

**A review of the genus *Bietia* with a description
of a new species from Yunnan, China
(Coleoptera: Scarabaeidae: Cetoniinae: Goliathini)**

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Abstract. A new species of the goliathine genus *Bietia* Fairmaire, 1898, *B. naxiorum* sp. nov., is described from the mountains in northwestern Yunnan (China). It is compared with two other species of the genus known so far, *B. rudicollis* Fairmaire, 1898 and *B. simillima* Fairmaire, 1898. The following new synonymy is proposed: *Bietia rudicollis* Fairmaire, 1898 = *Atropinota funkei* Heller, 1923, syn. nov. A lectotype is designated for *A. funkei*. Dorsal habitus and diagnostic characters on the male external genitalia of all three species of *Bietia* are illustrated. A diagnosis of the genus and a key to species are provided. The systematic position of *Bietia* among the known genera of the Oriental and Palaearctic Goliathini is shortly discussed. A brief description of the habitat of *B. naxiorum* sp. nov. as well as notes on its ground-dwelling habits are given; a ground-dwelling behaviour of adults is recorded for the first time in the Asian Goliathini.

Key words. Coleoptera, Scarabaeidae, Cetoniinae, Goliathini, Coryphocerina, *Bietia*, *Atropinota*, *Petrovitzia*, taxonomy, new species, new synonymy, lectotype designation, identification key, ground-dwelling behaviour, China, Palaearctic Region

Introduction

On numerous field trips of Czech entomologists to China, a relatively large number of representatives of the cetoniine genus *Bietia* Fairmaire, 1898 were found at high altitudes of northwestern Yunnan. In this material, we have found one species unknown to science

which is described in this paper. In this context, we also discuss the systematic position of the genus *Bietia*.

Bietia is currently placed in the subtribe Coryphocerina of the tribe Goliathini (KRIKKEN 1984) which – in the sense of KRIKKEN (1984) – contains approximately 425 known species (KRAJČÍK 1998, ŠÍPEK et al. 2008). The distribution of the Goliathini is pantropical (KRIKKEN 1984) with only a relatively small number of taxa reaching the transition zone between the Palaearctic and the Oriental zoogeographical regions in China and the Russian Far East (MEDVEDEV 1964, MA 1995).

Bietia was established by FAIRMAIRE (1898) for two new species, *B. rudicollis* Fairmaire, 1898 and *B. simillima* Fairmaire, 1898, both from western China (Sichuan), and originally placed near *Ichnestoma* Gory & Percheron, 1833 (spelled as '*Ischnostoma*') in the tribe Goliathini. Also SCHENKLING (1921) placed *Bietia* in the subtribe Ichnestomina (spelled as '*Ischnostomina*') of the Goliathini (in his catalogue, *Bietia* is, however, separated from the other genera of the subtribe by a line which possibly indicates his doubts about this placement). MEDVEDEV (1964) subsequently designated *Bietia rudicollis* as the type species of the genus. KRIKKEN (1984) placed *Bietia* in the tribe Goliathini, subtribe Coryphocerina [former Heterorrhini, see e.g. MIKŠIĆ (1977)] and proposed two other taxa as its synonyms: he formally placed the genus *Atropinota* Heller, 1923 in synonymy with *Bietia* and considered *Petrovitzia* Mikšić, 1965 as a possible synonym of *Bietia*. The synonymization of *Atropinota* with *Bietia* remained, however, overlooked by subsequent authors (KRAJČÍK 1998, SMETANA 2006).

The genus *Atropinota* was established by HELLER (1923) for a single species, *A. funkei* Heller, 1923, from the same region in Sichuan from which *Bietia* was described, and placed near the genus *Epicometis* Burmeister, 1842 (currently a subgenus of *Tropinota* Mulsant, 1842) in the tribe Cetoniini. This placement of *Atropinota* was followed by all later authors (WINKLER 1929, MEDVEDEV 1964, KRAJČÍK 1998, SMETANA 2006) except KRIKKEN (1984) who synonymized it with *Bietia* (see above).

The genus *Petrovitzia* was established by MIKŠIĆ (1965) for a single species, *Cetonia guillotii* Fairmaire, 1891, standing hitherto in the genus *Protaetia* Burmeister, 1842 (SCHENKLING 1921, WINKLER 1929, MEDVEDEV 1964), and placed in the Cetoniini. MIKŠIĆ (1977) placed *Petrovitzia guillotii* in the former Heterorrhini near *Moseriana* Ruter, 1965, noted its similarity to *Bietia* and discussed a possible placement of *Petrovitzia* as a subgenus of *Bietia* (MIKŠIĆ 1977: 183, 360) which was later accepted by KRAJČÍK (1998). KRIKKEN (1984) regarded *Petrovitzia* as a possible synonym of *Bietia*. Additionally, *Moseriana rugulosa* Ma, 1990 was synonymized with *Petrovitzia guillotii* by ANTOINE (1995). ALEXIS & DELPONT (2001: 26) considered *Petrovitzia* as a valid genus very similar to *Moseriana* and *Mawenzhena* Alexis & Delpont, 2001. The status of *Petrovitzia* as a valid genus was accepted also by SMETANA (2006). In our opinion, *Moseriana* represents an intermediate morphological form between *Bietia* and *Petrovitzia*. For the time being, we prefer to keep *Petrovitzia* as a separate genus pending a detailed revision of the generic concepts of all three genera. For this reason, *Petrovitzia* is not treated below in the taxonomic part. *Petrovitzia guillotii* is distributed in lower altitudes of the Chinese provinces of Hubei (FAIRMAIRE 1891, MA 1990), Sichuan and Yunnan (MIKŠIĆ 1977, MA 1990), and in northern Vietnam (S. Jákl, unpublished data), i.e. east and southeast of the range of *Bietia*.

Material and methods

The following codens of institutional and private collections are used in the text:

BMNH	Natural History Museum, London, United Kingdom;
DEI	Deutsches Entomologisches Institut, Müncheberg, Germany;
DKCP	David Král collection, deposited in NMPC;
KSCT	Kaoru Sakai collection, Tokio, Japan;
MKCP	Milan Krajčák collection, Plzeň, Czech Republic;
MNHN	Muséum national d'Histoire naturelle, Paris, France;
NMPC	National Museum, Praha, Czech Republic;
SJCP	Stanislav Jákl collection, Praha, Czech Republic;
SMTD	Senckenberg Naturhistorische Sammlungen, Staatliches Museum für Tierkunde, Dresden, Germany;
ZFMK	Zoologisches Forschungsmuseum Alexander Koenig, Bonn, Germany;
ZMHB	Museum für Naturkunde, Humboldt-Universität, Berlin, Germany.

Specimens of the newly described species are provided with one printed red label: 'Bietia naxiorum sp. nov., HOLOTYPUS [or ALLOTYPUS or PARATYPUS, respectively], sex symbol, Stanislav Jákl, David Král & Vítězslav Kubáň det. 2010'. Exact label data are cited for the material examined, individual labels are indicated by a double slash (//), individual lines of every label by a single slash (/). Authors' remarks and additional comments are placed in square brackets: [p] – preceding data within quotation marks are printed; [h] – preceding data within quotation marks are handwritten. Information in ('brackets') following the type locality indicates the original spelling in the original description.

We used a SZX 12 Olympus stereomicroscope with an attached camera for taking photographs of the adult habitus and the male genitalia.

The following additional specimens were compared with the species of *Bietia* reviewed in this paper (all are deposited in SJCP): *Petrovitzia guillotii* (Fairmaire, 1898) (55 specimens), *Moseriana mai* Alexis & Delpont, 2001 (1 ♂ 2 ♀♀), *M. longipilosa* Ma, 1990 (1 ♂ 1 ♀), *Mawenzhena nitida* Ma, 1990 (1 ♂), *Cosmiomorpha (C.) decliva* Janson, 1890 (2 ♂♂ 3 ♀♀), *C. (C.) modesta* Saunders, 1852 (10 ♂♂ 10 ♀♀), *C. (C.) sauteri* Bourgoïn, 1931 (10 ♂♂ 10 ♀♀), *C. (Microcosmiomorpha) horni* Bourgoïn, 1931 (2 ♂♂), *C. (M.) setulosa* Westwood, 1854 (120 specimens), *C. (M.) similis* Fairmaire, 1899 (50 specimens), *C. (M.) taiwanomontana* Masumoto & Sakai, 1988 (paratypes, 2 ♂♂, 1 ♀).

Taxonomy

Genus *Bietia* Fairmaire, 1898

Bietia Fairmaire, 1898: 385. Type species: *Bietia rudicollis* Fairmaire, 1898, subsequent designation by Medvedev (1964: 37).

Bietia: SCHENKLING (1921): 81 (catalogue; in Goliathini: Ichneostomina); WINKLER (1929): column 1119 (catalogue; in Goliathini); MEDVEDEV (1964): 37 (diagnosis; type species designation; in Goliathini); MIKŠIĆ (1977): 380 (diagnosis; in former Heterorrhini); KRIKKE (1978): 263 (note on distribution; in 'Ischnostomina'); KRIKKE (1984): 55 (list; in Goliathini: Coryphocerina); SAKAI & NAGAI (1998): 234 (note in Japanese), 382 (note in English); KRAJČÍK (1998): 19 (catalogue; in Goliathini: Coryphocerina); SMETANA (2006): 301 (catalogue; in Goliathini: Coryphocerina).

Atropinota Heller, 1923: 78. Type species: *Atropinota funkei* Heller, 1923, by monotypy.

Atropinota: WINKLER (1929): column 1120 (catalogue; in Cetonini); MEDVEDEV (1964): 104 (diagnosis; in Cetonini); KRIKKEEN (1984): 55 (synonymized with *Bietia*); MA (1995): 110, fig. 88 (description; as valid genus in Cetonini); KRAJČÍK (1998): 25 (catalogue; as valid genus in Cetonini: Cetonina); SMETANA (2006): 284 (catalogue; as valid genus in Cetonini: Cetonina).

Diagnosis. Colour. Head and pronotum black, elytra blackish to brownish; antennae moderately elongated; pronotal punctation dense, with puncture diameter larger than width of interspaces on most of its surface; posterior margin of pronotum straight or with very shallow emargination at scutellar shield; elytra with flat and obtuse, uniform or irregularly interrupted costae; humeral calli flat and obtuse, apical calli very obtuse or missing; subhumeral emargination rather shallow, deepest point at level of metepimeron; sutural ridge obtusely elevated in the posterior third, its termination not sharp, not protruding over elytral apex; metaventricle, prosternum and mentum always with long yellowish setation; meso-metaventral process small, terminated with not protruding obtuse keel; abdomen of males constricted, with indistinct medial furrow; protibia bi- or tridentate, metatibia with carina in the apical third; tarsi elongated, especially in males; genitalia simple, parameres running parallelly.

***Bietia naxiorum* sp. nov.**

(Figs. 1, 2, 5–10)

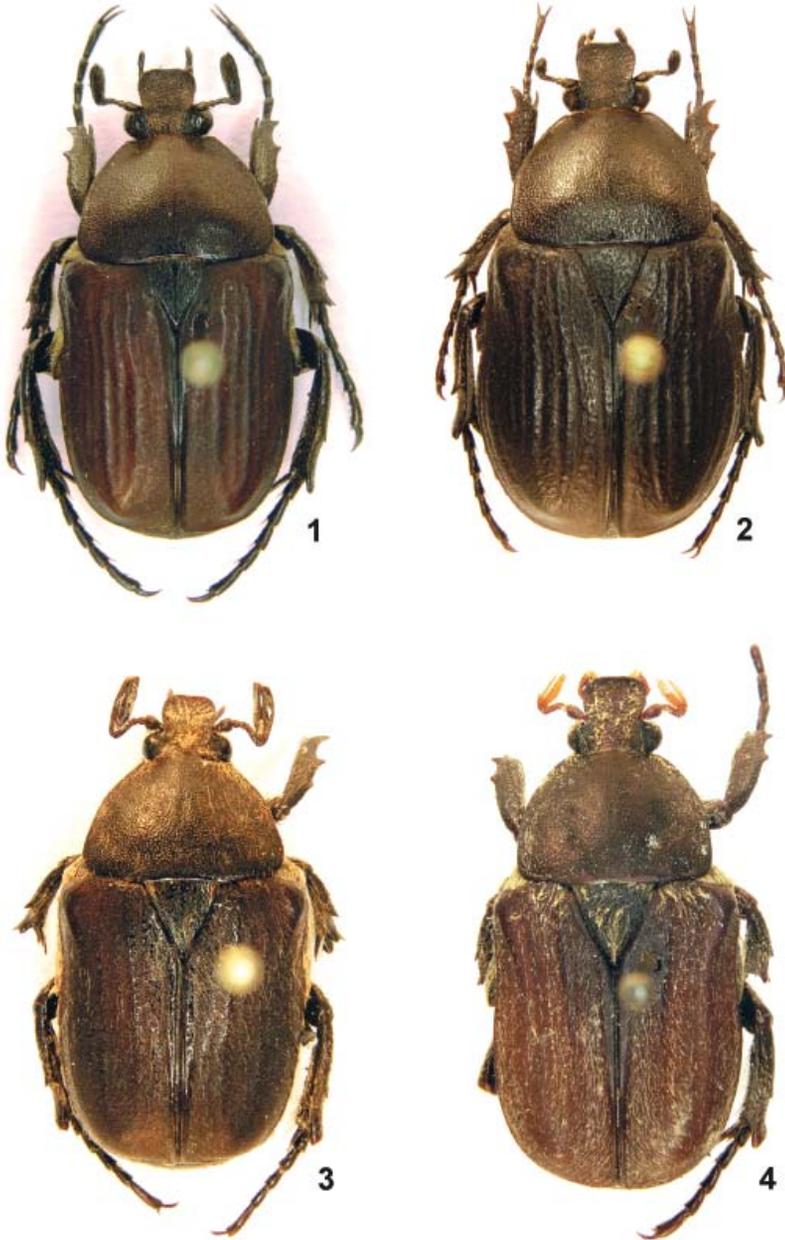
Type locality. Southwestern China, northwestern Yunnan province, Jinsha river valley, 5 km western of Dajuxiang, 27°17'50"N 100°12'10"E, 1850–1880 m a.s.l. (see the Collecting circumstances below).

Type material. CHINA: YUNNAN: HOLOTYPE: ♂ (NMPC), 'China, Yunnan prov. / 27°18'N 100°13'E / Jinsha riv. 1950–2050m, / DAJU 15.–17.VII.1990 / Vít Kubáň leg. [p]'. ALLOTYPE: ♀ (NMPC), 'China N-YUNNAN / 27°18'N 100°13'E / Jinsha r. vall. 1900m, / DAJU, HUTIAO gorge, / lgt. D. Král 15–17/7'90.' [p]. PARATYPES (122 ♂♂, 75 ♀♀): same data as holotype (3 ♂♂, NMPC; 3 ♂♂, SJCP); same data as allotype (2 ♂♂ 1 ♀, DKCP; 1 ♀, NMPC; 8 ♂♂ 3 ♀♀, SJCP); 'CHINA SW, NW Yunnan prov., / Jinsha riv. valley, 27°17'50"N / 100°12'10"E, 1850–1880 m, / DAJU (5km W), / 8.vii.1992, Vít. Kubáň leg.' [p] (2 ♂♂, DKCP, NMPC); 'CHINA SW, NW Yunnan prov., / 27°20'N 100°11'E, / Habaxueshan mts., SE slope, / HABA vill. (4.5km SSE), / 2500–2550 m, 12.vii.1992, / Vít. Kubáň leg.' [p] (2 ♂♂, BMNH; 2 ♂♂ 2 ♀♀, KNCT; 2 ♂♂, MNHN; 10 ♂♂ 6 ♀♀, NMPC; 34 ♂♂ 25 ♀♀, SJCP; 2 ♂♂, ZMHB); same data but: 'David Král leg.' (48 ♂♂ 34 ♀♀, DKCP; 1 ♂ 1 ♀ ZFMK); 'CHINA SW, / NW Yunnan prov., / Haba snow Peak, / viii.1991, 3000 m, / E. Quéinnec leg.' [p] (1 ♀, DKCP); 'CHINA N.W. YUNNAN / Haba mts, E slope / Way from San Ba to Ha Ba / and Daju h=2500–3000 m / 8–9.VII. 1998 leg. S. Murzin' [p] (1 ♂, SJCP); 'Yunnan / 26.6.2007; China / Tiger Leaping Gorge / S of Shangri-La; Qiaotou / T. Tichý; 2100–2600m' [p] (2 ♂♂ 1 ♀, MKCP).

Description of holotype. Body length 14.6 mm, maximum humeral width 7.2 mm. Oval-shaped, rather flat, dorsal surface blackish, slightly shining (Fig. 1).

Head. Black, almost parallel, weakly widened at apex. Punctation dense and uniform. Diameters of punctures larger than their interspaces. Lateral margins elevated but not distinctly bordered, latero-apical margins obtusely rounded. Apex of clypeus elevated, without distinct emargination. Frons with moderate purple reflection. Antennae dark brown with yellowish setation. Antennal club not elongated, shorter than stalk.

Pronotum. Black with moderate purple lustre, sharply narrowed anteriorly, especially in the anterior fourth. Punctation distinctly developed, sparser than on head, except for postero-lateral margins, where it is denser than on head; diameters of punctures smaller than on head; most of punctures circular, punctures near postero-lateral and lateral margins semicir-



Figs. 1–4. Habitus, dorsal view. 1 – *Bietia naxiorum* sp. nov., holotype; 2 – *B. naxiorum* sp. nov., allotype; 3 – *B. rudicollis* Fairmaire, 1898 (non-type specimen, MNHN); 4 – *B. simillima* Fairmaire, 1898 (non-type specimen, MNHN).



Figs. 5–8. 5 – type locality of *Bietia naxiorum* sp. nov.: Jinsha river valley, 5 km west of Dajuxiang, 1850–1880 m (a view from the Habaxueshan Mts. to the northern slope of the Yulongxueshan Mts.); 6 – habitat of *B. naxiorum* sp. nov. on the southeastern slope of the Habaxueshan Mts. (12.vii.1992). 7, 8 – adults of *B. naxiorum* sp. nov. with scarabaeid larval excrements among which they were burrowed (Habaxueshan Mts., 12.vii.1992) (7 – male paratype, 8 – female paratype). Photos: D. Král.

cular and more densely arranged, almost confluent. Lateral border obtuse but distinct almost throughout the length. Lateral margin shallowly emarginate in posterior third. Pronotal base with two indistinct impressions.

Scutellar shield. Black, triangular, densely punctate on most of its surface except for a narrow midline.

Elytra. Running almost parallelly, rather flat. Coloration blackish. Six obtuse and wide costae run from elytral base almost to the level of apical calli on each elytron. Intervals narrow, irregularly punctate. Sutural ridge flat, weakly elevated in apical third, apex not protruding over elytron apex. Humeral calli indistinct, blackish. Apical calli obtuse. Posthumeral emargination not markedly sharp.

Pygidium. Black, with fine lustre. Uniformly, finely wrinkled throughout the whole surface. Covered with short, fine yellowish setae.

Ventrum. Black to dark brown, shining. Wrinkled laterally, median part with punctation; punctures of different sizes, mainly circular. Yellowish setation present throughout the length of abdominal ventrites 1–6, setation of ventrites 2–4 limited to few setae in median part of each ventrite. Abdominal ventrites 2–4 with two impressions laterally. Medial furrow distinct, but not deep. Lateral declivity prominent. Metaventrite black, uniformly and densely wrinkled, completely covered with long yellow setae. Median part of metaventrite with rather sharp, deep furrow. Meso-metaventral process short, obtusely terminated. Prosternum, mesepimeron and mentum wrinkled and covered with long yellowish setae.

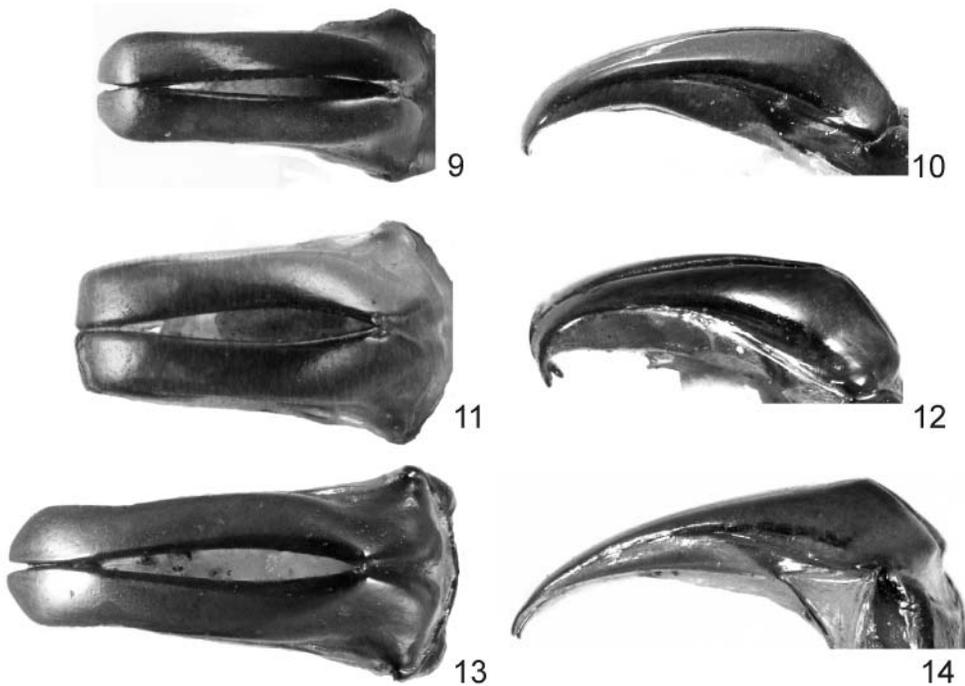
Legs. Black, slender, elongate (goliathine-type shaped, see KRIKKE (1984)). Protibia bidentate, posterior tooth (3) indistinct. Meso- and metatibia with carina in the apical half, bearing yellowish setae on inner side. Femora dark brown, covered with yellowish setation. Tarsi gracile, elongate.

Male genitalia. Simply developed with paramere parallel-sided (Figs. 7, 8).

Sexual dimorphism. Females differ from males as follows: generally much more robust and wider than males, body more convex (Fig. 2); antennae and legs much shorter than in males; setation of ventral side usually not so abundant as in males, abdomen very convex.

Variability. Body length: males 12.1–14.8 mm, females 12.2–18.0 mm. Pronotum always black, elytral coloration varying from black to almost brick red. Protibia in some males distinctly tridentate. Punctuation, microsculpture and setation of whole surface invariable.

Differential diagnosis. *Bietia naxiorum* sp. nov. can be easily distinguished from both other representatives of the genus, *B. rudicollis* and *B. simillima*, by the following characters: (1) setation of the dorsal surface absent, (2) each elytron with six more or less well-marked costae (only two well-marked costae are present on each elytron in *B. rudicollis* and *B. simillima*), (3) punctation of elytra fine with many glabrous parts, especially at the costae (elytra completely granulate and microsculptured in the other two species), (4) setation on abdominal ventrites shorter and less abundant (ventrites covered with long yellowish setae in both other species), (5) meso-metaventral process glabrous, shining (covered with setae at least at apex in *B. rudicollis* and *B. simillima*), (6) paramere simple, parallel-sided, apex of paramere, especially its external part, obtusely rounded (in *B. rudicollis* and *B. simillima*, the base of paramere is much wider than its apical part, rather sharply narrowing from base



Figs. 9–14. Parameres (9, 11, 13 – dorsal view; 10, 12, 14 – lateral view). 9, 10 – *Bietia naxiorum* sp. nov., holotype; 11, 12 – *B. rudicollis* Fairmaire, 1898 (non-type specimen, MNHN); 13, 14 – *B. similima* Fairmaire, 1898 (non-type specimen, MNHN).

to approximately 0.75 of paramere length, with emargination on outer side of paramere apex and internal part slightly protruding, forming a tooth).

Etymology. Patronymic; dedicated to the Naxi tribe people inhabiting northern Yunnan where the new species has been discovered.

Distribution. China, Yunnan province, Habaxueshan and Yulongxueshan Mts.

Collecting circumstances. The label data attached to the specimens collected at the type locality are too general and we therefore provide here more precise locality data for the specimens. The type locality is situated 5 km west of Dajuxiang, at coordinates 27°17'50"N 100°12'10"E and altitudes of 1850–1880 m a.s.l. on the northern slope of the Yulongxueshan Mts. (see Fig. 5, the place is marked with an arrow). The label data provided for the second locality (Habaxueshan Mts.) are precise. A series of specimens collected at the type locality in 1990 (holotype, allotype and 21 paratypes) were caught right at dusk flying about 20–50 cm above the ground among low and sparsely distributed shrubs. Two paratypes collected at the same locality in 1992 were captured in flight between 3–4 p.m. after a rain. A series of specimens

from Habaxueshan Mts. collected in 1992 were captured during day hours in a sparse forest consisting predominantly of *Pinus* sp. and *Quercus* sp. (Fig. 6) – a large number of specimens (ca. 160) was found burrowed maximally ca. 10 cm deep in the soil mixed with excrements of larvae of scarabaeoid beetles (most probably of *Bietia naxiorum* sp. nov. itself), and a few of these specimens were collected also under a large pile of old and almost dry horse dung close to this locality (see Figs. 7–8 for the beetles dugged out from the soil).

Bietia rudicollis Fairmaire, 1898

(Figs. 3, 11, 12)

Bietia rudicollis Fairmaire, 1898: 386. Type locality: Western China, western Sichuan ('Se-Pin-Lou-Chan (Thibet)').

Bietia rudicollis: SCHENKING (1921): 81 (catalogue); WINKLER (1929): column 1119 (catalogue); MEDVEDEV (1964): 37 (description); MIKŠIĆ (1977): 380 (redescription); SAKAI & NAGAI (1998): 234 (catalogue note in Japanese); SMETANA (2006): 301 (catalogue).

Bietia (*Bietia*) *rudicollis*: KRAJČÍK (1998): 19 (catalogue).

Atropinota funkei Heller, 1923: 78, **syn. nov.** Type locality: Western China, western Sichuan, Kangding ('Tatsienlu').

Atropinota funkei: WINKLER (1929): column 1120 (catalogue); MEDVEDEV (1964): 105 (description); MA (1995): 110, fig. 88 (description); KRAJČÍK (1998): 25 (catalogue); SMETANA (2006): 284 (catalogue).

Type material examined. *Atropinota funkei*: LECTOTYPE (hereby designated): 'Szetschwan / Tatsienlu [now Kangding] / Stötzner-Expedition [p] // 1923 [p] / 4 [h] // Atropinota / funkei m [h] / det. K. M. Heller 19 [p] 22 [h] // Staatl. Museum für / Tierkunde, Dresden [p]' (1 ♂, SMTD). PARALECTOTYPES (1 ♂, 1 ♀): 'Szetschwan / Tatsienlu [now Kangding] / Stötzner-Expedition [p] // PARATYPUS [p] // Para- [h] typus [p] Atropinota funkei Heller [h] [white label with red margin] // coll. / Tesář [p]' (1 ♂, NMPC); 'Szetschwan / Tatsienlu [now Kangding] / Stötzner-Expedition [p] // 1923 [p] / 4 [h] // Atropinota / funkei H [h] / typus [p] [red label] // Staatl. Museum für / Tierkunde, Dresden [p]' (1 ♀, SMTD).

Note. One additional male paralectotype of *A. funkei* deposited in SMTD does not belong to this species but to *Aethiessa* sp. The label data of this specimen are as follows: 'Szetschwan / Tatsienlu [now Kangding] / Stötzner-Expedition [p] // Co-Type [h] // Atropinota g.n. / funkei m. (cotypus) [h] / Det. K. M. Heller 19 [p] 22 [h]'.

Additional material examined. CHINA: SICHUAN: 'Se Pin – Lou Chan / Ya Tcheou / Chasseurs indigènes / 1893 [p] // Bietia / rudicollis Fairm. / comp. with type / St. Jákl det., 2006 [p]' (1 ♂, MNHN); 'Se Pin – Lou Chan / Ya Tcheou / Chasseurs indigènes / 1893 [p] // Coll. Kraatz [p] // Atropinota / funkei Heller [h] / det. Schein, München [p] // Bietia / rudicollis Fairm. / comp. with type / St. Jákl det., 2006 [p]' (1 ♂, DEI).

Remarks. The number of syntypes of *Atropinota funkei* is unknown. Three syntypes were found in SMTD, of which one male belongs in fact to the genus *Aethiessa* Burmeister, 1842 and does not correspond to the original description. An additional male syntype was found in NMPC (see also BEZDĚK & HÁJEK 2010). As the type series consists of two different species, we designate here the single male deposited in SMTD as the lectotype to fix the identity of *Atropinota funkei*. We compared this lectotype with two male specimens of *Bietia rudicollis* which had been compared with a syntype from the Fairmaire collection in MNHN. We failed to find any difference between these specimens. Therefore, we consider *Atropinota funkei* Heller, 1923 to be conspecific with *Bietia rudicollis* Fairmaire, 1898 and propose the latter as its junior subjective synonym.

***Bietia simillima* Fairmaire, 1898**

(Figs. 4, 13, 14)

Bietia simillima Fairmaire, 1898: 386. Type locality: Western China, western Sichuan ('Se-Pin-Lou-Chan (Thibet)').

Bietia simillima: SCHENKLING (1921): 81 (catalogue); WINKLER (1929): column 1119 (catalogue); MEDVEDEV (1964): 37 (description); MIKŠIĆ (1977): 381 (description); SAKAI & NAGAI (1998): 234–235 (catalogue note in Japanese), 382 (note in English), pl. 143, fig. 668; SMETANA (2006): 301 (catalogue).

Bietia (Bietia) simillima: KRAJČIČ (1998): 19 (catalogue).

Material examined. CHINA: SICHUAN: 'Su-Tchuen / Chass. Thibétains / 1897 [p] // *Bietia simillima* (Fairmaire) [h] / J. Ph. Legrand det. [p] VII – [h] 2007 [p] // *Bietia / simillima* Fairm. / comp. with type / St. Jákl det., 2006 [p]' (1 ♂, MNHN); 'Su-Tchuen / Chass. Thibétains / 1897 [p] // *Bietia / simillima* Fairm. / Cotype [h] [with red right side label] // Cotype [p] [yellow-framed round label] // Bourgoin Coll. / B. M. 1938-252 [p]' (1 ♂, BMNH).

Remark. The male specimen of *Bietia simillima* from BMNH is figured in SAKAI & NAGAI (1998: plate 143, fig. 668).

Key to species of the genus *Bietia*

- 1(2) Dorsal surface glabrous, without macrosetae in both sexes (Figs. 1, 2); length 12.1–18.0 mm; parameres as in Figs. 9, 10. Yunnan. ***B. naxiorum* sp. nov.**
- 2(1) Dorsal surface with distinct macrosetae, covering the whole surface in males (Figs. 3, 4) and restricted to scutellum and basal part of elytra in females; macrosetae distinctly shorter in females than in males. 3
- 3(4) Clypeus rectangular anteriorly; antenna griseous; pronotal surface sparsely punctate; length 14.0–15.0 mm; parameres as in Figs. 11, 12. Sichuan. ***B. rudicollis* Fairmaire, 1898**
- 4(3) Clypeus slightly emarginate anteriorly; antenna rufous; pronotal surface densely punctate; length 15.0–18.0 mm; parameres as in Figs. 13, 14. Sichuan. ***B. simillima* Fairmaire, 1898**

Discussion

The representatives of the genus *Bietia* are generally very poorly represented in the collections. Only few of the type and non-type specimens of both previously known species of *Bietia* and three syntypes of *Atropinota funkei* had been known before (see above for the depositories of these specimens).

There are some doubts about the systematic position of *Bietia* at the moment. MIKŠIĆ (1977: 380) speculated that the genus would be intermediate between Goliathini and Cetoniini. His argumentation is based only on the shape of the pronotal base which is much more similar to that of the Cetoniini than to the Goliathini. This is correct, but this character state may be found also in other goliathine genera, e.g. *Cosmiomorpha* Saunders, 1852, *Moseriana* and *Mawenzhena*. The shape of the pronotal base was also the main reason why HELLER (1923) placed the genus *Atropinota* in the tribe Cetoniini near *Epicometis* (currently a subgenus of *Tropinota*) instead to Goliathini.

Elongate tarsi of males of *Bietia* is a typical character of the Goliathini. Simple male genitalia found in *Bietia* (see Figs. 9–14) is also a rather common character in many genera of the Asian Goliathini, e.g. *Cosmiomorpha* [see MEDVEDEV (1964: figs. 71–72), MIKŠIĆ (1977: figs. 42A–B)] and *Petrovitzia* [see MIKŠIĆ (1965: fig. 10), MIKŠIĆ (1977: fig. 25)]. The genitalia of most representatives of the Cetoniini are generally more complex in structure (e.g. MEDVEDEV 1964; MIKŠIĆ 1982, 1987). Hence, in our opinion, *Bietia* is a typical representative of the Asian Goliathini in the sense of KRIKKEN (1984) (see also the diagnosis of the genus above).

Based on the large number of adults of *Bietia naxiorum* sp. nov. collected burrowed in the soil with scarabaeid larval excrements (see the Collecting circumstances section for details), we suppose that the observed ground-dwelling behaviour is not accidental. Our observation may then represent the first record of ground-dwelling behaviour in adults of the Asian goliathine beetles. Similar behaviour was only observed in African goliathine beetle *Ischnostomiella wernerii* Beinhundner, 2005 which was collected from rodent burrows in Botswana, Kalahari Desert (†K. ‘Charlie’ Werner, pers. comm.).

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