type locality in the province of Fujian.

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

**Recognition and comments.** *Quedius pallens* may be easily recognized, in addition to the quite distinctive shape of the aedoeagus and tergite 10 of the female genital segment, by the characteristic coloration of the body and appendages, combined with the rather long elytra.

The type locality "Kuatun" is at present known as Guadun Village, Wuyi Shan, and lies in the northern part of Fujian.

*Etymology.* The specific name is the Latin adjective *pallens*, *-entis* (pale); it refers to the coloration of the species.

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