

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

Part 6. Genus *Quedius* Stephens, 1829.  
Subgenus *Microsaurus* Dejean, 1833. Section 5

Aleš Smetana

Centre for Land and Biological Resources Research, Biological Resources Division,  
Agriculture and Agri-Food Canada, Ottawa, Ontario K1A 0C6, Canada

**Abstract** Taxonomic, faunistic and bionomic data on the species of the genus *Quedius*, subgenus *Microsaurus*, from the People's Republic of China are provided. Seven species are described as new: *Q. euryalus* (Sichuan), *Q. katerinae* (Sichuan), *Q. erythras* (Gansu), *Q. ephialtes* (Sichuan), *Q. euander* (Sichuan), *Q. echion* (Sichuan), *Q. emei* (Sichuan). *Quedius liang* Smetana, 1995 a is for the first time recorded from the People's Republic of China (Fujian).

**Key words:** Coleoptera, Staphylinidae, *Quedius*, China, new species, new distribution record.

This is the sixth of the series of papers dealing with the Quediini of the People's Republic of China. It includes mainly the descriptions of six new species, all more or less similar in external characters, and apparently also related to each other. They all have rather large eyes and in the past would probably have been assigned to the subgenus *Raphirus* Stephens, 1829, based on this character state. However, they all have two setiferous punctures on the head between the posterior frontal puncture and the posterior margin of the head, a character state that I suggested may be one of the diagnostic characters of the subgenus *Microsaurus* Dejean, 1833 (see Smetana, 1988, 183 for details).

### *Quedius (Microsaurus) liang* Smetana, 1995

*Quedius liang* Smetana, 1995 a, 40.

**New record.** China: [Fujian] "KUATUN, FUKIEN, China, 14.5.46 leg. Tschung-sen"; 1♂ in the collection of the Naturhistorisches Museum, Wien, Austria.

**Comments.** New record for China. Until recently, the species was known from Taiwan and from one locality in South Korea (see Smetana, 1995 a, 43).

*Quedius (Microsaurus) euryalus* sp. nov.

(Figs. 1–7)

*Description.* Piceous to piceous-black with darker head, pronotum occasionally and elytra rarely somewhat paler; head and pronotum slightly, abdomen distinctly iridescent; maxillary and labial palpi brunneo-testaceous, becoming slightly paler toward apex, antennae rufo-brunneous, brunneous to dark brunneous, legs brunneo-piceous to piceous with more or less paler tarsi. Head rounded, wider than long (ratio 1.18), markedly narrowed posteriad behind eyes, posterior angles entirely rounded; clypeus sometimes with two inconspicuous, small round impressions; occasionally two minute, pit-like impressions, imitating additional punctures on frons; eyes very large and convex, protruding from lateral contours of head, tempora considerably shorter than eyes seen from above (ratio 0.37); no additional setiferous punctures between anterior frontal punctures; posterior frontal puncture situated quite close to postero-medial margin of eyes, separated from it by distance not larger than diameter of puncture, two punctures between it and posterior margin of head; temporal puncture separated from posterior margin of eyes by distance smaller than diameter of puncture, or almost touching it; a small additional puncture at margin of eye between it and posterior frontal puncture; tempora with a few fine punctures; surface of head with fine and dense microsculpture of transverse waves with numerous oblique junctions, becoming irregularly meshed on frons and clypeus, with intermixed, sparse micropunctulation. Antenna slender, scarcely widened toward apex, segment 3 markedly longer than segment 2 (ratio 1.43), following segments distinctly longer than wide, gradually becoming shorter, segment 10 slightly longer than wide, last segment shorter than two preceding segments combined. Pronotum rather large, wider than long (ratio 1.21), widest around middle or slightly behind it, arcuately, equally narrowed both anteriad and posteriad, or more distinctly so anteriad, with lateral margins continuously arcuate with broadly rounded base, transversely convex, lateral portions not explanate; dorsal rows each with three punctures; sublateral punctures each with three punctures, posterior puncture situated markedly behind level of large lateral puncture; microsculpture similar to that on head, but distinctly finer and denser, intermixed micropunctulation scarcely appreciable. Scutellum impunctate, with very fine and dense microsculpture of transverse striae. Elytra moderately long (most males) to rather short (most females), at base distinctly narrower than pronotum at widest point, no more than slightly widened posteriad, at suture in males scarcely shorter (ratio 0.97), in females appreciably shorter (ratio 0.86), at sides in males slightly longer (ratio 1.07), in females feebly shorter (ratio 0.94) than pronotum at midline; punctuation and pubescence dense and moderately fine, transverse interspaces between punctures mostly about as large as diameters of punctures; pubescence piceous; surface

between punctures with some microscopic irregularities becoming more apparent toward apical margin, otherwise with hardly appreciable, extremely fine micro-punctulation, so that surface of elytra appearing slightly duller than usual, and bearing iridescent glaze. Wings markedly reduced, non-functional. Abdomen with tergite 7 (fifth visible) with very fine whitish apical seam of palisade fringe; punctation and pubescence of abdominal tergites about same as that on elytra, but on average denser, becoming slightly sparser toward apex of each tergite and in general toward apex of abdomen; pubescence piceous; surface between punctures with exceedingly dense and fine microsculpture of transverse striae.

**Male.** First four segments of front tarsus strongly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 wider than apex of tibia (ratio 1.20); segment 4 narrower than preceding segments. Sternite 8 with five long setae on each side, regular setation very fine; with moderately wide, very shallow, arcuate medio-apical emargination, elongate, narrow triangular area before emargination flattened and smooth (Fig. 1). Genital segment with tergite 10 small, markedly narrowed toward rather wide, subacute apex, with one or two strong apical setae and only a few other setae (Fig. 2); sternite 9 with short and wide basal portion, broadly arcuate apically, with two subapical setae and setation characteristically arranged into two longitudinal groups (Fig. 3). Aedoeagus (Figs. 4–6) large, elongate; median lobe gradually, markedly constricted at about apical third, with more or less parallel-sided apical portion with highly arcuate apex; apical portion of median lobe with minute tooth on side adjacent to paramere. Paramere very large and wide, covering most of median lobe and about reaching apex of median lobe; slightly, gradually narrowed anteriorly to about apical fifth and then more suddenly tapered into short apical portion, minutely emarginate at apex; two fine setae at apex on each side of medio-apical emargination, two similar setae at each lateral margin far from apex; underside of paramere with four sensory peg setae on middle portion below medio-apical emargination, forming two short rows diverging posteriorly. Internal sac without larger sclerotized structures.

**Female.** First four segments of front tarsus similar to those of male, but scarcely narrower; segment two only slightly wider than apex of tibia (ratio 1.11). Genital segment with styli of tergite 9 and second gonocoxites very elongate and slender. Tergite 10 in general wide and short, with pigmented medial portion; at about apical fourth suddenly tapered into narrow, elongate triangular apex; with unequally long, not numerous, setae on apical portion (Fig. 7).

Length 8.4–10.2 mm.

**Type material.** Holotype (male) and allotype (female): China: "CHINA, Sichuan, Gongga Shan, Lake abv. Camp 2 2750 m, 27–VII–1994 A. Smetana [C27]". In the Muséum d'Histoire naturelle, Geneva, Switzerland.

Paratypes: 1♂, 4♀, same data as holotype, in the Smetana collection;

2♂♂, 2♀♀, same data as holotype, but date 25–VII–1994 and [C23], in the Smetana collection; 9♂♂, 11♀♀, same data as holotype, but date 20–VII–1994 and [C20], 2♂♂ and 1♀ in the collection of the National Science Museum (Natural History), Tokyo, 1♂ and 1♀ in the collection of the Naturhistorisches Museum, Wien, Austria, remaining specimens in the Smetana collection, Ottawa; 1♂, Gongga Shan, above Camp 2, 2850 m, 26–VII–94, A. Smetana [C24] in the Smetana collection; 1♀, “China 7.92 Sichuan prov. Gongga Shan Modi”, in the collection of the Naturhistorisches Museum, Wien, Austria.

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

*Bionomics.* Almost all specimens were collected by submerging the soaking wet moss and various vegetation, growing along the edges of the shallow forest lake above Camp 2, into water. A few specimens were also taken in moist moss away from the edges of water, and one specimen was taken away from water in moist moss on a large fallen tree.

*Recognition and comments.* *Quedius euryalus* is a distinctive species and may be rather easily recognized among the Chinese species of *Microsaurus* by both the male and female sexual characters, by the fairly large size, large and convex eyes, the presence of an additional puncture between the posterior frontal puncture and the temporal puncture on the head, and by the relatively short elytra, which are duller than usual due to the characteristic microsculpture on the surface between the punctures.

To some extent *Quedius euryalus* resembles the Himalayan species *Q. goropanus* Smetana, 1975, or *Q. angnimai* Smetana, 1988, in general habitus, but these species differ abundantly, in addition to the sexual characters, by many external characters.

*Etymology.* The specific name is that of *Euryalus*, *-onis*, m., a friend of Nisus.

*Quedius (Microsaurus) katerinae* sp. nov.

(Figs. 8–13)

*Description.* In all characters (including chaetotaxy of head and pronotum) very similar to *Q. euryalus*, but different as follows: size smaller, form slenderer. Coloration similar, but all margins of pronotum slightly paler, elytra with humeral area, suture and apical margin narrowly paler; maxillary and labial palpi and antennae rufo-brunneous; legs piceous-brown with paler tarsi, medial faces of middle and hind tibiae darkened. Head with eyes proportionally larger and more convex, tempora even more distinctly shorter than eyes seen from above (ratio 0.30); clypeus and frons without any impressions (but see Comments). Antenna slenderer and slightly shorter, segment 3 less distinctly longer than segment 2

(ratio 1.27), following segments shorter than those of *Q. euryalus*, segment 10 scarcely longer than wide. Pronotum less voluminous, widest around middle. Elytra with punctuation slightly less dense, microsculpture on interspaces somewhat less distinct, surface therefore more shiny. Wings fully developed. Punctuation and pubescence of abdominal tergites in general vaguely sparser.

**Male.** First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 wider than apex of tibia (ratio 1.28); segment 4 narrower than preceding segments. Sternite 8 with six long setae on each side, each medio-basal pair shorter than rest; with moderately wide and deep, arcuate medio-apical emargination, small triangular area before emargination flattened and smooth (Fig. 8). Genital segment with tergite 10 rather narrow, obtusely triangular, narrowly arcuate apically, with numerous long setae at and near apical margin (Fig. 9); sternite 9 with wide basal portion, deeply and widely emarginate apically, with two slightly differentiated subapical setae on each side of emargination, with narrow, asetose medial strip in front of emargination (Fig. 10). Aedoeagus (Figs. 11–13) moderately large; median lobe gradually, evenly narrowed into parallel-sided apical portion with obtusely angulate apex, with minute subapical tooth on face adjacent to paramere. Paramere large, entirely covering apical portion of median lobe, except for actual apex; markedly constricted in middle part and then dilated into wide, almost parallel-sided, anteriorly arcuate apical part with minute medio-apical notch accomodating minute subapical tooth of median lobe; two setae at apical margin on each side of medio-apical notch and two minute setae at each lateral margin just below apex; underside of paramere with five sensory peg setae on each side of medio-apical notch, four of them along apical margin and one at level of bottom of medio-apical notch; internal sac without larger sclerotized structures.

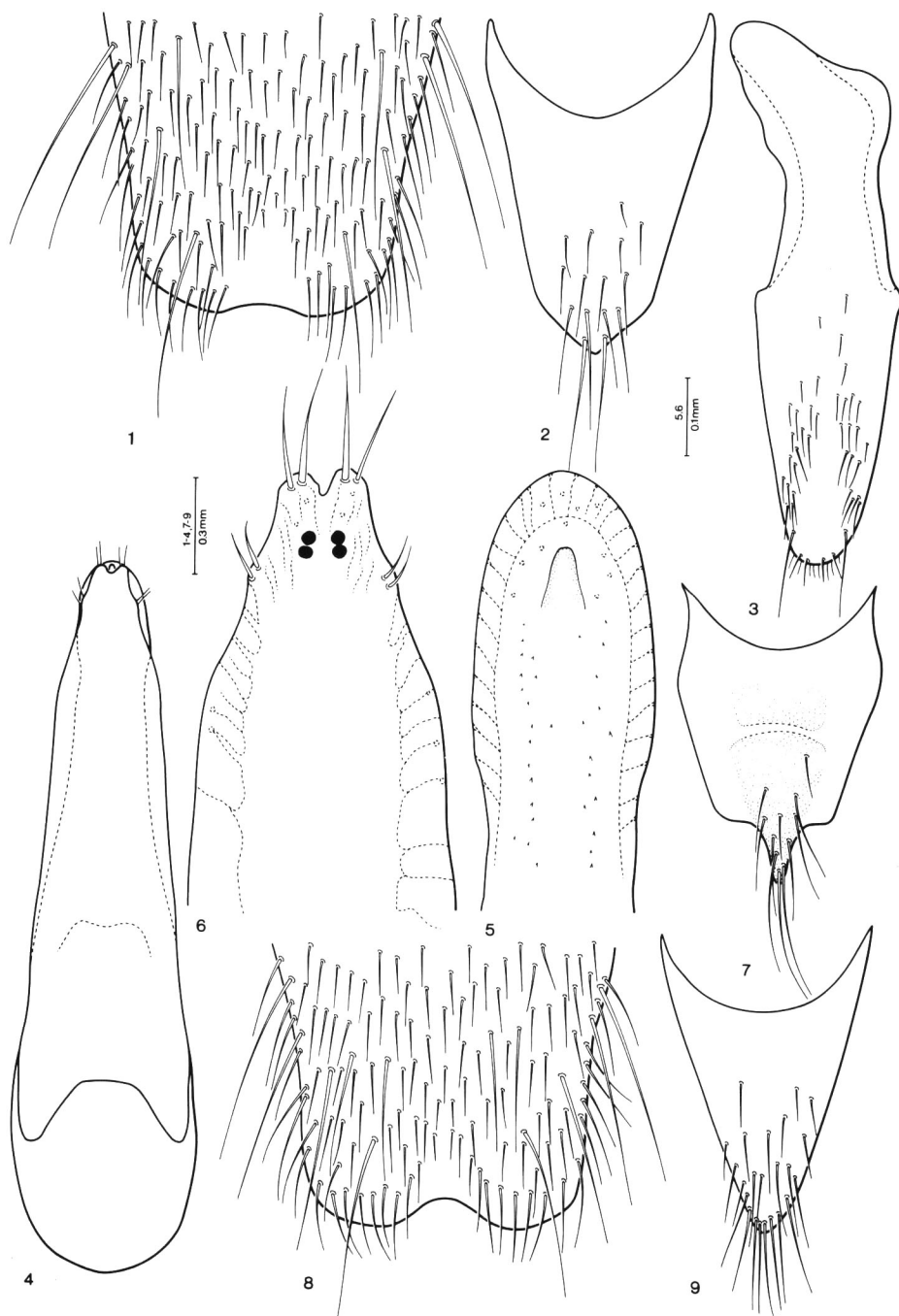
**Female unknown.**

Length 7.2 mm.

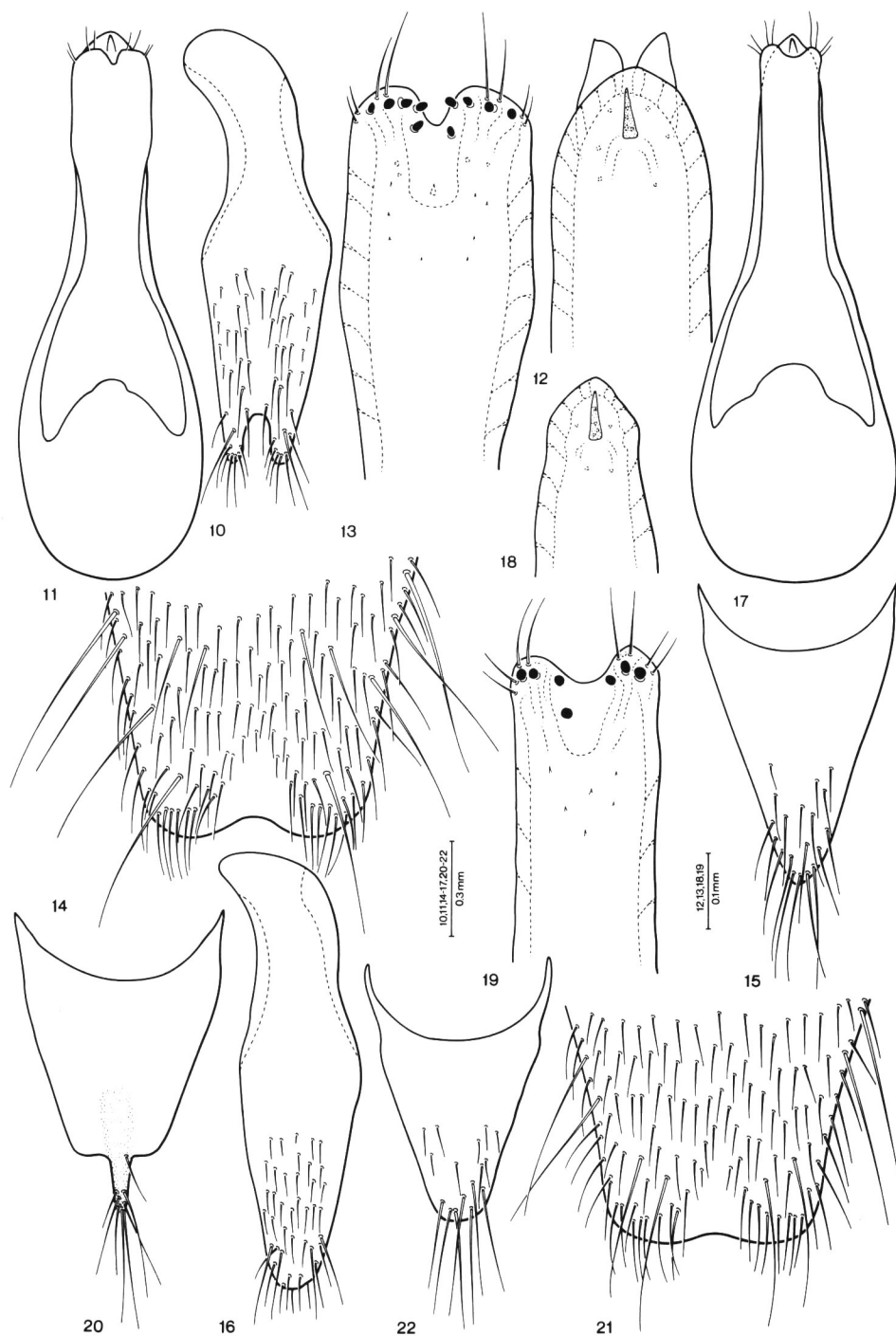
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Figs. 1–9 (on p. 56). — 1–7. *Quedius euryalus*: 1, apical portion of male sternite 8; 2, tergite 10 of male genital segment; sternite 9 of male genital segment; 4, aedoeagus, ventral view; 5, apical portion of median lobe of aedoeagus, paramere removed; 6, apical portion of underside of paramere; 7, tergite 10 of female genital segment. — 8–13. *Quedius katerinae*: 8, apical portion of male sternite 8; 9, tergite 10 of male genital segment.

Figs. 10–22 (on p. 57). — 10–13. *Quedius katerinae*: 10, sternite 9 of male genital segment; 11, aedoeagus, ventral view; 12, apical portion of median lobe of aedoeagus, paramere removed; 13, apical portion of underside of paramere. — 14–20. *Quedius erythras*: 14, apical portion of male sternite 8; 15, tergite 10 of male genital segment; 16, sternite 9 of male genital segment; 17, aedoeagus, ventral view; 18, apical portion of median lobe, paramere removed; 19, apical portion of underside of paramere; 20, tergite 10 of female genital segment. — 21–22. *Quedius ephialtes*: 21, apical portion of male sternite 8; 22, tergite 10 of male genital segment.



Figs. 1-9.



Figs. 10-22.

*Type material.* Holotype (male): China: "China, C-Sichuan (KANG-DING) GONGGA SHAN massive, +2000 m low. HAILUOGOU vall. (Camp 1) 29°36'N/102°02'E 2-VI-1993 B. Brezina". In the Muséum d'Histoire naturelle, Geneva, Switzerland.

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

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

*Recognition and comments.* *Quedius katerinae* is well characterized by the shape of the aedeagus. It also resembles *Q. erythras*, but see under the latter species for the distinguishing characters of the two species.

The holotype has an irregular impression on the right half of the frons and a similar impression behind the left anterior angle of the pronotum. Both impressions are apparently of teratological nature. The holotype is missing the entire left antenna except for the first two segments.

*Etymology.* Patronymic; the species was named in honor of Mrs. Katerina Brezinova, the wife of the collector of this species.

*Quedius (Microsaurus) erythras* sp. nov.

(Figs. 14-20)

*Description.* In all characters (including chaetotaxy of head and pronotum) very similar to *Q. euryalus*, but different as follows: size smaller, form slenderer. Coloration as described for *Q. katerinae*, or with pronotum dark reddish-brown. Head in general more rounded, with eyes proportionally larger and more convex, tempora somewhat more distinctly shorter than eyes seen from above (ratio 0.34), microsculpture of dorsal surface of head similar, but somewhat finer and less dense, surface therefore shinier. Antenna markedly slenderer and shorter, segment 3 less distinctly longer than segment 2 (ratio 1.22), following segments slightly shorter than those of *Q. euryalus*, but segment 10 still appreciably longer than wide, last segment short, distinctly shorter than two preceding segments combined. Pronotum less voluminous, widest at about posterior third, more distinctly narrowed anteriorly; microsculpture slightly finer and less dense than that of *Q. euryalus*. Elytra with punctation slightly finer and denser. Wings fully developed.

*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 1.15); segment four narrower than preceding segments. Sternite 8 with six long setae on each side, each medio-basal pair shorter than rest; with moderately wide but rather shallow, almost arcuate medio-apical emargination, small triangular area before emargination flattened

and smooth (Fig. 14). Genital segment with tergite 10 narrowly triangular, narrowly arcuate apically, with four apical setae and numerous, variably long setae in front of them (Fig. 15); sternite 9 with wide basal portion, arcuate apically, with four differentiated subapical setae, other setae very fine (Fig. 16). Aedoeagus (Figs. 17–19) similar to that of *Q. katerinae*, but median lobe with more angulate apex. Paramere not constricted in middle part, almost parallel-sided, with wide medio-apical emargination; two setae at apical margin on each side of medio-apical emargination and two minute setae at each lateral margin just below apex; underside of paramere with three peg setae near apical margin on each side of medio-apical emargination; internal sac without larger sclerotized structures.

Female unknown (but see Comments).

Length 7.0 mm.

*Type material.* Holotype (male): China: "CHINA, Gansu, Mts. 25 km E Xiahe 3000 m, 5–VIII–1994 A. Smetana [C30]". In the Muséum d'Histoire naturelle, Geneva, Switzerland.

*Geographical distribution.* *Quedius erythras* is at present known only from the type locality in the southwestern portion of Gansu.

*Bionomics.* The holotype was taken with several specimens of *Quedius epytus* Smetana, 1995 b in a coniferous forest by sifting deeper, moist to wet layers of fallen leaves under broadleaved bushes along a small, almost dry, creek.

*Recognition, comparison and comments.* *Quedius erythras* may be easily recognized by the shape of the aedoeagus, in combination with the chaetotaxy of the head and pronotum, and the presence of six long setae on each side of the male sternite 8.

In addition to the shape of the aedoeagus, *Quedius erythras* is very similar to *Q. katerinae* in most external characters, but it differs by the less markedly dilated first four segments of the male front tarsus, by the slightly sparser microsculpture on both the head and pronotum, by the slenderer antenna with middle segments somewhat longer, and by the denser and finer punctation of the elytra.

One female specimen, collected with the holotype by the author in the same habitat, may represent a female of *Q. erythras*. However, the specimen differs slightly in having the pronotum uniformly dark reddish-brown, the antennae slightly shorter, and the microsculpture on both the head and pronotum slightly, but distinctly, denser. Due to these differences, the specimen may not be conspecific with the holotype; it was therefore associated with *Q. erythras* only tentatively, pending further material from the area. Tergite 10 of the genital segment of this female is somewhat similar to that of *Q. euander* (Fig. 20).

*Etymology.* The specific name is that of *Erythras*, -ae, m., the fabulous king of southern Asia (Arabia or Persia), after whom the Red Sea, or the Arabian and Persian Gulfs were named.

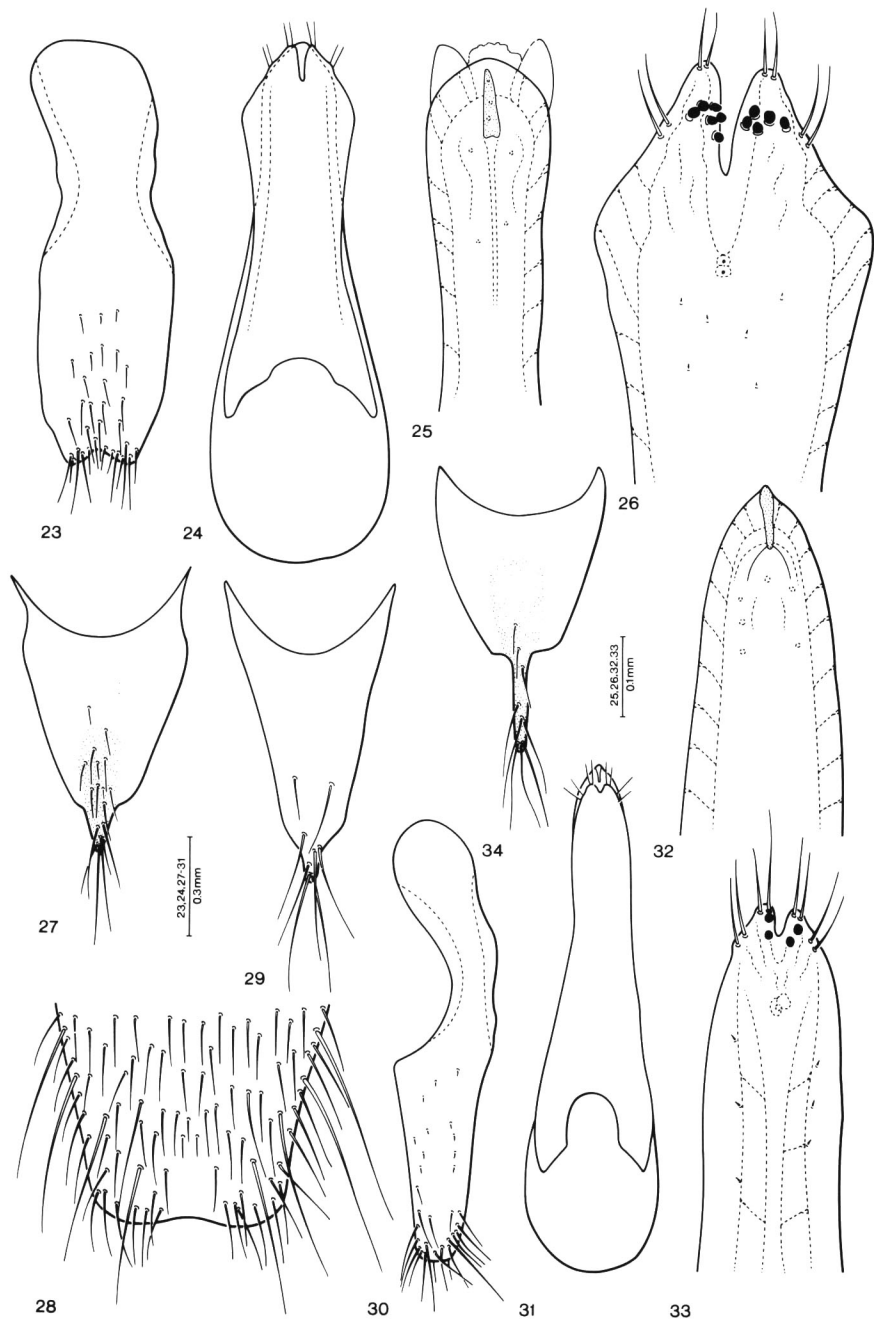
*Quedius (Microsaurus) ephialtes* sp. nov.

(Figs. 21–27)

**Description.** Head piceous-black to black, with clypeus usually indefinitely paler at apical margin; pronotum testaceo-brownish with variably, usually extensively, darkened disc; elytra brunneous to piceo-brunneous, usually with indefinitely paler sides and narrowly paler suture and apical margin, rarely almost uniformly brunneous; abdomen dark rufo-brunneous to brunneo-piceous, usually with apical margins of tergites and apex of abdomen slightly, inconspicuously paler; head and pronotum scarcely, abdomen distinctly iridescent; maxillary and labial palpi testaceous, antennae rufo-testaceous, legs rufo-brunneous with medial faces of middle and hind tibiae distinctly darkened. Head of rounded shape, wider than long (ratio 1.18), strongly narrowed posteriad behind eyes, posterior angles entirely obsolete; eyes very large and convex, markedly protruding from lateral contours of head, tempora much shorter than eyes seen from above (ratio 0.23); 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 almost touching posterior margin of eye; small additional puncture at margin of eye between it and posterior frontal puncture; tempora with a few fine punctures; surface of head with fine and dense microsculpture of transverse waves with variably numerous longitudinal or oblique junctions, gradually changing into almost meshed microsculpture on frons and clypeus. Antenna moderately long, slender, scarcely dilated toward apex, segment 3 slightly longer than segment 2 (ratio 1.14), 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 to slightly wider than long (ratio 1.11), widest around middle, usually somewhat more narrowed anteriad than posteriad, with lateral margins continuously arcuate with broadly arcuate to broadly rounded base, transversely convex, lateral portions not explanate; dorsal rows each with three punctures; sublateral rows each with three punctures, posterior puncture situated markedly behind level of large lateral puncture; microsculpture similar to that on head, but finer, denser and consisting of simple, transverse and oblique waves. Scutellum impunctate, with very fine and dense

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Figs. 23–34. — 23–27. *Quedius ephialtes*: 23, sternite 9 of male genital segment; 24, aedeagus, ventral view; 25, apical portion of median lobe, paramere removed; 26, apical portion of underside of paramere; 27, tergite 10 of female genital segment. — 28–34. *Quedius euander*: 28, apical portion of male sternite 8; 29, tergite 10 of male genital segment; 30, sternite 9 of male genital segment; 31, aedeagus, ventral view; 32, apical portion of median lobe, paramere removed; 33, apical portion of underside of paramere; 34, tergite 10 of female genital segment.



Figs. 23-34.

microsculpture of transverse striae. Elytra moderately long, at base slightly narrower than pronotum at widest point, no more than moderately narrowed posteriad, at suture about as long as, at sides longer than pronotum at midline (ratio 1.21); punctation and pubescence fine and dense, transverse interspaces between punctures mostly somewhat larger than diameters of punctures; pubescence dark brownish; surface between punctures with some microscopic irregularities becoming more apparent toward apical margin, otherwise with hardly appreciable, extremely fine micropunctulation, causing iridescent glaze of surface. Wings reduced, non-functional. Abdomen with tergite 7 (fifth visible) bearing fine whitish apical seam of palisade fringe; punctation and pubescence of abdominal tergites finer than that on elytra, almost evenly covering each tergite, in general becoming scarcely sparser toward apex of abdomen; pubescence dark brownish; surface between punctures with excessively 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 2 slightly wider than apex of tibia (ratio 1.14); segment 4 narrower than preceding segments. Sternite 8 with four long setae on each side; with inconspicuous, shallow arcuate medio-apical emargination, triangular area before emargination flattened and smooth (Fig. 21). Genital segment with tergite 10 triangular with rather broadly arcuate apex, with several long setae at and near apical margin, and with some small, fine setae in front of them (Fig. 22); sternite 9 with conspicuously broad and short basal portion; apical portion robust, emarginate apically, in general with markedly reduced setation; with minute setae at apical margin and with two weakly differentiated subapical setae (Fig. 23). Aedoeagus (Figs. 24–26) moderately large, with voluminous bulbus; median lobe narrow, with weakly differentiated, subparallel-sided apical portion with subangulate apex; on face adjacent to paramere with short, medio-apical carina, appearing as distinct tooth in lateral view, and with long, obtuse carina along each lateral margin. Paramere large and wide, covering almost entire median lobe except for apex, of characteristic shape with apex deeply and narrowly emarginate, medio-apical carina of median lobe fitting into this emargination; two setae on each side of emargination, two similar setae at each lateral margin below apex; underside of paramere with sensory peg setae forming two irregular, transverse groups, each with five or six setae on each side of medio-apical emargination below apex. Internal sac without larger sclerotized structures.

**Female.** First four segments of front tarsus similar to those of male, but distinctly less dilated; segment two appreciably narrower than apex of tibia (ratio 0.82). Genital segment with tergite 10 triangular, with narrow medio-apical portion pigmented; anteriorly abruptly narrowed into narrow, sharp, triangular apical portion; with several long setae at and near apex, and with some short setae

in front of them (Fig. 27).

Length 6.5–7.7 mm.

*Type material.* Holotype (male) and allotype (female): China: “CHINA, Sichuan, Gongga Shan, abv. Camp 3 3300–3350 m, 23–VII–1994 A. Smetana [C19]”. In the Muséum d’Histoire naturelle, Geneva, Switzerland.

Paratypes: China: [Sichuan] 3 ♀ ♀, same data as holotype, in the Smetana collection, Ottawa; 2 ♂ ♂, 4 ♀ ♀, same data as holotype, but elevation 3050 m and date 22–VII–94 [C18], 1 ♂ and 2 ♀ ♀ in the collection of the National Science Museum (Natural History), Tokyo, 1 ♂ and 2 ♀ ♀ in the Smetana collection, Ottawa; 1 ♀, same data as holotype, but above Camp 2, 2750 m, 25–VII–94, A. Smetana [C22], in the Smetana collection; 1 ♂, same data as holotype, but Lake above Camp 2, 2750 m, 25–VII–94, A. Smetana [C23], in the Smetana collection; 2 ♀ ♀, same data as holotype, but Lake above Camp 2, 2750 m, 27–VII–94, A. Smetana [C27], in the Smetana collection.

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

*Bionomics.* Most specimens of the original series were collected at an elevation of about 3,000 m in a coniferous forest by sifting moist moss, rhododendron and other leaf litter under lush undergrowth of deciduous trees, bushes and rhododendrons, and by sifting leaf litter, humus and other debris under rhododendron bushes. Some specimens were also collected at a lower elevation of 2,750 m near a shallow forest lake by sifting moist moss on fallen trees and by sifting wet *Sphagnum* moss.

*Recognition and comment.* *Quedius ephialtes* is well characterized by the shape of the aedeagus in combination with the coloration of the body and the chaetotaxy of the head and pronotum. It may only be confused with *Q. euander*; for the distinguishing characters see under the latter species.

In one male paratype [C23], the left elytron is teratologically altered; it is slightly shorter, with the surface densely, coarsely rugulose, appearing quite dull.

*Etymology.* The specific name is that of *Ephialtes*, -ae, m., the betrayer of the Spartans at Thermopylae.

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

(Figs. 28–34)

*Description.* In all characters, including chaetotaxy of pronotum, very similar to *Q. ephialtes*, but different as follows: size slightly smaller, form somewhat narrower; antennae slightly infusate toward apex. Head smaller, slightly wider than long (ratio 1.10); eyes smaller and less convex, tempora much shorter than eyes seen from above, but longer than in *Q. ephialtes* (ratio 0.47); posterior frontal puncture situated close to postero-medial margin of eye, separated from

it by distance slightly smaller than diameter of puncture, temporal puncture situated slightly closer to posterior margin of eye than to posterior margin of head, small additional puncture at margin of eye between temporal and posterior frontal punctures. Pronotum less voluminous, slightly narrower, scarcely wider than long (ratio 1.07), widest around posterior third. Elytra somewhat shorter and narrower, at suture somewhat shorter (ratio 0.88), at sides about as long as pronotum at midline. Wings reduced, non-functional. Punctuation of elytra on average slightly finer.

**Male.** First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 wider than apex of tibia (ratio 1.23); segment 4 narrower than preceding segments. Sternite 8 with five long setae on each side, medial pair shorter than rest; with inconspicuous, shallow, arcuate medio-apical emargination, small triangular area before emargination flattened and smooth (Fig. 28). Genital segment with tergite 10 narrowly triangular, anteriorly rather abruptly narrowed into slender, sub-triangular apex with several unequally long setae (Fig. 29); sternite 9 with long basal portion of characteristic shape, apical portion subtruncate-arcuate apically, with two differentiated subapical setae and numerous, unequally long setae at apical margin and at apical portion of each lateral margin, lacking any other setation (Fig. 30). Aedoeagus (Figs. 31–33) fairly small, narrow and elongate; median lobe slightly, gradually constricted in middle portion, anteriorly tapered into subacute apex with short medio-apical carina on face adjacent to paramere, appearing as small tooth in lateral view. Paramere large, covering most of median lobe, except for apex, with apex minutely emarginate medio-apically, medio-apical carina of median lobe fitting into this emargination; two fine setae at each side of emargination, two similar setae at each lateral margin below apex; underside of paramere with two sensory peg setae at each side of medio-apical emargination, situated longitudinally, rarely one seta missing unilaterally. Internal sac without larger sclerotized structures.

**Female.** First four segments of front tarsus similar to those of male, but less dilated; segment 2 about as wide as apex of tibia. Genital segment with tergite 10 pigmented medio-apically, anteriorly abruptly narrowed into conspicuously long and slender, rod-like apical portion, bearing several unequally long setae on apical half and a few minute setae on basal half (Fig. 34).

Length 6.2–7.0 mm.

**Type material.** Holotype (male) and allotype (female): China: “CHINA, Sichuan, Gongga Shan, above Camp 3 3300–3350 m, 23–VII–1994 A. Smetana [C19]”. In the Muséum d’Histoire naturelle, Geneva, Switzerland.

**Paratypes:** 2♂♂, 2♀♀, same data as holotype, 1♀ in the collection of the National Science Museum (Natural History), Tokyo, 2♂♂, 1♀ in the Smetana collection; 2♂♂, 1♀, same data as holotype, but elevation 3050 m and date 22–

VII-94 [C18], 1♂ in the collection of the National Science Museum (Natural History), Tokyo, 1♂, 1♀ in the Smetana collection; 1♀, same data as holotype, but Lake above Camp 2, 2750 m, 23-VII-94, A. Smetana [C20], in the Smetana collection.

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

*Bionomics.* Most specimens of the original series were collected, together with specimens of *Q. ephialtes*, at an elevation of about 3,000 m in a coniferous forest by sifting moist moss, rhododendron and other leaf litter under lush undergrowth of deciduous trees, bushes and rhododendrons, and by sifting leaf litter, humus and other debris under rhododendron bushes. One specimen was also taken at a lower elevation of 2,750 m in wet moss mixed with grassy vegetation along the edges of a shallow forest lake.

*Recognition and comparison.* *Quedius euander* may be easily distinguished from *Q. ephialtes* by the characters mentioned above. The different chaetotaxy of the head, the shape of the aedeagus and that of tergite 10 of the female genital segment are diagnostic.

*Quedius euander* is also similar in most external characters to *Q. echion*, but it differs from it by the differently shaped tergite 10 of the female genital segment (Figs. 34, 35).

*Etymology.* The specific name is that of *Euander*, -dri, m., a Greek artist in metals, brought to Rome from Alexandria by Marcus Antonius.

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

(Fig. 35)

*Description.* In all external characters, including chaetotaxy of pronotum, very similar to *Q. euander*, but different as follows: head black, pronotum dark brownish-piceous with all margins only narrowly paler, elytra brownish, abdomen piceous-black with apical margins of tergites and apex narrowly paler. Head somewhat wider (ratio width: length 1.15), eyes larger and more convex, tempora much shorter than eyes seen from above (ratio 0.39); both posterior frontal and temporal punctures separated from margin of eye by distance about equal to diameter of punctures, small additional puncture at margin of eye between them. Antenna slightly shorter, segment 3 scarcely longer than segment 2, segments 4 and 5 slightly longer than wide, segment 6 about as long as wide, segments 7-10 scarcely wider than long, last segment about as long as two preceding segments combined. Elytra slightly narrower, hardly dilated posteriad, punctuation and pubescence somewhat finer and denser.

*Female.* First four segments of front tarsus dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 about as wide as

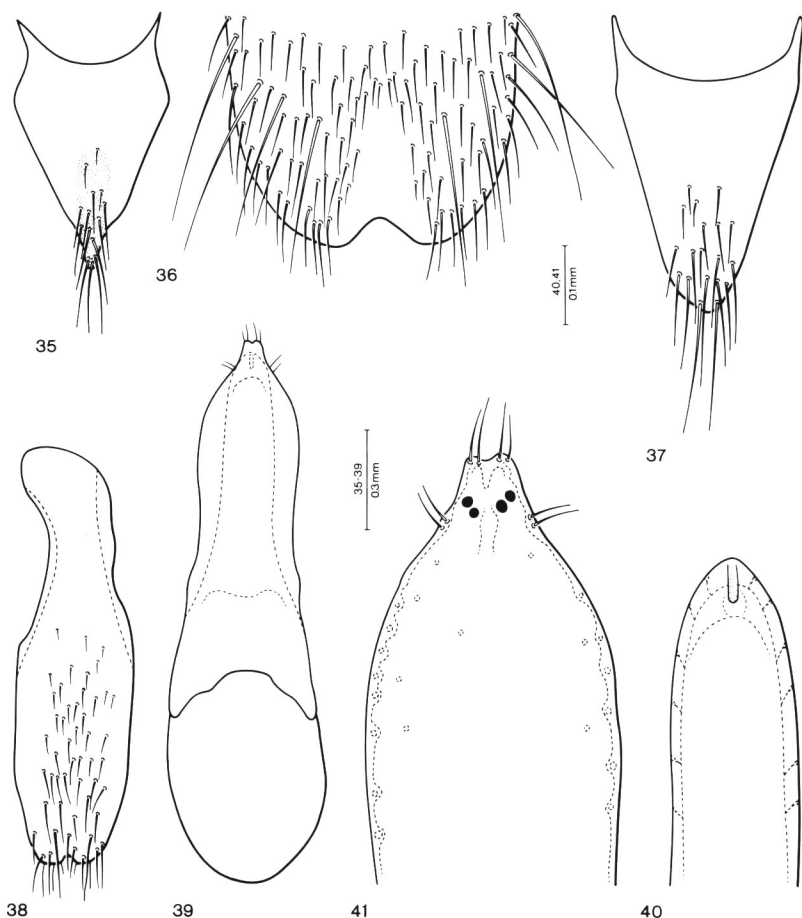
apex of tibia; segment 4 narrower than preceding segments. Genital segment with tergite 10 sharply triangular, pigmented medio-apically, almost gradually narrowed into sharp apex, with three long setae at and near apex, and with some short setae in front of them (Fig. 35).

Male unknown.

Length 6.3 mm.

*Type material.* Holotype (male): China: "CHINA, Sichuan, Langmusi, 3500m, 13-VII-94 A. Smetana [C14]". In the Muséum d'Histoire naturelle, Geneva, Switzerland.

*Geographical distribution.* *Quedius echion* is at present known only from the



Figs. 35-41. — 35. *Quedius echion*: tergite 10 of female genital segment. — 36-41. *Quedius emei*: 36, apical portion of male sternite 8; 37, tergite 10 of male genital segment; 38, sternite 9 of male genital segment; 39, aedeagus, ventral view; 40, apical portion of median lobe, paramere removed; 41, apical portion of underside of paramere.

type locality in north-central Sichuan.

**Bionomics.** The holotype was taken in a coniferous forest (mostly *Abies* sp.), together with *Q. bito* Smetana, 1996 and *Q. chremes* Smetana, 1996, by sifting moist debris and needles under branches left behind from a cut down tree.

**Recognition and comments.** *Quedius echion* may only be confused with *Q. euander*, but it differs by the characters given above. Even in the absence of males, I am reasonably confident that the holotype of *Q. echion* is specifically different from specimens of *Q. euander*. The distinctly different shapes of tergites 10 of the female genital segments, complemented by some external characters, certainly support this concept.

**Etymology.** The specific name is that of *Echion*, -onis, m., the husband of Agave and father of Pentheus.

***Quedius (Microsaurus) emei* sp. nov.**

(Figs. 36–41)

**Description.** In all characters, including chaetotaxy of head and pronotum, very similar to *Q. ephialtes*, and different only by male sexual characters.

**Male.** First four segments of front tarsus markedly dilated, sub-bilobed, each densely covered with modified pale setae ventrally; segment 2 somewhat wider than apex of tibia (ratio 1.12); segment 4 narrower than preceding segments. Sternite 8 with four long setae on each side; with rather narrow and deep, obtusely triangular medio-apical emargination, rather large triangular area before emargination flattened and smooth (Fig. 36). Genital segment with tergite 10 in general very similar to that of *Q. ephialtes*, but with less numerous setae (Fig. 37); sternite 9 with basal portion moderately wide, distinctly less broad than that of *Q. ephialtes*; apical portion stout, minutely, inconspicuously emarginate medio-apically, with minute setae at apical margin and with two weakly differentiated subapical setae (Fig. 38). Aedoeagus (Figs. 39–41) moderately large; median lobe narrow, with obtusely subangulate apex; on face adjacent to paramere with short, fine medio-apical carina, appearing as distinct tooth in lateral view. Paramere conspicuously large and wide, of characteristic shape, entirely covering median lobe, slightly exceeding apex of median lobe, anteriorly tapered into narrow and short apical portion with apex minutely emarginate medially; two setae on each side of emargination, two similar setae at each lateral margin considerably below apex; underside of paramere with two sensory peg setae at each side of medio-apical emargination, situated longitudinally. Internal sac without larger sclerotized structures.

**Female** to be described in Part 9 of this series.

Length 6.8–7.2 mm.

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

Sichuan Emei Shan, 3000 m 29°32'N 103°21'E 17.VII.1996 C64"/"collected by A. Smetana, J. Farkač and P. Kabátek". Both in the collection of the Naturhistorisches Museum, Basel, Switzerland.

Paratypes: 4♂♂, 9♀♀, 1♂ and 2♀♀ in the National Science Museum, Tokyo, rest in the Smetana collection; 1♂ "CHINA pr. Sichuan EMEI Mt. 500 m 4.–20.5.1989, Vit Kubán leg., Freiwilliger Museumsverein Basel 1989", in the collection of the Naturhistorisches Museum, Basel, Switzerland.

**Bionomics.** The specimens collected at 3,000 m were taken by sifting various debris and moss along an escarpment in a high montane coniferous forest.

**Geographical distribution.** *Quedius emei* is at present known only from the mountain range Emei Shan in Sichuan.

**Recognition.** Despite the remarkable similarity of *Q. emei* in all external characters to *Q. ephialtes*, *Q. emei* may be easily distinguished mainly by the narrower and deeper medio-apical emargination of the male sternite 8 (Figs. 21, 36), and by the differently shaped aedoeagi (Figs. 24, 39).

**Etymology.** The specific epithet is the name of the Emei mountain range in apposition.

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My colleagues E. C. Becker, Y. Bousquet and A. Davies, Biological Resources Division, Centre for Land and Biological Resources Research, Ottawa, reviewed the original draft of the manuscript and their comments eventually led to its improvement. Mr. Go Sato from the same establishment carefully finished the line drawings.

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