

Taxonomy and faunistics of some West Palearctic *Quedius* STEPHENS subgenus *Raphirus* STEPHENS (Coleoptera: Staphylinidae: Staphylininae)

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Abstract

The paper provides taxonomic, diagnostic, distributional and bionomic data for eleven species of *Quedius* STEPHENS from the subgenus *Raphirus* STEPHENS (sensu SMETANA 1971): *Q. pseudonigriceps* REITTER, 1909; *Q. gemellus* EPPELSHEIM, 1888; *Q. balcanicus* BERNHAUER, 1908; *Q. boluensis* KORGE, 1971; *Q. obliqueseriatus* EPPELSHEIM, 1889; *Q. lgockii* ROUBAL, 1911; *Q. brachypterus* COIFFAIT, 1967; *Q. korgeanus* FAGEL, 1968; *Q. nitipennis* STEPHENS, 1832; *Q. semiobscurus* (MARSHAM, 1802). Geographically it covers the Balkan Peninsula, Asia Minor, the Caucasus and mountains in northern Iran. The subspecies *Q. paradisianus korgeanus* FAGEL, 1968 is elevated to species level. The following nine new synonymies are established (senior synonym listed first): *Q. pseudonigriceps* REITTER, 1909 = *Q. osellai* BORDONI, 1973; *Q. gemellus* EPPELSHEIM, 1889 = *Q. ghilarovi* COIFFAIT, 1967 = *Q. paramerus* COIFFAIT, 1967; *Q. cohaesus* EPPELSHEIM, 1888 = *Q. meurgeusae* COIFFAIT, 1977; *Q. boluensis* KORGE, 1971 = *Q. deuvei* COIFFAIT, 1978; *Q. korgeanus* FAGEL, 1968 = *Q. svanetianus* COIFFAIT, 1969 = *Q. orophilus* DRUGMAND, 1988; *Q. nitipennis* STEPHENS, 1832 = *Q. acuminatus khnzoriani* COIFFAIT, 1967; *Q. semiobscurus* (MARSHAM, 1802) = *Q. rufipes* ssp. *lutzi* Reitter, 1909. Lectotypes are designated for *Q. gemellus* EPPELSHEIM, 1889; *Q. cohaesus* EPPELSHEIM, 1888; *Q. balcanicus* BERNHAUER, 1908; *Q. obliqueseriatus* EPPELSHEIM, 1889; *Q. velutinus* MOTSCHULSKY, 1860 and *Q. rufipes lutzi* REITTER, 1909. The hitherto poorly known species *Q. obliqueseriatus*, *Q. lgockii* and *Q. brachypterus* are redescribed.

Key words: Coleoptera, Staphylinidae, Staphylininae, Quediina, *Quedius*, *Raphirus*, type revision, lectotype designation, new synonyms, diagnostic characters, distribution, bionomics.

Introduction

This paper continues my previous publications (SOLODOVNIKOV 2002a; SOLODOVNIKOV 2002b; SOLODOVNIKOV & ŠTOURAC 2002) on the improvement of the alpha-taxonomy of West Palearctic *Quedius* STEPHENS. In this region, because of a relative abundance and diversity of taxonomic and faunistic literature, knowledge of *Quedius* is most detailed but, at the same time, most inconsistent. Many species of *Quedius* were reviewed multiple times, but, unfortunately, often without proper taxonomic care (for instance, without examination of types or without proper consideration of the importance of the type localities). Such inconsistency led to the accumulation of numerous misidentifications. Also, the typological approach formerly widespread in beetle taxonomy generated many "species" of ambiguous identity (e.g. many of those described by Coiffait) and increased the confusion. Finally, in the poorer studied regions of the West Palearctic remains a significant number of neglected taxa for which nothing or little was published since the time of their now outdated original descriptions.

This contribution focuses on a few species of *Quedius* subgenus *Raphirus* STEPHENS whose taxonomy strongly suffered from all of the outlined problems. Identity of some of the species treated here, *Q. pseudonigriceps* REITTER, *Q. balcanicus* BERNHAUER and *Q. gemellus* EPPELSHEIM, was already partly clarified in KORGE (1990). But this very useful paper by KORGE

(1990) would have been more effective if it had also incorporated a study of relevant type material and was published in a journal of broader impact. For instance, due to the limited availability of that paper, new synonymies there established (and here confirmed) were not recorded in the recent catalogue of HERMAN (2001b).

Because of the lack of the modern comprehensive revision of West Palearctic *Quedius*, ideally all of the species treated here would need detailed redescriptions and illustrations of genitalia, more extensive comparisons and meaningful discussion of their affinities. However, these are not attempted here because the purpose of this paper is solely to reveal some misidentifications and inconsistencies and publish the respective taxonomic improvements. Thus, it is supplied with only the minimum amount of descriptive data (mostly comparative remarks and illustrations of the aedeagi), those which are necessary for the diagnoses of the poorly known species or for the illustration of the taxonomic changes proposed here. Redescriptions are provided only for the hitherto most poorly studied species: *Q. obliquiseriatus* EPPELSHEIM, *Q. Igockii* ROUBAL, and *Q. brachypterus* COIFFAIT.

Acknowledgements

I would like to thank all curators and colleagues listed in the "Material and methods" section, who made the material under their care available for this study. Visiting the collections in IRSN (Brussels), MHNG (Geneva), MNHN (Paris), NMW (Vienna) was made possible by the hospitality of D. Drugmand (IRSN), G. Cuccodoro (MHNG), N. Berti (MNHN) and H. Schillhammer (NMW), funds from MHNG and NMW, and INTAS Fellowship for Young Scientists (YSF 00-100, in cooperation with D. Drugmand). Special thanks are due to H. Schillhammer who facilitated my survey of the very representative *Quedius* collection in the NMW, which was especially useful for the project. The paper was finished in the Field Museum under support from the US National Science Foundation PEET grant DEB-0118749 to Margaret K. Thayer. I am very grateful to the Field Museum colleagues Margaret Thayer and Al Newton for permanent support of my *Quedius* studies and various help during the work, including the review of this manuscript, which led to its considerable improvement.

Material and methods

This paper is based on the examination of material from the following institutional and private collections:

FMNH	Field Museum of Natural History, Chicago
HMNH	Hungarian Museum of Natural History, Budapest (O. Merkl)
IRSN	Institut royal des Sciences naturelles de Belgique, Bruxelles (D. Drugmand)
IZK	Institute of Zoology, Ukrainian Academy of Sciences, Kiev (A. Petrenko)
MCSN	Museo Civico di Storia Naturale di Verona (A. Zanetti)
MHNG	Muséum d'Histoire naturelle, Geneva (G. Cuccodoro)
MNHN	Muséum national d'Histoire naturelle, Paris (N. Berti)
MNHUB	Museum für Naturkunde der Humboldt-Universität, Berlin (M. Uhlig, J. Frisch)
NMW	Naturhistorisches Museum Wien (H. Schillhammer)
SNM	Slovenské Národné Múzeum, Bratislava (V. Janský)
ZIN	Zoological Institute, Russian Academy of Sciences, St. Petersburg (G. Medvedev)
ZMMU	Zoological Museum of the Moscow State University (N. Nikitsky)
cAss	Private collection of V. Assing, Hannover
cGus	Private collection of V. Gusarov, St. Petersburg
cKab	Private collection of O. Kabakov, St. Petersburg
cKor	Private collection of H. Korge, Berlin
cKra	Private collection of P. Krásenský, Prague

cPop	Private collection of M. Popović, Zemun/ Belgrade
cSch	Private collection of M. Schülke, Berlin
cSol	Private collection of A.Yu. Solodovnikov, Chicago

All labels of the examined type specimens are given in their original spelling under quotation marks. In cases of some old, ambiguous or inexact label data, this was also done for the labels of the non-type specimens. To all type specimens studied here my labels indicating the proposed taxonomic changes were added, but those labels are not cited. Clarifications or updates of geographic names are enclosed in square brackets [].

Minimum-maximum measurements (given in millimeters) were recorded using an ocular micrometer. They were taken and abbreviated as follows: HL – head length (from base of labrum to neck constriction along the head midline); HW – head width (maximum, including eyes); PL – pronotum length (along midline); PW – pronotum width (maximum); EL – length of elytra (from humerus to the most distal part of the posterior margin); EW – width of elytra (maximum, with elytra closed along suture). Overall body length was measured from apex of labrum to apex of abdomen.

Illustrations of the male genitalia were done from soft preparations of these structures in glycerin (after dissecting, maceration in 10% KOH, and rinsing in distilled water). Contours of the aedeagal parts of such preparations may differ slightly from somewhat shrunken dry preparations (when aedeagi are dissected and glued on the mounting card).

Results

Quedius pseudonigriceps REITTER, 1909

Quedius humeralis var. *pseudonigriceps* REITTER, 1909: 113.

Quedius pseudonigriceps: GRIDELLI 1922: 134; 1925: 137; COIFFAIT 1963: 386; 1967: 409; 1978: 248; ASSING & WUNDERLE 2001: 107.

Quedius gemellus ssp.n.?: KORGE 1964: 122.

Quedius gemellus bithynicus FAGEL, 1968: 124; KORGE 1971: 52; COIFFAIT 1978: 257, KORGE 1990: 122 (syn. of *Q. pseudonigriceps* REITTER); HERMAN 2001b: 3163 (as valid subspecies) [synonymy established in KORGE (1990) here confirmed].

Quedius hungaricus COIFFAIT, 1963: 393, 404; COIFFAIT 1978: 250; KORGE 1990: 122 (syn. of *Q. pseudonigriceps* REITTER); HERMAN 2001b: 3170 (as valid species) [synonymy established in KORGE (1990) here confirmed].

Quedius osellai BORDONI, 1973: 37; COIFFAIT 1978: 245; **syn.n.**

TYPE MATERIAL EXAMINED: *Quedius humeralis* var. *pseudonigriceps*: **Syntypes**: 1 ♂, "Herzegovina Velež-Planina 1900 – 9/ *Quedius humeralis* Steph. coll. Reitter/ *Q. (Sauridus) pseudonigriceps* Reitt. H. Coiffait det. 1967" (HMNH); 1 ♂, 1 ♀, "Nevesinje, V. Zoufal/ coll. Reitter/ Paratypus *Quedius humeralis* v. *pseudonigriceps* Reitter 1909" (HMNH) [BOSNIA / HERZEGOVINA]; 1 ♀, "Alem-Dagh/ coll. Reitter/ Holotypus *Quedius humeralis* var. *pseudonigriceps* Reitter 1909" (HMNH) [TURKEY].

Quedius gemellus bithynicus: **Holotype**: ♂, "Anatolie occid. Abant Dagh. 1400-1550 m, V. 1967 G. Fagel"; **paratypes**: 2 ♂ ♂, 2 ♀ ♀, same data as in holotype (IRSN) [TURKEY].

Quedius osellai: **Holotype**: ♂, "Soümelä 14.VI.69 (Trabzon): Turchia leg. Osella/ Holotypus/ *Quedius (Sauridus) osellai* n. sp. det. Bordoni 1972" (MCSN) [TURKEY].

In the original description of *Q. humeralis* var. *pseudonigriceps*, REITTER (1909) did not specify the number of syntypes and gave the type locality as "Herzegovina, Türkei, Kleinasien". In the collection of Reitter in HMNH, there are four conspecific specimens of *Q. pseudonigriceps*. All of them match the indicated type locality, but only one of these specimens (female from "Alem Dagh") bears Reitter's identification label "v. pseudonigriceps m." However, as follows from the original description, Reitter probably studied more than one specimen when describing this taxon. Thus, all four listed specimens from his collection are considered here as syntypes. For

the time being, a lectotype designation is refrained from, because the specimen with Reitter's identification label is a female, and there is a possibility that more male syntypes of *Q. pseudonigriceps*, including some with Reitter's labels, could be found.

Standard type labels (holotype and paratypes) attached to three of the four mentioned syntypes of *Q. pseudonigriceps* by curatorial staff of HMNH are incorrect.

Examination of the holotype of *Q. osellai* confirmed its identity with *Q. pseudonigriceps*.

The synonymy of *Quedius pseudonigriceps* and *Q. hungaricus* was established by KORGE (1990) based on the examination of relevant but non-type material. Although I also have not seen the type material of *Q. hungaricus* COIFFAIT, based on the description of this species together with faunistic data, there is no doubt that this synonymy is correct. *Quedius hungaricus* is listed in the catalogue of HERMAN (2001b) as a valid species because KORGE (1990) was overlooked there.

ADDITIONAL MATERIAL EXAMINED:

R O M A N I A: 1 ♂, 1 ♀, "R Turm P Liepel" [Roter Turm Pass: the pass south of Brasov (north of Azuga)] (FMNH).

B U L G A R I A: 1 ♀, Borovetz-Maritza, 7.VI.1967, leg. Besuchet (MHNG).

S E R B I A / M O N T E N E G R O: 2 ♂♂, "Srbija, Pl. Gec Stanišinci, 28.IV.1990, leg. G. Nonveiller" (cPop); 1 ♂, "Srbija, Bov. Pl. Stol – 800 m, 12.V.1986" (FMNH); 1 ♂, "Srbija Pl. Ovčar, Delocia Gora - 500 m, 16.IV-19.V.1995, leg. D. Pavićević" (FMNH).

G R E E C E: 1 ♂, Peloponnisos, northern Taygetos, W Perivolia, 1450 m 37°18'51"N 22°31'10"E, 22.III.1997, leg. V. Assing (FMNH); 1 ♀, Peloponnisos, northern Taygetos, W Perivolia, 1450 m 37°08'44"N 22°16'03"E, 22.III.1997, leg. V. Assing (FMNH); 2 ♂♂, 3 ♀♀, Makedonia, No 15, Pieria Ori, 1450 m, Katafygi, *Pinus* wood, 40°16'20"N, 22°09'00"E, 9.IV.1998, leg. V. Assing (cAss, FMNH); 1 ♀, Evritania, Nr. 2, 10 km S Karpensis, 1230 m, *Abies* wood, 38°50'00"N, 21°47'16"E, 14.IV.2000, leg. V. Assing (FMNH); 1 ♂, Fthiotis, No. 7, Parnassos Oros, 1760 m, ski resort, *Abies* wood, 38°33'17"N, 22°34'35"E, 15.IV.2000, leg. V. Assing (FMNH); 2 ♂♂, 1 ♀, Floina, No. 30, 15 km S Flórina, Oros Vitsi, 1850 m, 40°39'N, 21°23'E, 25.IV.2000, leg. V. Assing (cAss, FMNH); 1 ♂, Ipiros Ioanina, Notia Pindos Metsovo, 1400 m, forest, 24.VI.1997, leg. Bayer (cSch); 1 ♂, Katarapass, 1500 m, 13.V.1997, leg. Wolf (cSch); 5 ♂♂, 1 ♀, Greece, Mt. Ossa, 1000 m, 18.V.1997, leg. Wolf (cSch, FMNH).

T U R K E Y: 1 ♂, 1 ♀, "Turcia" (NMW); 1 ♂, 4 ♀♀, Bolu, Bolu-Yeniçağa, 24.V.1967 1000 m, leg. Besuchet (MHNG); 1 ♀, Bolu, Abant 22.V.1976, 1500-1600 m, leg. Besuchet & Löbl (MHNG); 1 ♂, 1 ♀, Bolu, Ömerler near Bolu, 800 m, 21.V.1976, leg. Besuchet & Löbl (MHNG); 2 ♂♂, Adana, Tekir, 1200 m, 4.V.1967, leg. Besuchet (MHNG); 1 ♂, 3 ♀♀, Maras, S/Tekir, 5.V.1978, 900 - 1400 m, leg. Besuchet & Löbl (MHNG); 1 ♂, Tunceli, Tunceli-Ovacik, 1100 m, 5.VI.1986 (MHNG); 2 ♀♀, Kirklareli, Yeniceköy-Demirköy, 31.VII.1969, leg. Besuchet (MHNG); 1 ♂, 3 ♀♀, Kastamonu, Ilgazdağ, 1300 - 1800 m, 17.V.1976, leg. Besuchet & Löbl (MHNG); 1 ♂, 1 ♀, Konya, 18 km SE of Beyşehir, 1200 m, 7.V.1978, leg. Besuchet & Löbl (MHNG); 2 ♂♂, 5 ♀♀, Bursa, S of Bursa, 22.VII.1969, leg. Besuchet (MHNG); 3 ♂♂, 4 ♀♀, Bursa, Uludağ, 22.VII.1969, leg. Besuchet (MHNG); 2 ♂♂, 1 ♀, Bursa, Uludağ, 20 km from Bursa, 1300 m, 12.V.1976, leg. Besuchet & Löbl (MHNG); 1 ♂, Bursa, 22.VII.1969, leg. Besuchet & Löbl (MHNG); 1 ♂, Antakya, Harbiye, 3.V.1978, Besuchet & Löbl (MHNG).

G E O R G I A: 1 ♂, Zchneti near Tbilisi, 900 m, 1 - 10.VI.1987, leg. Wrase & Schülke (MNHUB); 1 ♂, "Caucasus, Abastuman [Abastumani], Leder (Reitter)" (NMW).

A Z E R B A I J A N: 1 ♂, Caucasus, Helendorf [Khanlar], Reitter" (NMW).

Diagnosis of this species, comparison, illustrations of the aedeagus, data on distribution and bionomics were recently published in KORGE (1990). The additional material examined here mostly fits the already known outline of the species range but also provides the easternmost records of this species from eastern Transcaucasia.

COMPARATIVE REMARKS: *Quedius pseudonigriceps* is most similar to *Q. kirklarensis* KORGE [species from northern Turkey with recently established synonym *Q. drannazensis* COIFFAIT, see SOLODOVNIKOV & ŠTOURAČ (2002)] from which it can be reliably distinguished only by the presence of a palisade fringe on abdominal tergite 7. Now, after the additional material of *Q. pseudonigriceps* was examined, it seems likely that *Q. kirklarensis* may be a brachypterous form of *Q. pseudonigriceps* and could be eventually synonymized with the latter.

However, the phenomenon of possible wing polymorphism in *Q. pseudonigriceps* requires careful examination. *Quedius pseudonigriceps* is also similar to *Q. cohaesus* EPPELSHEIM from which it can be distinguished by relatively shorter rows of peg setae on the apical portion of the paramere and more distinct tooth on the aedeagal apex (in lateral view; cf. Figs. 1 - 3 and 4 - 6). Illustrations of the aedeagus of *Q. turkmenicus* COIFFAIT (1969) suggest that this species also may be very similar to *Q. pseudonigriceps* and *Q. cohaesus* (or even conspecific with either). However, before additional material from that poorly known region, or at least the type material of *Quedius turkmenicus*, is examined, its status remains unclear.

Quedius gemellus EPPELSHEIM, 1889

Quedius gemellus EPPELSHEIM, 1889: 19; GRIDELLI 1925: 122; WÜSTHOFF 1938: 220; COIFFAIT 1963: 387; KORGE 1990: 128.

Quedius ghilarovi COIFFAIT, 1967: 405; 1978: 240; POTOTSKAYA 1967: 83, 93 (larva); SOLODOVNIKOV 1998: 342; **syn.n.**

Quedius paramerus COIFFAIT, 1967: 411; 1978: 247; SOLODOVNIKOV 1998: 343; **syn.n.**

Quedius gemellus bithynicus FAGEL, 1968: 124; KORGE 1971: 52; COIFFAIT 1978: 257 (misidentification of *Q. pseudonigriceps* REITTER).

TYPE MATERIAL EXAMINED: *Quedius gemellus*: **Lectotype** (here designated): ♂, "Caucas occ. Circassien Leder. Reitter./ c. Eppelsh. Steind. d." (NMW); **paralectotypes**: 2 ♂♂, 2 ♀♀, same data as lectotype (NMW) [RUSSIA; for discussion of the borders of "Circassia" see SOLODOVNIKOV (2001)].

Quedius ghilarovi: **Holotype**: ♂, "N 853 Région de Maykop 10. 6. 63 Montagnes (Pairiere Hêtre + Epicéa)/ Holotype/ *Q. (Sauridus) ghilarovi* Coiff. H. Coiffait det. 1967" (MNHN); **paratypes**: 1 ♀, "1087, Région de Maykop 9.6.63, Forêt hêtre Montagnes Litière + épicea/ Allotype" (MNHN); 1 ♂, "917, 19-20.6.63, Région de Maykop. Montagnes Broussailles de rhododendron/ Paratype" (MNHN); 1 ♀, "N 855 Région de Maykop 8.06.63 Montagnes forêt Hêtre + Epicéa/ *Quedius ghilarovi* Coiff." (ZMMU); 1 ♀, "N 858 Région de Maykop Montagnes Hêtre et epicea clairière/ type/ *Quedius ghilarovi* Coiff. H. Coiffait det. 1966/ *Quedius paramerus* Coiff. V. Gusarov det. 1997" (ZMMU) [RUSSIA: Republic of Adygeja].

Quedius paramerus: **Holotype**: ♂, "1059 Région de Maykop 14. 6. 63 Montagnes Foret hêtre + épicea/ Holotype/ *Q. (Sauridus) paramerus* Coiff. H. Coiffait det. 1967" (MNHN) [RUSSIA: Republic of Adygeja].

In the original description of *Quedius gemellus*, EPPELSHEIM (1889) did not specify the number of syntypes, but indicated the type locality "Circassien" (for discussion about the borders of "Circassien" see SOLODOVNIKOV 2001). Among numerous specimens of *Q. gemellus* from "Circassien", scattered in the few museums of the world (and some of them incorrectly labeled by the museums' staff as "types" or "syntypes"), only those which were most likely studied by Eppelsheim (kept in his collection in NMW) are considered here to be syntypes. Of them, one male syntype is here designated as lectotype. The lectotype is designated in order to fix the identity of the name. There are many specimens scattered in different collections which may not be conspecific but which could be interpreted as syntypes of *Q. gemellus*.

Quedius gemellus from the north-western Caucasus was correctly interpreted by earlier authors (GRIDELLI 1925, WÜSTHOFF 1938). The matters became complicated after COIFFAIT (1963, 1967, 1978) illustrated the aedeagus for *Q. gemellus* inconsistently (1963, correctly; 1967, 1978, incorrectly) and described two species of ambiguous identity sympatric with *Q. gemellus*: *Q. ghilarovi* and *Q. paramerus*. FAGEL (1968) described a subspecies, *Q. gemellus bithynicus* from northern Anatolia. The confusion was partly revealed by KORGE (1990) who, though not seeing the types, correctly recognized the identity of *Q. gemellus bithynicus* with *Q. pseudonigriceps*. Examination of the respective types here confirms this non-type based conclusion of Korge. Examination of the type material of *Q. ghilarovi* and *Q. paramerus* (both species described from the same locality in the north-western Caucasus) reveals that these taxa are conspecific with *Q. gemellus*.

ADDITIONAL MATERIAL EXAMINED:

R U S S I A: KRASNODAR TERRITORY: 1 ♂, 1 ♀, "Kuban, Caucas, Rost" (IRSN); 7 ♂♂, 5 ♀♀, "Caucasus occ., Circassien Leder Reitter" (FMNH, IRSN, IZK, SNM, ZIN); 1 ♂, near vill. Ubinskaya, foothills of Mt. Sober-Bash, 10.X.1992, in forest litter, leg. M. Savitsky (cSol); 6 ♀♀, 1 km S of vill. Ubinskaya, 11.IX.1992, in forest litter, leg. V. Savitsky (cSol); 1 ♀, near vill. Ubinskaya, 28.V.1992, leg. V. & M. Savitsky (cSol); 1 ♂, Goryachy Kluch, 18.X.1951, leg. K. Arnol'di (ZMMU); 3 ♀♀, vill. Defanovka near Goryachy Kluch, *Quercus & Acer*, litter & under stones, 29.X.1981, leg. S. Golovach (ZMMU); 1 ♀, distr. of Goryachy Kluch, 10 km S of vill. Fanagoriyskoe, mixed forest, under stones & in rotten logs, 30.X.1981, leg. S. Golovach (ZMMU); 1 ♂, 1 ♀, W. Caucasus, Khosta, leg. B.V. Stark (ZMMU); 1 ♀, Sochi, upper course of river Agura, beech and hornbeam forest, 5.VIII.1992, leg. I. Solodovnikov (cSol); 1 ♂, 1 ♀, Sochi, Alek range, 920 m, in debris at the bank of forest creek, 21.VIII.1992, leg. I. Solodovnikov (cSol); 1 ♀, Sochi, near Babuk-Aul, 1000 m, 10.VIII.1992, leg. I. Solodovnikov (cSol); 2 ♂♂, 1 ♀, env. of vill. Mezmay, S of Maykop, VII.1998, leg. Kopecký & Švarc (cKr); 1 ♂, 3 ♀♀, Mt. Semashkho 30 km NE of Tuapse, 800 m, forest zone, pitfall traps, 10.V. - 4.VI.1992, leg. A. Miroshnikov & A. Solodovnikov (cSol); 1 ♂, Mt. Khuko near vill. Babuk-Aul, 1500 m, in forest litter, 24.VI.1994, leg. A. Solodovnikov (cSol); 1 ♂, 2 ♀♀, 25 km NE of vill. Lazarevskoe, 600 m, in forest litter, 30.V.1995, leg. A. Solodovnikov (cSol); 3 ♂♂, S slopes of Mt. Chugush, 1300 m, in forest litter, 10.VIII.1994, leg. A. Solodovnikov (cSol); 3 ♂♂, 10 km NEE of vill. Krasnaya Polyana, 900 m, in forest litter, 6.VIII.1994, leg. A. Solodovnikov (cSol); 2 ♀♀, 12 km E of vill. Krasnaya Polyana, 800 m, in moist forest litter, 15.VIII.1994, leg. A. Solodovnikov (cSol); 1 ♂, 2 ♀♀, Caucasus occ. Krasnaya Polyana, leg. Roubal, VII.1910 (SNM); 1 ♂, 1 ♀, Achishkho range, 1100 m, 16.VIII.1994, leg. A. Koval' (cGus); 2 ♀♀, same data, but 29-31.VIII.1994; 1 ♂, Western part of Aibga range, 1000-1400 m, 23.VIII.1995, leg. M. Savitsky (cSol); 1 ♂, 4 ♀♀, Aibga range near vil. Krasnaya Polyana, 800-1000 m, in forest litter, 12-15.VIII.1994, leg. A. Solodovnikov (cSol); REPUBLIC OF ADYGEJA: 1 ♂, 2 ♀♀, env. of Belaya river, 15.VII.1998, leg. Kopecký & Švarc (cKr); 1 ♂, 10 km W of vill. Dakhovskaya, 1000 m, 4.VII.1993, leg. V. Savitsky (cSol); 5 ♂♂, 1 ♀, same locality, but 700 m, in forest litter, 26.VIII.1994, leg. A. Solodovnikov (cSol); 1 ♂, same data, but 1000 m, 1.VII.1993; 1 ♀, near vill. Novopokhladnoe, 700 m, 3.VI.1995, leg. V. Savitsky (cSol); 1 ♀, near vill. Guzerip', in forest litter, 11.VI.1992, leg. A. Solodovnikov (cSol).

G E O R G I A: 1 ♂, 2 ♀♀, Abkhazia, Gumistinsky preserve, Tsumuri, in forest litter, 19.VII.1990, leg. V. Gusarov (cGus); 1 ♂, "Caucasus merid. Dal-Suchum, N.S. Branskyi" (FMNH); 1 ♂, Bzyb range, Otkara, V.1959 (MNHN); 2 ♀♀, Bzyb'sky Range, 3.V.1959, leg. V.N. Kurnakov (IRSN); 5 ♂♂, same data, but 19.IV.1959 (IRSN).

? C O U N T R Y: 1 ♂, 1 ♀, "Caucasus Leder Reitter" (NMW).

COMPARATIVE REMARKS: Genitalia and terminalia of *Q. gemellus* in both sexes are practically identical with those of *Q. pseudonigriceps*. Very close affinity of both taxa was also recognized by KORGE (1990) who thought that *Q. gemellus* might be a subspecies of *Q. pseudonigriceps*. *Quedius gemellus* differs from *Q. pseudonigriceps* only externally: in shorter elytra, absence of palisade fringe on the abdominal tergite 7, and overall paler coloration. Aedeagi of both species are similar (see Figs. 1 - 3). Most of these external characters separating *Q. pseudonigriceps* and *Q. gemellus* result from the pronounced brachyptery of *Q. gemellus*. Although wing polymorphism is known as a rather common case of intraspecific variability, in case of *Q. pseudonigriceps* and *Q. gemellus* this difference is stable. To avoid an ambiguity of the concept of subspecies, at present state of knowledge I suggest considering both taxa as separate species. Similarly, *Q. kirklarensis* KORGE, which is also a possible brachypterous form of *Q. pseudonigriceps*, is tentatively treated as a species (see above). It should be noted, though, that morphologically *Q. kirklarensis* is not identical with *Q. gemellus*. Also, *Q. pseudonigriceps* and *Q. kirklarensis* occur sympatrically, whereas the distributions of *Q. pseudonigriceps* and *Q. gemellus* are allopatric. From the similar *Q. cohaesus*, *Q. gemellus* differs externally (in shorter elytra, absence of palisade fringe on the abdominal tergite 7, and overall paler coloration) and in structure of the aedeagus (relatively longer rows of peg setae on the apical portion of paramere, more pronounced dorsal tooth near the apex of median lobe).

DISTRIBUTION AND BIONOMICS: *Quedius gemellus* is endemic to the north-western Caucasus. It is rather common and abundant in montane forests from the foothills to elevations of 1300 - 1500 m, where it can be found in leaf litter. The larva is described in POTOTSKAYA

(1967) (as *Quedius ghilarovi*). According to Potoskaya, larvae were found in loose soil under fallen tree trunks.

***Quedius cohaesus* EPPELSHEIM, 1888**

Quedius cohaesus EPPELSHEIM, 1888: 60; GRIDELLI 1925: 126; COIFFAIT 1963: 393; 1978: 248; KORGE 1964: 122; SMETANA 1967: 558.

Quedius meurgeusae COIFFAIT, 1977: 138; 1978: 232; 1981: 237; **syn.n.**

TYPE MATERIAL EXAMINED: *Quedius cohaesus*: **Lectotype** (here designated): ♂, "Turcmenia Leder. Reitter/ ♂/ *cohaesus* mihi/ c. Eppelsh. Steind. d." (NMW); **paralectotype**: ♀, "Turcmenia Leder. Reitter/ ♂/ *cohaesus* mihi/ c. Eppelsh. Steind. d." (NMW) [TURKMENISTAN].

Quedius meurgeusae: **Holotype**: ♂, "Alam Kouch Elbourz/ 25-3500 m, 14.VIII.72/ I Iran G.M. et G.L./ type [red label]/ *Quedius (Sauridus) meurgeusae* H. Coiffait 1977" (MNHN) [IRAN].

Until now the types of *Q. cohaesus* were only examined by GRIDELLI (1925), but this examination was done without dissection and study of the aedeagus. Later, this species was largely misinterpreted starting with COIFFAIT (1963), where the illustration of the aedeagus attributed to *Q. cohaesus* obviously belongs to *Q. pseudonigriceps*.

Three syntypes are specified in the original description of *Q. cohaesus* (EPPELSHEIM 1888). Two of them (male and female) are deposited in the NMW. Of these syntypes, the male is designated as a lectotype. The designation of the male specimen as lectotype is done for the better fixation of the identity of the name. Male primary and secondary sexual characters are very important for species diagnostics in *Quedius*.

Quedius meurgeusae was described based on a single male from the Elburz mountains in northern Iran (COIFFAIT 1977). Examination of the holotype of *Q. meurgeusae* leaves no doubt that it is conspecific with the types of *Q. cohaesus*, and thus leads to the new synonymy.

ADDITIONAL MATERIAL EXAMINED:

1 ♂ [teneral], "Caucasus Araxesthal Leder. Reitter" (NMW) [? TURKEY, ARMENIA or AZERBAIJAN]; 1 ♂, "Transcaspia Kisil-Arwat F. Hauser 1898" (FMNH) [? COUNTRY].

COMPARATIVE REMARKS: Externally and in structure of the aedeagus, *Q. cohaesus* is very similar to *Q. pseudonigriceps*. For differences see above under the latter species. *Quedius cohaesus* also resembles *Q. limbatus* (HEER), from which it differs in shape of the apical portion of the aedeagus. Also, *Q. turkmenicus* COIFFAIT (1969) should be carefully compared with *Q. cohaesus* (about *Q. turkmenicus* see above under "Comparative remarks" for *Q. pseudonigriceps*).

DISTRIBUTION: The only locality from which *Q. cohaesus* is known exactly is Alam Kouch in the Elburz mountains in Iran. Other localities for this species (see above for details) are either inexactly recorded, or their identification is difficult. Records of this species in COIFFAIT (1963, 1978), KORGE (1964) and SMETANA (1967) from Turkey need confirmation. The record of *Q. meurgeusae* from Saudi Arabia (COIFFAIT 1981) is based on the examination of a single female specimen and, thus, is not reliable either.

***Quedius balcanicus* BERNHAUER, 1908**

Quedius balcanicus BERNHAUER, 1908: 324; GRIDELLI 1922: 128, 133; 1925: 136; WÜSTHOFF 1938: 41; COIFFAIT 1963: 386; 1978: 233; CICERONI & ZANETTI 1995: 31.

Quedius subnigriceps COIFFAIT, 1967: 410; 1978: 249; KORGE 1990: 129 (syn. of *Q. balcanicus* BERNHAUER); HERMAN 2001b: 3277 (as valid species).

TYPE MATERIAL EXAMINED: **Lectotype** (here designated): 1 ♂, "Duži, Herz. Holdhaus/ *balcanicus* Brnh. Cotypus" (FMNH); **paralectotypes**: 1 ♀, "Duži, Herz. Holdhaus/ *balcanicus* Brnh. Typus" (FMNH); 2 ♂♂, 3 ♀♀, "Duži, Herz. Holdhaus/ *balcanicus* Brnh. Cotypus" (FMNH) [BOSNIA AND HERZEGOVINA].

The number of syntypes was not specified in the original description of *Q. balcanicus*. Of six syntypes of this species available for study in the FMNH, there is one specimen (female) labeled by Bernhauer as "Type" and five specimens labeled by him as "Cotypes". One of the "cotype" males is designated as lectotype. The designation of the male specimen as lectotype is done for the better fixation of the identity of the name. Male primary and secondary sexual characters are very important for species diagnostics in *Quedius*.

Diagnosis of this species, comparison, illustrations of the aedeagus, data on distribution and biometrics were recently published in KORGE (1990). However, the types of this species were not examined since the time of the very brief original description. Revision of the types here verifies that previous authors correctly interpreted this species.

This synonymy was suggested by KORGE (1990) based on the examination on the relevant but non-type material. I have not seen the types of *Q. subnigriceps* either, but, based on its description and distribution, there is no doubt about the identity of these two taxa. HERMAN (2001b) lists *Q. subnigriceps* as valid species because Korge's publication has been overlooked in that catalogue.

ADDITIONAL MATERIAL EXAMINED:

B O S N I A AND H E R Z E G O V I N A: 1 ♀, Herzegovina, Duži, leg. Holdhaus (FMNH); 2 ♂♂, 3 ♀♀, Herzegovina, Duži, 1903, leg. Leonhard (FMNH); 1 ♂, 1 ♀, Herzegovina, Trebinje 1903, leg. Leonhard (FMNH); 1 ♂, 1 ♀, "Bos. [Bosnia] Zelezni ca... [illegible], Buchenlb Brh [in beech leaf litter, leg. Bernhauer], 17.5.1902" (FMNH); 1 ♂, "Bosnia Jahorina" (FMNH); 1 ♂, "Ubli Herzegov. [Herzegovina]" (FMNH); 1 ♂, "Bosnien Bernhauer" (FMNH); 1 ♀, "Jablanica Paganetti" (FMNH); 1 ♀, "Herzegovina Th. V. Wanka" (FMNH); 1 ♀, "Kobinger Sarajevo" (FMNH).

S E R B I A / M O N T E N E G R O: 7 ♂♂, 6 ♀♀, "Kameno Paganetti" (FMNH); 3 ♂♂, 3 ♀♀, "Topla Paganetti" (FMNH).

? S E R B I A / M O N T E N E G R O or C R O A T I A: 2 ♂♂, 8 ♀♀, "Krivosije Paganetti" (FMNH); 1 ♂, "Cattaro Dalmatia" (FMNH).

I T A L Y: 1 ♂, 1 ♀, "Castelnuovo Holdhaus" (FMNH).

COMPARATIVE REMARKS: *Quedius balcanicus* is very similar to *Q. pseudonigriceps*. Externally it differs from the latter species in 3-4 punctures of pronotal sublateral row (in contrast to 2-3 punctures in *Q. pseudonigriceps*), relatively shorter antennae, and relatively shorter tarsi (especially basal segments of posterior tarsi). Also it can be easily distinguished from *Q. pseudonigriceps* by the shape of the aedeagus (see COIFFAIT 1978; KORGE 1990).

DISTRIBUTION: *Quedius balcanicus* is known from the north of the Balkan Peninsula and adjacent parts of north-eastern Italy (see also records in GRIDELLI 1922 and CICERONI & ZANETTI 1995).

Quedius boluensis KORGE, 1971

Quedius boluensis KORGE, 1971: 49; COIFFAIT 1978: 209.

Quedius deuvei COIFFAIT, 1978a: 170; **syn.n.**

Quedius deuvei COIFFAIT, 1978b: 226 (nec *Quedius deuvei* COIFFAIT, 1983a)

TYPE MATERIAL EXAMINED: *Quedius boluensis*: **Holotype**: 1 ♂, "leg. H. Korge Anatolia bor./ Abant-Geb. 1100-1500 m" (cKor).

Quedius deuvei: **Holotype**: 1 ♂ [teneral] "Tr. Drannaz Dağ, 3.VII.1977 T. Deuve/ Holotype/ *Quedius* (*Sauridus*) *deuvei* H. Coiffait det. 1978" (MNHN); **paratype**: 1 ♀, same data as holotype, but with "Allotype" label instead (MNHN) [TURKEY].

The holotype and paratype of *Q. deuvei* COIFFAIT, 1978 are conspecific with *Q. boluensis* KORGE, and the former name is thus placed in synonymy to the latter. Note that *Quedius deuvei* COIFFAIT, 1983a is a junior homonym of *Quedius deuvei* COIFFAIT, 1978, with the replacement name *Q. deuveianus* COIFFAIT, 1983b. This species from the Himalayas is a junior synonym of *Q. kashmirensis* CAMERON (SMETANA 1988).

ADDITIONAL MATERIAL EXAMINED:

T U R K E Y: 1 ♂, "Anatolia bor. W. Heinz leg./Dranaz-dagh b. Sinop, 1250 m, 27.VII.1970" (cKor); 1 ♂, "Südl. Abies-zone/ 25.VII.1970/ Anatolia bor. W.Heinz leg./ Westseite d. Yaraligöz südl. Catalzeytirt 1300-1700 m" (cKor); 1 ♂, "Anatolia bor. Heinz leg./ Pass nördl. Çambaşı, 1700m" (cKor); 1 ♀, "Bolu, Anat. bor., 13.VIII.1975, leg. F. Schubert" (NMW); 6 ♂♂, 9 ♀♀, "Anat. b. Cangal Dagh, 7-15.VI.1960, leg. F. Schubert" (NMW); 2 ♀♀, same data, but 16. - 26.V.1957 (NMW); 3 ♂♂, 1 ♀, "südl. Ayancik, Asm. b., 6-12.VII.1973, leg. F. Schubert" (NMW); 1 ♀, "Borcka, Asm. NO, 1500 m, VII.1971, leg. F. Schubert" (NMW); 4 ♂♂, 2 ♀♀, Abant Dagh, 1400 - 1550 m, V.1967, leg. G. Fagel (IRSN); 1 ♂, Bolu, Abant, 22.V.1976, 1500 - 1600 m, leg. Besuchet & Löbl (MHNG); 2 ♂♂, 1 ♀, Sinop, Lala near Sinop, 20.V.1976, leg. Besuchet & Löbl (MHNG); 1 ♀, Bürmük 29 km N Boybat, 1250 m, 26.V.1976, leg. Besuchet & Löbl (MHNG); 1 ♀, Kastamonu S/Küre, 1200 m, 18.V.1976, leg. Besuchet & Löbl (MHNG); 1 ♂, Bolu, Düzce - Akçakoca, 26.V.1967, 400 m, leg. Besuchet (MHNG); 1 ♀, Zonguldak, 17 km N Safranbolu, 1000 m, 16.V.1976, Besuchet & Löbl (MHNG); 1 ♀, Ordu, env. Tekkiraz, 18.V.1967, 500 m, leg. Besuchet (MHNG); 1 ♀, Bolu, Elmalik Bakacak, 850 m, 26.V.1967, leg. Besuchet (MHNG); 1 ♂, 1 ♀ [teneral], Zonguldak s/Zonguldak, 500 m, 23.V.1976, leg. Besuchet & Löbl (MHNG).

This species was described in KORGE (1971). To facilitate the separation of *Q. boluensis* from *Q. obliquiseriatus* and other similar species, more detailed illustrations of the aedeagus are provided here (Figs. 7 - 9). Median lobe of the aedeagus with slightly lanceolate (in dorsal view) apical portion (Fig. 8); with tooth on the dorsal side (adjacent to the paramere) far from apex. Apex of the paramere not reaching apex of median lobe, with two pairs of apical setae and two pairs of longer lateral setae below the apex; with about 35-40 peg setae arranged in irregular longitudinal groups (Fig. 9). Internal sac with minute weakly sclerotized structures.

COMPARATIVE REMARKS: *Quedius boluensis* is similar to *Q. coloratus* FAUVEL (distributed in Balkan Peninsula, Asia Minor, and western Middle East), and to *Q. obliquiseriatus* EPPELSHEIM, endemic of western Caucasus. From *Q. coloratus* it can be distinguished by overall brighter coloration of the body (in *Q. boluensis* head and abdomen never black; pronotum at most reddish-brown, never dark-brown), and by difference in shape of the aedeagus (for illustration of the *Q. coloratus* aedeagus, see SMETANA 1978). For comparison with *Q. obliquiseriatus*, see that species below.

DISTRIBUTION AND BIONOMICS: *Quedius boluensis* is a forest litter inhabitant of the mountains of northern Turkey.

Quedius obliquiseriatus EPPELSHEIM, 1889

Quedius obliquiseriatus EPPELSHEIM, 1889: 17; COIFFAIT 1963: 377; 1978: 216; SOLODOVNIKOV 1998: 342.

TYPE MATERIAL EXAMINED: **Lectotype** (here designated): ♂, "Caucas occ. Circassien Leder. Reitter/ c. Eppelsh. Steind. d." (NMW). [RUSSIA; for discussion of the borders of "Circassia" see SOLODOVNIKOV (2001)].

In the original description of *Q. obliquiseriatus*, EPPELSHEIM (1889) did not specify the number of syntypes, but indicated "Circassien" as a type locality. I was able to examine five specimens matching the original description of *Q. obliquiseriatus* and labelled as "Caucasus occ. Circassien Leder (Reitter)" (1 specimen from Eppelsheim's collection in NMW; 3 specimens from Reitter's collection in HMNH, and 1 specimen from Bernhauer's collection in the FMNH). However, only one of them (male), which most likely has been examined by Eppelsheim (now kept in his collection in NMW), is considered here to be a syntype and designated as lectotype. The lectotype is designated in order to fix the identity of the name, because there are many specimens

scattered in different collections which may not be conspecific but which could be interpreted as syntypes of *Q. obliquiseriatus*.

Quedius obliquiseriatus was misinterpreted by GRIDELLI (1924) who, as stated in this paper, had examined two similar specimens from Eppelsheim's collection (one from "Circassien", the other from "Swanetien"), but incorrectly considered the latter as a type. In fact, as follows from the original description of *Q. obliquiseriatus*, only the specimen from "Circassien" [Circassia – area in the north-western Caucasus: for reference see SOLODOVNIKOV (2001)] is a syntype. It matches the original description morphologically and is in agreement with the indicated type locality. The specimen from "Swanetien" [Svanetia - area of Svanetsky range in Georgia, east from "Circassia"] is not a type of *Q. obliquiseriatus*. Though being rather similar with true *Q. obliquiseriatus* externally, it has only two punctures (posterior frontal and vertical punctures) behind the eye and also some other differences, and in fact belongs to a different species being described elsewhere (SOLODOVNIKOV, in prep.). COIFFAIT (1978), although never having studied the types of *Q. obliquiseriatus* and also incorrectly stating "Swanetia" as the distribution for *Q. obliquiseriatus*, provided a correct illustration of the aedeagus of the species.

ADDITIONAL MATERIAL EXAMINED:

R U S S I A: KRASNODAR TERRITORY: 2 ♂♂, 1 ♀, "Caucas occ. Circassien Leder. Reitter" (HMNH); 1 ♀, same data (FMNH); 1 ♂, village Ubinskaya, 16.VI.1953, leg. K. Arnol'di (ZMMU); 1 ♂, Mt. Sober-Bash near vill. Ubinskaya, 14.VI.1953, leg. K. Arnol'di (ZMMU); 1 ♂, village Erevanskaya, 5.X.1950, leg. K. Arnol'di (ZMMU); 1 ♂, 2 ♀♀, Novomikhaylovskoe, 25.IX.1989, in forest litter, leg. E. Khachikov (cKh); 1 ♂, Kuban', Goryachy Kluch, 18.X.1951, leg. K. Arnol'di (ZMMU); 3 ♀♀, same data, but 8 and 14.IV.1952 (ZMMU); 1 ♂, same data, but 27.IX.1954 (ZMMU); 1 ♂, 1 ♀, Mt. Semashkho, 20 km NE of Tuapse, 800 - 900 m, forest, pitfall traps 10.V. - 4.VI. 1992, leg. A. Solodovnikov & A. Miroshnikov (cSol); 1 ♂, Mt. Shessi, 29.V - 26.VI.1993, pitfall traps, leg. A. Zamotajlov & V. Shchurov (cSol); 1 ♀, 25 km NE of vill. Lazarevskoje, 1500 m, in forest litter, 31.V.1995, leg. A. Solodovnikov (cSol); 1 ♂, 2 ♀♀, Sochi, Lazarevskoe, 15.II.1988, leg. A.G. Koval' (cGus); 1 ♂, Khosta, leg. B.V. Stark; 1 ♂, Khosta, leg. B.V. Stark (ZMMU); 1 ♂, Sochi, 27.VIII.1993, in wet forest litter, leg. I. Solodovnikov (cSol); 1 ♂, 2 ♀♀, S slopes of Mt. Chugush, 1300 m, forest zone, pitfall traps 21.VII. - 10.VIII.1994, leg. A. Solodovnikov (cSol); 2 ♂♂, same data, but in forest litter, 10.VIII.1994 (cSol); 1 ♂, 1 ♀, near vill. Krasnaya Polyana, 500 m, in forest litter, 6.IX.1995, leg. V. Savitsky (cSol); 1 ♀, same locality, 1000 m, 15.IX.1962 (ZMMU); 1 ♂, 12 km E of vill. Krasnaya Polyana, 800 m, in forest litter, 31.VII.1994, leg. A. Solodovnikov (cSol); 2 ♂♂, 1 ♀, same locality, 1600-1700 m, in forest litter, 1.VIII.1994, leg. A. Solodovnikov (cSol); 1 ♀, Mt. Aibgha near vill. Krasnaya Polyana, 1000 m, in forest litter (cSol); 1 ♂, Mt. Atchischcho, leg. A. Zolotarev (ZIN) 1 ♀, same data (ZMMU); 1 ♀, Caucasus, Aibgo [Mt. Aibga], 1908; 1 ♂, Caucasus occ. Krasnaya Polyana Roubal VII.1910 (FMNH); 1 ♂, Adler, Pseashkho, 14.VII.1961 (MNHN); REPUBLIC OF ADYGEJA: 1 ♀, Lagonaki plateau, VI.1990, leg. V. Grebennikov; 1 ♂, 1 ♀, same locality, but VI.1991, leg. E. Khachikov (cKh); 2 ♀♀, Azish-Tau range, 1500 m, in forest litter, 27.VIII.1994, leg. A. Solodovnikov (cSol); 1 ♀, same locality, 1.VI.1994, leg. V. Shchurov (cSol); 1 ♂, 10 km SW of vill. Dakhovskaya, 600 m, in forest litter, 26.VIII.1994, leg. A. Solodovnikov (cSol).

REDESCRIPTION: Measurements and ratios (range, arithmetic mean; n = 20): HL: 1.03 - 1.30 (1.18); HW: 1.38 - 1.68 (1.65); PL: 1.53 - 1.78 (1.65); PW: 1.57 - 2.01 (1.88); EL: 1.28 - 1.78 (1.50); EW: 1.60 - 2.00 (1.82); FB: 4.0 - 5.1 (4.7); TL: 8.0 - 10.5 (9.1); HL/HW: 0.72 - 0.84 (0.76); PL/PW: 0.85 - 1.04 (0.88); EL/EW: 0.75 - 0.92 (0.82).

Head dark: brownish-black with paler, brown front; pronotum and elytra reddish-brown, disc of pronotum often with two parallel, wide longitudinal pale bands; abdomen dark brown to brown, hind margins of abdominal tergites yellowish-brown; palpi, antennae and legs yellowish-brown, apical antennomeres often darker; body glossy, abdomen strongly iridescent.

Head slightly transverse [HL/HW: 0.72 - 0.84 (0.76)], temples slightly more than two times as short as longitudinal diameter of eye; posterior frontal puncture closer to posterior margin of head than to anterior frontal puncture; temporal puncture closer to posterior margin of eye than to posterior margin of head; two vertical punctures behind posterior frontal puncture arranged as oblique line between posterior margin of eye and dorsal part of neck; dorsal surface of head with

microsculpture of transverse (on disk) and isodiametric (on front and along inner margin of eye) cells. Antennae moderately long; antennal segments: 3rd longer than 2nd; 4th-10th of nearly equal length, widening towards apex of antenna.

Pronotum about as wide as long [0.85 - 1.04 (0.88)], widest in the middle, gradually narrowing anteriorly and vaguely posteriorly; hind angles rounded but distinct; dorsal row each with three punctures; sublateral rows each consisting of two punctures; waves of microsculpture dense and oblique; microsculpture on anterior angles of pronotum reticulate.

Scutellum impunctate, with transverse microsculpture as on pronotum.

Elytra short, parallel-sided, wider than long [EL/EW: 0.75 - 0.92 (0.82)], shorter than pronotum and much narrower than maximum width of pronotum; punctuation dense; pubescence gray; interspaces very glossy, with vaguely distinct minute irregularities.

Wings vestigial.

Abdomen: tergite 7 without palisade fringe; punctuation moderately coarse, gradually becoming sparser towards the apex of abdomen (punctuation of tergite 3 rather dense, but sparser than on elytra); interspaces with very superficial transverse irregularities.

Male. Protarsi with dilated tarsomeres 1 - 4. Sternite 8 with acute triangular medio-apical emargination; tergite 10 with rounded apical margin; sternite 9 elongate, gradually narrowed apically, with moderately wide and long basal portion and obtusely rounded apical margin. Aedeagus (Figs. 10 - 12): median lobe parallel-sided along most of its length with slightly lanceolate (from dorsal view, Fig. 11) and dorsally bent (from lateral view, Fig. 10) apical portion, which has a tooth located near apex. Paramere parallel-sided along most of its length, narrowing in apical portion; its apex almost reaching apex of median lobe, with two pairs of apical setae and two pairs of longer lateral setae below apex, with about 40 - 50 peg setae arranged in two longitudinal groups (Fig. 12). Internal sac with minute weakly sclerotised structures.

Female. Tarsomeres 1 - 4 of protarsi dilated, but slightly narrower than in males. Tergite 10 (Fig. 13) with very characteristic bilobed apical portion.

COMPARISON: *Quedius obliquiseriatus* is similar and apparently closely related to *Q. boluensis* from Turkey. Externally, it differs from *Q. boluensis* in its shorter elytra and lack of palisade fringe on abdominal tergite 7, two vertical punctures on each side of head (in contrast to one in *Q. boluensis*), and in absence of small punctures additional to posterior frontal puncture. Also the species can be easily separated by the structure of the aedeagus (relatively more slender median lobe, more slender and parallel-sided paramere, larger number of peg setae on the paramere in *Q. obliquiseriatus*). Apical margin of the female tergite 10 in *Q. obliquiseriatus* is characteristically bilobed (Fig. 13) whereas in *Q. boluensis* it is entire.

DISTRIBUTION AND BIONOMICS: *Quedius obliquiseriatus* is endemic to the north-western Caucasus. It inhabits forest litter in the mountains from the very foothills to the timber line (altitudes from 200-600 to 1600-1800 m).

Quedius lgockii ROUBAL, 1911

Quedius lgockii ROUBAL, 1911: 9; GRIDELLI 1924: 106; COIFFAIT 1963: 377; 1978: 260; SOLODOVNIKOV 1998: 342.

TYPE MATERIAL EXAMINED: **Syntypes:** 1 ♀, "Caucasus occ. (Krasnaja Polyana) [parenthetic locality printed in Russian] Roubal VII. 1910/ *Lgockii* m. Roubal det./ Typus mihi Roubal" (SNM); 1 ♀, "Caucasus occ. (Krasnaja Polyana) [parenthetic locality printed in Russian] Roubal VII. 1910/ Type/ *Lgockii* m. Roubal det./ *Lgockii* Cotypus" (FMNH) [RUSSIA: Krasnodar Territory].

In the original description of *Q. lgockii*, ROUBAL (1911) indicated two syntypes. I was able to examine both of them (one is kept in the FMNH, the other in SNM). The syntypes do not differ from each other in any significant feature and were collected in the same locality. They both serve equally for fixing the identity of the species. Therefore, no lectotype designation is provided here.

ADDITIONAL MATERIAL EXAMINED:

R U S S I A: KRASNODAR TERRITORY: 1 ♂, 2 ♀♀, SW slopes of Mt. Chugush, source of Berezovaja river, 2600-2700 m, alpine zone, under stones, 24.VII.1994, leg. A. Solodovnikov (cSol); 1 ♀, Achishkho range near Krasnaya Polyana, 20-11.VI.1975, leg. Dvořák (MNHN); REPUBLIC OF ADYGEJA: 1 ♀, Lagonaki plateau, 7-16.VIII.1992, leg. E. Khachikov (cKh); 6 ♂♂, 3 ♀♀, S slopes of Mt. Fisht near Cherkessky pass, 2000 m, subalpine zone, under stones, 25.VI.1994, leg. A. Solodovnikov (cSol); 1 ♂, 1 ♀, slope of Mt. Fisht, 3.VIII.1909 (ZIN); 2 ♀♀, Mt. Fisht, N slope, 1800 m, 7.VII.1999, leg. Putschkov (cSch).

G E O R G I A: 2 ♀♀, Western Abkhazia, valley of Psou river, 1800 m, 8.VII.1989, leg. A. Koval'; 1 ♂, Gagrsky range, Mt. Zontik, 2100 m, 27.VII.1988, leg. A. Koval'; 1 ♂, same data but 1.VIII.1988 (cKab).

REDESCRIPTION: Measurements and ratios (range, arithmetic mean; n = 9): HL: 1.28 - 1.43 (1.35); HW: 1.57 - 1.77 (1.66); PL: 1.74 - 1.94 (1.87); PW: 1.98 - 2.21 (2.14); EL: 1.61 - 1.86 (1.71); EW: 2.00 - 2.21 (2.13); FB: 5.0 - 5.6 (5.3); TL: 9.5 - 12 (10.4); HL/HW: 0.79 - 0.84 (0.81); PL/PW: 0.85 - 0.88 (0.87); EL/EW: 0.74 - 0.86 (0.80).

Body black; base of antennal segments 2-4, palpi and tarsi paler: brown to reddish-brown (sometimes antennal segments 3 - 11, apical margin of elytra, legs and posterior margin of abdominal tergites also brown); body glossy, abdomen and dark areas of tibiae iridescent. Forebody as in Fig. 20.

Head vaguely transverse [HL/HW: 0.79 - 0.84 (0.81)], temples about two times as short as longitudinal diameter of eye, posterior frontal puncture closer to posterior margin of head than to anterior frontal puncture; temporal puncture somewhat closer to posterior margin of eye than to posterior margin of head; vertical puncture closer to posterior margin of head than to posterior margin of eye; upper surface of head with microsculpture of transverse waves. Antennae moderately long; antennal segment 3 longer than segment 2, segments 4 - 10 gradually becoming shorter towards the apex of antenna, segments 8 - 10 obviously shorter than segments 4 - 6.

Pronotum slightly wider than long [PL/PW: 0.85 - 0.88 (0.87)], widest from its middle to hind quarter, narrowed anteriorly; hind angles broadly rounded; dorsal rows each with three punctures; sublateral rows each consisting of two punctures. Among the examined material, three specimens possess an additional (third) small posterior puncture in each sublateral row; one specimen has an additional puncture only in the right sublateral row; and yet another specimen has only one (anterior) puncture in sublateral row. Microsculpture of transverse oblique waves, except on anterior angles more or less reticulate.

Scutellum impunctate, with transverse microsculpture as on pronotum.

Elytra short, parallel-sided, wider than long [EL/EW: 0.74 - 0.86 (0.80)], vaguely shorter and narrower than pronotum; punctation very dense; pubescence brownish-gray; interspaces extremely glossy, with vague minute irregularities.

Wings vestigial.

Abdomen: tergite 7 without palisade fringe; punctation moderately dense, gradually becoming sparser towards apex of abdomen; pubescence as on elytra; interspaces with transverse irregularities.

Male. Protarsi with dilated tarsomeres 1 - 4. Sternite 7 with very slight emargination on the posterior margin; sternite 8 with bow-shaped medio-apical emargination; tergite 10 with rounded, weakly sclerotized apical margin; sternite 9 moderately elongate, with wide basal

portion and vaguely bilobed apical margin. Aedeagus (Figs. 14 - 16): apical portion of median lobe curved dorsally (Fig. 14). Apex of paramere almost reaching apex of median lobe, with two pairs of apical setae and two pairs of lateral setae very close to apex; with about 20-30 peg setae arranged in two lines (Fig. 16); internal sac with minute, weakly sclerotised structures.

Female. Protarsi with dilated tarsomeres 1 - 4. Abdominal tergite 10 with rounded apical margin.

COMPARISON: Based on external and genitalic characters, *Q. Igockii* seems to be related to a complex of species near *Q. ochropterus* ERICHSON, 1840. Apparently, its sister species is *Q. brachypterus* COIFFAIT. For comparison of *Q. Igockii* and *Q. brachypterus* see the latter species below.

DISTRIBUTION AND BIONOMICS: *Quedius Igockii* is endemic to the north-western Caucasus. All specimens were collected at the high altitudes in subalpine and alpine zones (2000 - 2700 m); those collected by me were taken from under stones.

Quedius brachypterus COIFFAIT, 1967

Quedius brachypterus COIFFAIT, 1967: 401; 1978: 220.

TYPE MATERIAL EXAMINED: **Holotype**: ♂, "Kaukas Leder/ c. Eppels. Steind. d./ *brachypterus*" (NMW) [? COUNTRY].

As follows from the original description of *Q. brachypterus* (COIFFAIT 1967), it was described based on a single species from the collection of Eppelsheim in Vienna. According to the original description, the holotype should bear the identification label of Eppelsheim ("*brachypterus*, type": Eppelsheim named that species but never described it). The specimen of *Q. brachypterus* kept in Eppelsheim's collection in NMW was not, however, marked as holotype and had only the label "*brachypterus*", which is obviously in Coiffait's handwriting. There is no doubt that this specimen from Eppelsheim's collection is the holotype. First, its geographical label conforms to the one mentioned in the original description. Second, the beetle was already dissected (evidently by Coiffait) for study of the aedeagus before my examination, and subsequently labelled by Coiffait (at that time apparently the original Eppelsheim identification label was replaced). In the collection of Coiffait in MNHN, however, there is another specimen of *Quedius* also marked as the holotype of *Q. brachypterus* (labelled as: "Svanetia, Mestia, forest, 1700, 4.VII.1968/ Holotype/ *Quedius brachypterus* Coiff. H. Coiffait det. 1968"). Regardless of how this confusion could have arisen, this specimen is by no means the holotype of *Q. brachypterus*. In fact, it belongs to a very similar but distinct species which is being described by me elsewhere (SOLODOVNIKOV, in prep.).

REDESCRIPTION: Measurements and ratios (n = 1): HL: 1.28; HW: 1.53; PL: 1.83; PW: 2.06; EL: 1.50 (0.78) EW: 2.10; FB: 4.7; TL: 9.5; HL/HW: 0.84; PL/PW: 0.88; EL/EW: 0.71.

Externally, *Q. brachypterus* is similar to *Q. Igockii*, but differs distinctly in its shape of pronotum, stronger narrowing anteriorly, and much shorter elytra (EL/EW: 0.74 - 0.86 (0.80) in *Q. Igockii*) (cf. Figs. 20, 21). The wings of *Quedius brachypterus* are also vestigial. Abdominal tergite 7 without palisade fringe.

Male. Protarsi with dilated tarsomeres 1 - 4. Sternite 7 without distinct apical emargination; sternite 8 and tergite 10 as in *Q. Igockii*; sternite 9 elongate, with wide and short basal portion and rounded apical margin. Aedeagus (Figs. 17 - 19): median lobe with apical 1/5 part somewhat curved dorsally, on dorsal side with tooth near apex. Apex of paramere slightly below apex of median lobe, apical portion of paramere with 4-5 apical setae and two pairs of lateral setae close to the apex with about 20 peg setae arranged in two lines (Fig. 17); internal sac with distinct areas of stronger sclerotization.

Female unknown.

COMPARISON: *Quedius brachypterus* is most similar to *Q. Igockii*. Externally it differs as described above. Although the aedeagi of both species share a similar plan, the aedeagus of *Q. brachypterus* is relatively larger, less curved dorsally, and has a more massive apical portion; the paramere has a relatively broader and obtuse apical portion. The male sternite 9 of *Q. brachypterus* is wider than in *Q. Igockii*.

DISTRIBUTION AND BIONOMICS: This species is known only from the holotype, for which there are no data about the exact locality (see above). Nothing is known of the habitat requirements of this species.

***Quedius korgeanus* FAGEL, 1968 stat.n.**

Quedius paradisianus korgeanus FAGEL, 1968: 124; COIFFAIT 1978: 272.

Quedius svaneticus COIFFAIT, 1969: 53; 1978: 273; DRUGMAND 1988: 205; SOLODOVNIKOV 1998: 343; **syn.n.**

Quedius orophilus DRUGMAND, 1988: 202; **syn.n.**

TYPE MATERIAL EXAMINED: *Quedius paradisianus korgeanus*: **Holotype**: ♂, "Anatolie occid. Abant Dagh. 1400-1550 m V.1967 G. Fagel/ *paradisianus korgeanus* nov. G. Fagel det./ Type" (IRSN); **paratypes**: 1 ♂, 3 ♀♀, same data as holotype (IRSN) [TURKEY].

Quedius svaneticus: **Holotype**: ♂, "Mestia, Ushba 2600 Swantetia [in Russian] 4. 7. 68/ Holotype/ Museum Paris 1985 Coll. H. Coiffait/ *Q. (Raphirus) svaneticus* Coiff. H. Coiffait det. 1968" (MNHN) [GEORGIA].

FAGEL (1968) considered *Q. korgeanus* a subspecies of *Q. paradisianus* (HEER, 1839) only because of the slight degree of differences between these two forms. Although the morphological difference between *Q. korgeanus* and *Q. paradisianus* is slight, it is quite distinct and stable. Therefore, there are no reasons for considering them as subspecies, and *Q. korgeanus* is raised here to the species level. Besides, the distributions of both *Q. korgeanus* and *Q. paradisianus* are not yet known in detail, making the concept of subspecies here even more ambiguous. (Numerous literature records of *Q. paradisianus* must be revised).

Examination of the holotype of *Q. svaneticus* revealed that it is conspecific with *Q. korgeanus*.

Type material of *Q. orophilus* was unavailable for study. However, the detailed original description, illustration of the aedeagus, and the area of distribution of *Q. orophilus* (DRUGMAND 1988) leaves no doubt about the synonymy of this taxon with *Q. korgeanus*.

ADDITIONAL MATERIAL EXAMINED:

R U S S I A: KRASNODAR TERRITORY: 7 ♂♂, Mt. Shessi, 1400 m, 29.V. - 26.VI. 1993, pitfall traps, leg. V. Shchurov (cSol); 7 ♀♀, 25 km NE of vill. Lazarevskoe, 1500 m, in forest litter, 31.05.1995, leg. A. Solodovnikov (cSol); 1 ♀, Mt. Bambak, 1900 m, timber line, 1.VI. - 1.IX. 1993, pitfall traps, leg. V. Shchurov (cSol); 2 ♀♀, same locality, but pitfall traps 21.VI-1.IX.1993, leg. A. Zamotaylov & V. Shchurov (cSol); 2 ♀♀, Mt. Maly Tkhach, S of vill. Bagovskaya, 1900-2000 m, 8.VI.1995, leg. A. Solodovnikov (cSol); 2 ♀♀, NW slopes of Mt. Severny Pseashkha, 2300 - 2500 m, alpine zone, under stones, 5.VIII.1994, leg. A. Solodovnikov (cSol); 2 ♀♀, W part of Aibgha range, S slopes, 1900 - 2400 m, subalpine zone, 27.VIII.1995, leg. V. Savitsky (cSol); 1 ♀, Krasnaya Polyana, leg. Roubal VII.1910 (SNM); REPUBLIC OF ADYGEJA: 2 ♀♀, Lagonaki plateau, Azish-Tau range, 1500 m, 27.VIII.1994, near forest creek, leg. A. Solodovnikov (cSol); 1 ♂, Lagonaki plateau, Kamennoe More range, 1900 m, timber line, in litter, 14.VI.1995, leg. A. Solodovnikov (cSol); 1 ♀, same data, but under stone near snowfield (cSol); 1 ♀, Lagonaki plateau, Nagoi-Tschuk range, 1900 - 2400 m, 30.V.1994, leg. A. Zamotaylov (cSol); 1 ♀, Lagonaki plateau, N slopes of Mt. Oshten, 2000 - 2100 m, 8.VII.1993, leg. V. Savitsky (cSol); 1 ♂, Lagonaki plateau, 20.VII.1991, leg. E. Khachikov (cKh); 1 ♂, same data, but 18.VI.1992; 1 ♀, same data, but 10.VIII.1992 (cKh), 1 ♂, same data, but 28.VI.1996 (cKh); 2 ♀♀, Mt. Fisht, 1900 m, alpine zone, 11.VIII.1992, leg. I. Solodovnikov (cSol); 1 ♀, Caucasian Nature Preserve, Polyana Stadnika, 1400 m, hornbeam forest, 12.VIII.1992, leg. I. Solodovnikov (cSol); 1 ♀, 8 - 10 km NWW of vill. Guzeripl, 1400 - 1600 m, forest zone, 7.VII. 1993, leg. V. Savitsky (cSol); 2 ♂♂, 10 km E of vill. Guzeripl, 1800 m, *Fagus-Abies* forest, 6-15.VIII.1993, pitfall traps, leg. I. Solodovnikov (cSol); 1 ♂, 4 ♀♀, Mt. Fisht, N slope, 1800 m, 7.VII.1999, leg. Putchkov (cSch); 1 ♀, "Caucas. occid. Abago, Starck" (NMW);

- KARACHAEVO-CHERKESSIA: 3 ♀♀, upper course of Bolshaya Laba river near vill. Pkhiya, 1700 m, in moist forest litter, 8. - 9.VIII.1995, leg. A. Solodovnikov (cSol); 1 ♂, Urup river source near Mt. Urup, 2000 m, timber line, in litter, 10.VIII. 1995, leg. A. Solodovnikov (cSol); 1 ♂, same locality, but 1900 m, pine forest, under stone, 11. - 12.VIII.1995, leg. A. Solodovnikov (cSol); 1 ♀, W slopes of Arkasara range, 1900 - 2100 m, VIII.1992, leg. V. & M. Savitsky's (cSol); 1 ♂, 1 ♀, Arkasara ridge, 20. - 27.VI.1997, leg. A. Narkevich (cKh); 1 ♀, Marg. Syrty range, Chygardaly pass, 2400 m, 22.VI.1992, leg. V. Grebennikov (cSol).
- G E O R G I A: 2 ♀♀, Abkhazia, Avadkhara, 2000 - 2800 m, 8. - 13.VII.1982, leg. Wrase & Schülke (cSch); 1 ♂, "Caucasus, Tbatani 79 Leder" (Reitter) (NMW); 1 ♂, 1 ♀, 129 km of Batumi across Goderzi pass, bank of the creek, in wet moss, 9.VI.1977, leg. A. Petrenko (IZK); 1 ♀, Kasbek, 2.VI.1908, 7000 F [2100 m], leg. A. Zolotarev (ZIN); 1 ♀, "Kaukas Leder, östl. vom Kasbek" (NMW); 1 ♂, 3 ♀♀, Trialetsky Range, Bakuriani, 1800 - 2200 m, 3. - 7.VII.1986, leg. Wrase & Schülke (cSch).
- A R M E N I A: 1 ♂, Kadzharan, 2300 m, subalpine meadow, under stones, 15.VI.1977, leg. A. Petrenko (IZK); 4 ♂♂, 2 ♀♀, same locality, but 16.VI.1977, bank of creek near snowfield, in wet moss (IZK).
- A Z E R B A I J A N: 3 ♀♀, "Kaukas Leder, Helendorf [Khanlar]" (NMW); 1 ♀, river Damir-Aparanchay, 13. - 14.VII.1994, leg. M. Savitsky (cSol).
- ? A Z E R B A I J A N or A R M E N I A: 1 ♂, Mt. Chagla-Dara near Mt. Kapudzhikh-Nakh, 28.VI.1933, leg. Znoyko (ZIN); 1 ♂, Elisu, Mt. Takhtala, Karsk [?"Karsk" illegible], 24.VII.1934, leg. Bogachev (ZIN).
- T U R K E Y: 1 ♀, "Turcia" (NMW); 1 ♂, Lazistan Range, 5 km E of Soganli Pass, 2000 - 2200 m, 15.VI.1996 leg. I. Belousov & G. Davidyan (cGus); 1 ♀, Kalkanli Mts., NW slopes, 8 km SE of Zigana Pass, 1900 - 2100 m, alpine zone, 9.VI.1998, leg. A. Solodovnikov (cSol); 11 ♀♀, Kalkanli Mts., 15 km SE of Zigana Pass, 2300 - 2500 m, alpine zone, in debris at the snowfield, 10.VI.1998, leg. A. Solodovnikov (ZIN, cSol).

COMPARATIVE COMMENTS: Externally, *Q. korgeanus* is practically identical with *Q. paradisianus*. Also, both species share the same plan of the aedeagus structure. However, unlike *Q. paradisianus*, the aedeagus of *Q. korgeanus* has thinner apical portion and longer and slenderer paramere (cf. Figs. 22-28). Based on my examination of the holotype of *Q. rodopianus* COIFFAIT, 1971 this species is identical with *Q. korgeanus* in all features but apical portion of the aedeagal median lobe, which is slightly shorter in *Q. rhodopianus*. It is possible that these species are in fact conspecific. However, more material of *Q. rhodopianus* should be examined in order to assess the variability and make a conclusion about its status.

DISTRIBUTION AND BIONOMICS: Based on earlier records (FAGEL 1968; COIFFAIT 1969; DRUGMAND 1988; SOLODOVNIKOV 1998) and newly examined material, *Q. korgeanus* is widely distributed in the mountains of northern Turkey and Transcaucasia. In the north-western Caucasus, *Q. korgeanus* penetrates also the northern slopes of the Caucasus Major, but, in the north of the Caucasus Major, its easternmost records do not exceed Karachaevo-Cherkessia. The distribution of *Q. svanetianus* presented in DRUGMAND (1988) as "Caucasus and Eastern Alps" apparently represents an error.

Quedius korgeanus is a polytopic montane species inhabiting a wide range of landscapes on elevations from about 1400 - 2500 m: montane forests, subalpine and alpine meadows. In the forest, *Q. korgeanus* has been taken from leaf litter, under stones, often in wet habitats such as debris along small forest creeks. In open landscapes of the alpine and subalpine zones, *Q. korgeanus* is common in wet debris at the edges of snowfields, under stones, in debris and moss at stream-edges.

***Quedius nitipennis* STEPHENS, 1833**
(*Quedius attenuatus* (GYLLENHAL) sensu auctorum)

Quedius nitipennis STEPHENS, 1833: 242; TOTTENHAM 1948: 249; LOHSE 1964: 218; COIFFAIT 1978: 269; HERMAN 2001a: 30.

Quedius attenuatus: HORION, 1965: 303.

Quedius acuminatus khnzoriani COIFFAIT, 1967: 423; 1978: 265; **syn.n.**

TYPE MATERIAL EXAMINED: *Quedius acuminatus khnzoriani*: **Holotype**: ♂, "Aragats Karagel, 3200 m ASSR [Armyanskaya Soviet Socialist Republic, now Republic of Armenia] 28.8.48 [in Russian]/ Holotype [red label]/ *Q. acuminatus ssp. khnzoriani* Coiff. H. Coiffait det. 1963" (MNHN) [ARMENIA].

Examination of the holotype of *Q. acuminatus khnzoriani* (the holotype is a somewhat general specimen) confirmed the suspicion that this taxon is conspecific with *Q. nitipennis*.

ADDITIONAL MATERIAL EXAMINED:

R U S S I A: REPUBLIC OF ADYGEJA: 6 ♂♂, 3 ♀♀, 8 - 10 km NWW of vill. Guzeripl' 1400 - 1600 m, forest zone, 7.VII.1993, leg. V. Savitsky (cSol); 2 ♂♂, 1 ♀, Lagonaki plateau, northern slopes of Mt. Oshten, 2000 - 2100 m, 8.VIII.1993, leg. V. Savitsky (cSol); 1 ♀, Lagonaki plateau, 18.VIII.1992, leg. E. Khachikov (cKh); **KARACHAEVO-CHEKKESSIA:** 1 ♂, SW slopes of Kyrylbashi range, alpine zone, 2700 m, 25.VI.1993, leg. A. Solodovnikov (cSol); 1 ♂, 1 ♀, valley of river Dzhenaik 15 km SW of vill. El'brussky, 2000 m, forest zone, 21.VI.1993, leg. A. Solodovnikov (cSol); 9 ♂♂, 3 ♀♀, S slopes of Mt. Bermamyt, 2400 m, 27.VIII.1996, leg. V. Savitsky (cSol); 1 ♀, N-Kaukasus, Teberda, 17.VI.1968, leg. F. Hieke (MNHUB); **KABARDINO-BALKARIA:** 4 ♂♂, 1 ♀, Bezengi, pitfall traps 1992, leg. A. Zamotaylov & V. Shchurov (cSol); **NORTH OSETIA:** 2 ♂♂, near pass Khizniaush, 2500 - 2600 m, 10.VI. - 31.VII.1993 pitfall traps, leg. A. Zamotaylov & V. Shchurov (cSol); 4 ♂♂, near pass Zgid, 2.VIII.1993 pitfall traps, leg. A. Zamotaylov & V. Shchurov (cSol); 3 ♂♂, 1 ♀, Skalysty range, Mt. Kionhoh, 2900 m, 11.VI. - 1.VIII.1993 pitfall traps, leg. A. Zamotaylov & V. Shchurov (cSol); 1 ♂, Kazbegi, 1800 - 2500 m, 1. - 7.VII.1988 leg. Wrase (cSch). **G E O R G I A:** 1 ♂, Akhieli, Khevsuretia, 27.VIII.1928, leg. Kirshenblat (ZIN); 2 ♂♂, Bakuriani, Distr. of Borzhomi, 27.VII.1947, leg. Bogachev (ZIN); 8 ♂♂, 1 ♀, Trialetsky range, Bakuriani, 1800 - 2200 m, 15. - 20.VI.1987, leg. Wrase & Schülke (cSch, MNHUB). **A R M E N I A:** 1 ♂, Khosrov Nature Preserve, 1400 m, 6.VI.1982, leg. M. Nesterov (IZK); 2 ♂♂, environs of Kadzharan, bank of creek, in wet moss, 2300 m, 16.VI.1977, leg. A. Petrenko (IZK); 1 ♂, 32 km SE of Vanadzor, above Fioletovo village, 40°42.52'N 44°44.37'E, ca. 1730 m, puddles on boggy ground (*Sphagnum*-like moss), mud, decaying leaves, under stones, 20.V.2001, leg. Shaverdo & Schillhammer (NMW); 1 ♂, 1 ♀, Mt. Aragats, S - slope, NW of Byurakan, nr. Amberd, 40°24.34'N 44°13.65'E, ca. 2100 m, 6.V.2001, leg. Shaverdo & Schillhammer (NMW).

Many references to this species were incorrectly cited as *Q. attenuatus* (GYLLENHAL), which is a nomen nudum (HERMAN 2001a). It was described, keyed and illustrated multiple times, e.g. TOTTENHAM (1948), LOHSE (1964), COIFFAIT (1978).

DISTRIBUTION AND BIONOMICS: Based on vast literature, *Q. nitipennis* has a wide distribution in the West Palearctic (practically all Europe, western and central Siberia, northern Africa, Asia Minor, Caucasus). Records from outside central Europe, however, are scanty. Although this species was recorded from the Caucasus, no exact data on its distribution within this area were ever published. The records provided here cover practically the whole territory of the Caucasus.

All specimens examined here were collected in mountainous, elevated sites (from 1400 to 2900 m). *Quedius nitipennis* is polytopic and inhabits mountainous forests, subalpine and alpine meadows. It occurs in moist biotopes: aggregations of wet litter in the forest, banks of rivers and creeks, moist edges of snowfields. Noteworthy, that the bionomics of *Q. nitipennis* in the Caucasian area fits a general pattern described for this species by HORION (1965), i.e. occurrence only in the mountainous, elevated habitats in the southern part of its range.

***Quedius semiobscurus* (MARSHAM, 1802)**
(*Quedius rufipes* (GRAVENHORST) sensu ERICHSON, 1840;
"*Quedius rufipes* ERICHSON" sensu auctorum)

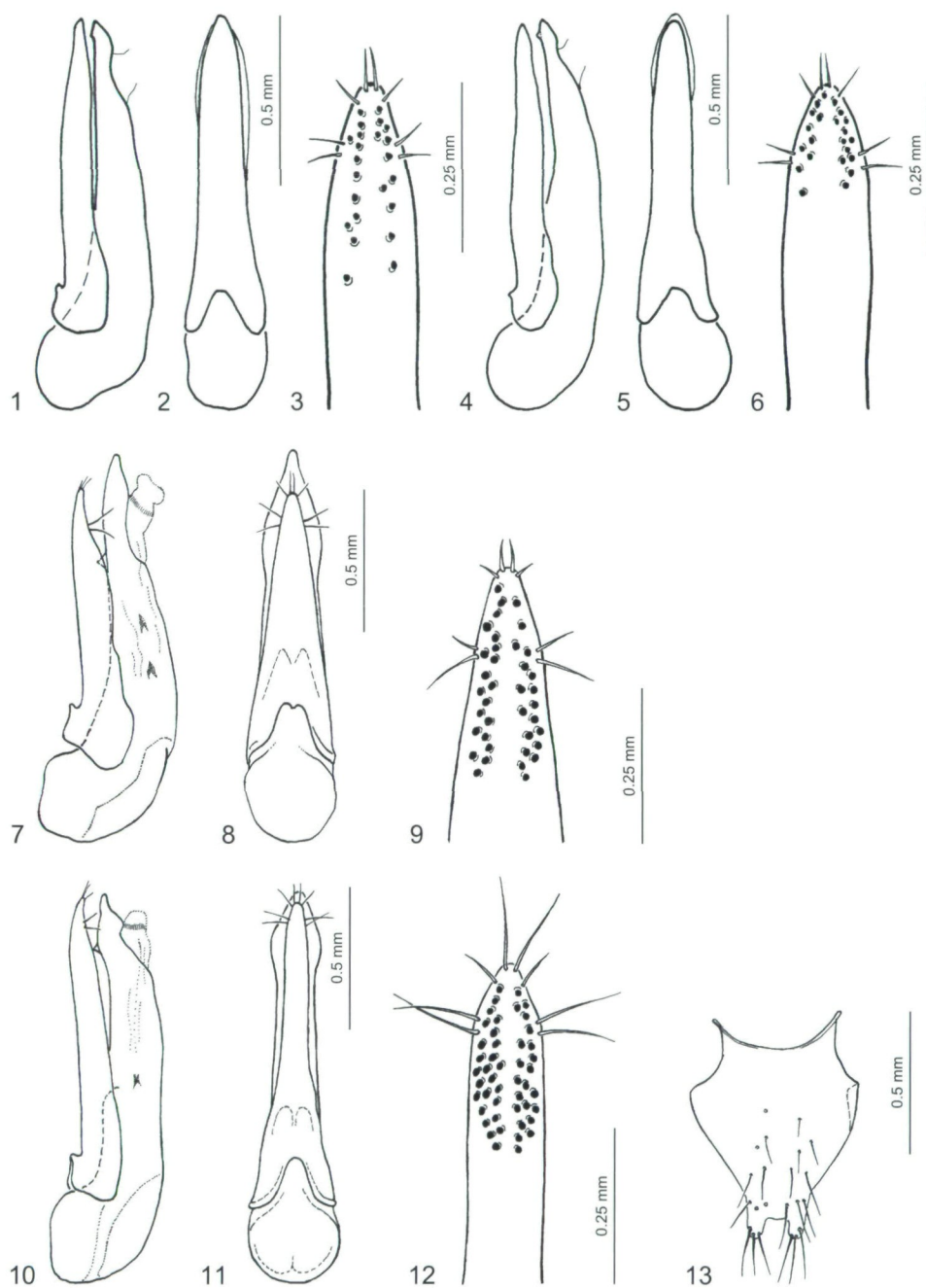
Staphylinus semiobscurus MARSHAM, 1802: 512.

Quedius semiobscurus: TOTTENHAM 1948: 245; LOHSE 1964: 217; COIFFAIT 1978: 275; BOHÁČ 1988: 557.

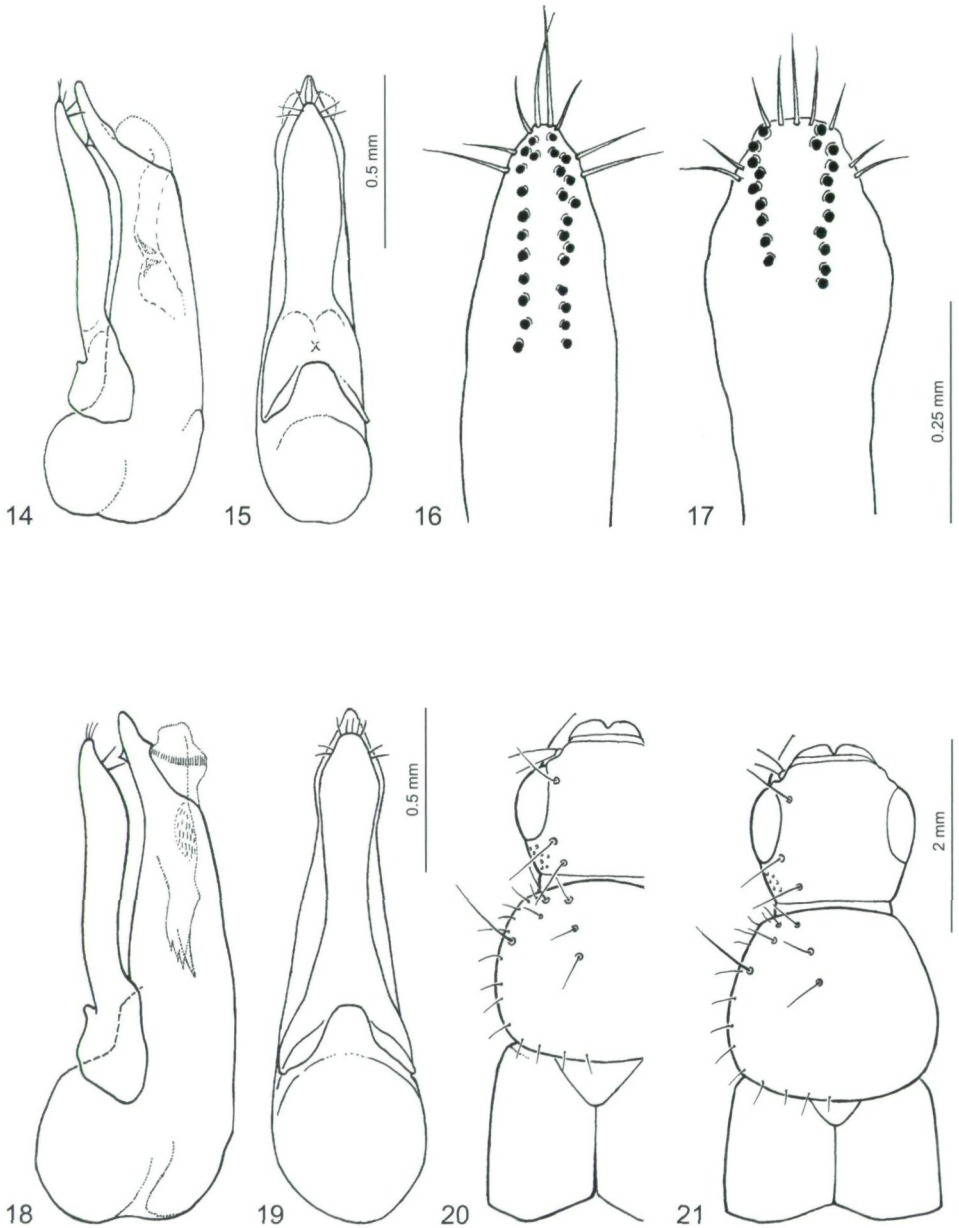
Quedius rufipes ssp. *lutzi* REITTER, 1909: 115; **syn.n.**

Quedius velutinus MOTSCHULSKY, 1860: 571; BOHÁČ 1988: 557 (syn. of *Quedius semiobscurus*) [here confirmed].

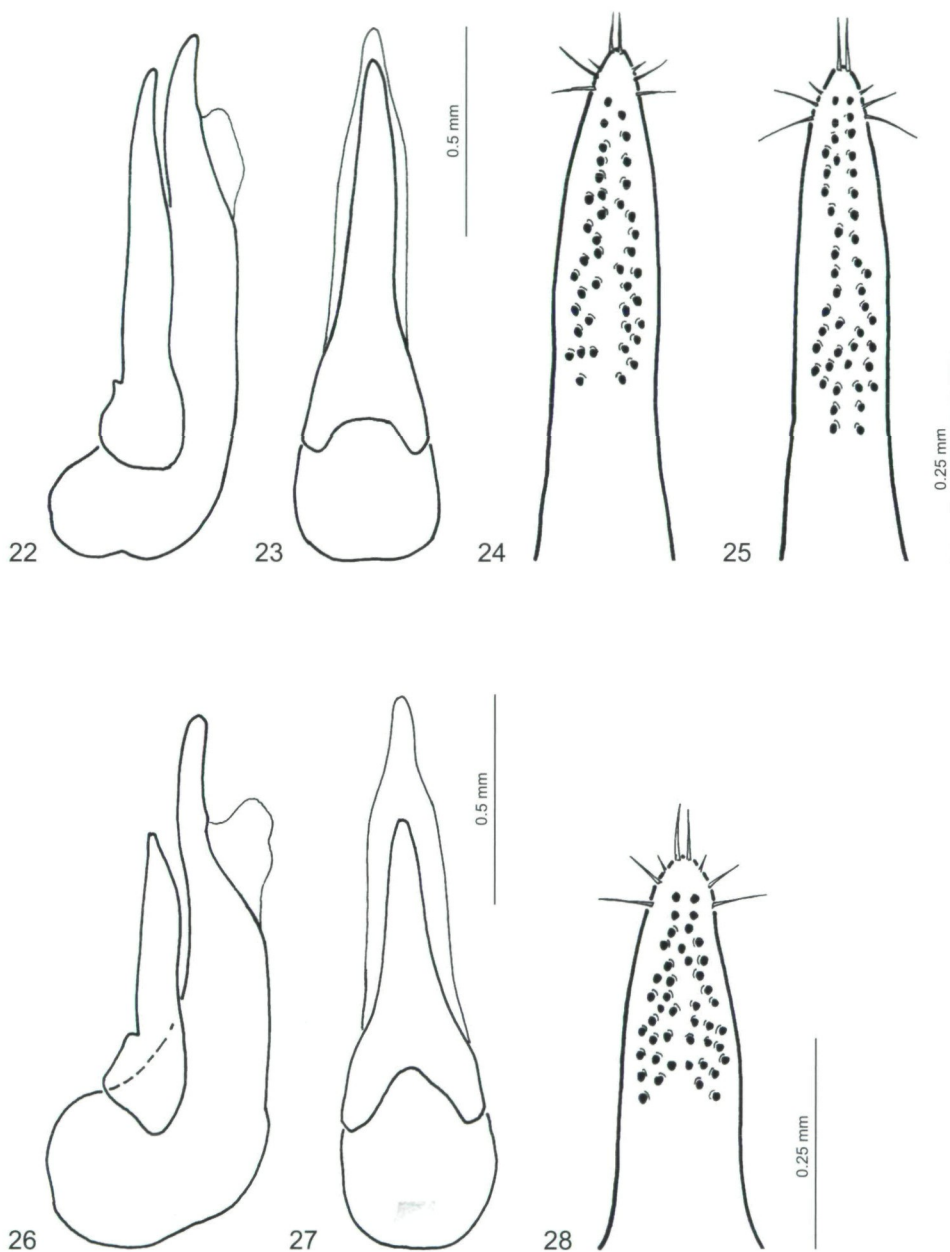
TYPE MATERIAL EXAMINED: *Quedius velutinus*: **Lectotype** (here designated): ♀, "Timirhan Schura Schirvan/*Quedius velutinus* mihi Schirvan Daghestan" (ZMMU); **paralectotype**: 1 ♀ (very damaged by pests), "Schirvan/*velutinus*" (ZMMU) [RUSSIA: Dagestan].



Figs. 1 - 13: *Quedius gemellus* (1-3), *Q. cohaesus* (4-6), *Q. boluensis* (7-9) and *Q. obliqueseriatus* (10-13): 1, 4, 7 10: aedeagus laterally; 2, 5, 8, 11: aedeagus dorsally; 3, 6, 9 12: apical portion of paramere ventrally; 13: female abdominal tergite 10.



Figs. 14 - 21: *Quedius lgoeckii* (14-16, 20) and *Q. brachypterus* (17-19, 21): 14, 18: aedeagus laterally; 15, 19: aedeagus dorsally; 16, 17: apical portion of paramere ventrally; 20, 21: outlines of forebody.



Figs. 22 - 28: *Quedius korgeanus* (22-25) and *Q. paradisianus* (26-28): 22, 26: aedeagus laterally; 23, 27: aedeagus dorsally; 24, 25, 28: apical portion of paramere ventrally.

Quedius rufipes ssp. *lutzi*: **Lectotype** (here designated): ♂, "Caspi.-M.-Gebiet Liryk. Leder (Reitter)/ coll. Reitter/ Holotypus *Quedius ruficeps* [sic!] ssp. *lutzi* Reitter 1909 [red standard printed label of later curators]/ *Quedius lutzii* [sic!] m. 1907 [in Reitter's handwriting]" (HMNH); **paralectotype**: ♀, "Lenkoran Leder (Reitter)/ coll. Reitter/ Paratypus *Quedius ruficeps* [sic!] ssp. *lutzi* Reitter 1909 [red standard printed label of later curators]" (HMNH) [AZERBAIJAN].

Of two female specimens in the collection of Motschulsky which, according to the labels and original description (MOTSCHULSKY 1860), are syntypes, one specimen is severely destroyed by pests. In order to fix the identity of *Q. velutinus*, the remaining safe specimen is designated as lectotype. Both syntype specimens of *Q. velutinus* are conspecific with *Q. semiobscurus* (MARSHAM). Thus, the earlier established synonymy of *Q. velutinus* MOTSCHULSKY, 1860 and *Q. semiobscurus* (MARSHAM, 1802) (BOHAČ 1988) is here confirmed. BOHAČ (1988), however, indicated that he studied the holotype of *Q. velutinus*, which is not correct because no holotype was designated in the original description.

In the brief original description of *Q. rufipes* ssp. *lutzi*, REITTER (1909) did not specify the number of syntypes and indicated the type locality as "Transkaukasus, Lenkoran". In the collection of HMNH, there are four specimens of *Q. rufipes* ssp. *lutzi* collected by Leder in the Caucasus. All mentioned specimens belong to *Q. rufipes* ssp. *lutzi* REITTER. However, two of these specimens bear the geographical labels "Daghestan", which conflicts with the indicated type locality. Of the remaining two specimens, a male bears the locality label "Caspi.-M.-Gebiet Liryk" and the identification label of Reitter, whereas a female is labelled as "Lenkoran" and has no identification label by Reitter. Both latter specimens can be considered as syntypes; "Liryk" (Lerik) is about 30 km W of Lenkoran, whereas the locality "Lenkoran" in the original description means rather an area around well-known toponym Lenkoran, but not exactly a populated place Lenkoran. Of two syntypes, the male specimen is designated here as lectotype. The male lectotype is designated because of the importance of male sexual characters for species diagnostics in *Quedius*. It should be noted that all 4 mentioned specimens were incorrectly marked as holotype and paratypes by subsequent curators of the HMNH. Lectotype designation also is done to avoid this confusion.

Specimens of *Q. rufipes* ssp. *lutzi* from "Lenkoran", "Liryk" and "Daghestan" (from Reitter's collection) are in average somewhat paler (especially pronotum) than the rest of the sample of *Q. semiobscurus* examined here (including specimens from European and Turkish localities which are not listed in the "Material examined" section). REITTER (1909) described *Q. rufipes* ssp. *lutzi* based exclusively on this peculiarity of body colour. However, in structure of the aedeagus and all external characters except coloration, the subspecies *lutzi* does not differ from the nominate form of *Q. semiobscurus*. Colour of the body (head, pronotum, elytra, abdomen) of *Q. semiobscurus* is rather variable, pronotum often being relatively paler. Thus, *Q. semiobscurus lutzi* is placed in synonymy.

ADDITIONAL MATERIAL EXAMINED:

R U S S I A: KRASNODAR TERRITORY: 1 ♂, 2 ♀♀, upper course of river Afips, 24.IX.1949, leg. K. Arnoldi' (ZMMU); 1 ♀, vill. Ubinskaya, 17.IX.1949, leg. K. Arnoldi' (ZMMU); 1 ♀, Tuapsinsky Distr., 22.V.1954, leg. K. Arnoldi' (ZMMU); D A G E S T A N: 1 ♂, 1 ♀, "Daghestan Leder. Reitter" (HMNH); 13 ♂♂, 15 ♀♀, vill. Agychaul near Makhachkala, 18.VII.1997, leg. E. Khachikov (ZIN, cKh, cSol).

G E O R G I A: 2 ♀♀, Trialetsky range, Bakuriani, 1800-2200 m, 15.-20.VI.1987, leg. Wrase & Schülke (MNHUB).

A Z E R B A I J A N: 1 ♂, 1 ♀, "Paleton 1200', Astar. r. Talysh", 17.VII.1932, leg. Znoyko (ZIN); 1 ♀, Mt. Nyudisgalasi 1900', 22.VII.1932, leg. Znoyko; 1 ♀, Bilyasar, Talysh, 800-1000 m, 7.VI.1936, leg. Arnoldi' (ZIN); 1 ♂, Mt. Nyudi-galasi, E slopes, Talysh, 1400 m, Arnoldi', 12.VI.1936 (ZIN); 1 ♂, Lyulyakeryan, Zuvant, 3.VIII.1932, leg. Znoyko (ZIN).

This species is also often cited as "*Q. rufipes* ERICHSON" in the literature. This is incorrect because, firstly, ERICHSON (1840) only redescribed the species described earlier by

GRAVENHORST (1802). Secondly, the Gravenhorst name *Staphylinus rufipes* for that species was preoccupied (HERMAN 2001b). *Quedius semiobscurus* has been described, keyed and illustrated multiple times, e.g. TOTTENHAM (1948), LOHSE (1964), COIFFAIT (1978).

DISTRIBUTION AND BIONOMICS: *Quedius semiobscurus* is distributed in Europe (except northern), in the Mediterranean region (including northern Africa), in the Caucasus and in the west of the Middle East. Records from outside Europe, however, are very scanty and the degree of reliability for all distributional data varies.

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Zeitschrift/Journal: [Koleopterologische Rundschau](#)

Jahr/Year: 2004

Band/Volume: [74_2004](#)

Autor(en)/Author(s): Solodovnikov Alexey Yurevitch

Artikel/Article: [Taxonomy and faunistics of some West Palearctic Quedius STEPHENS subgenus Raphirus STEPHENS \(Coleoptera: Staphylinidae: Staphylininae\). 221-243](#)