

New species of *Aphodius* Illiger, 1798 (Coleoptera: Scarabaeidae) from China

Новые виды рода *Aphodius* Illiger, 1798 (Coleoptera: Scarabaeidae) из Китая

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КЛЮЧЕВЫЕ СЛОВА: Scarabaeidae, *Aphodius*, новые виды, Китай.

ABSTRACT: Two new species of *Aphodius* Illiger, 1798 from the Chinese province of Sichuan are described: *A. (Acrossus) belousovi* Frolov, sp.n. and *A. (Aphodaulacus) kabaki* Frolov, sp.n.

РЕЗЮМЕ: Описаны два новых вида рода *Aphodius* Illiger, 1798 из Китая (провинция Сычуань): *A. (Acrossus) belousovi* Frolov, sp.n. и *A. (Aphodaulacus) kabaki* Frolov, sp.n.

Introduction

During examination of material from the Chinese province of Sichuan, two new coprophagous species of the genus *Aphodius* Illiger, 1798 were discovered. Type specimens of the new species are deposited at the Zoological Institute, Russian Academy of Sciences (St. Petersburg).

Aphodius (Acrossus) belousovi Frolov, sp.n.

Figs. 1–4.

Type material. Holotype ♂ labeled “CH, S Sichuan, NW of Mt. Yuanbaoshan, right bank of Lianhegou River, 3500–3600 m, 21.06.2000, Belousov, Kabak, Davidian leg.”; paratypes: ♂ with the same data; 2 ♂♂ and ♀ labeled “CH, Sichuan, right bank of Niuzhihe Riv., E of Pusiun Village, 2500–3200 m, 17–18.6.2000, Belousov, Kabak, Davidian leg.”; 2 ♂♂ labeled “CH, Sichuan, right bank of Niuzhihe Riv., E of Pusiun Village, 2200–2800 m, 15.06.2000, Belousov and Kabak leg.”; ♂ labeled “CH, Sichuan, SSW of Shimian (Nunchan), SE slope of Mt. “4977”, W of Lijipin, 2700–4000 m, 4.07.2000, Davidian G.E. leg.”.

DESCRIPTION. HOLOTYPE. Male (Fig. 1). Body length 12 mm. Head black, shiny, not tuberculate, with indistinct trace of fronto-clypeal suture, almost impunctate on disk, indistinctly punctate on anterior part of clypeus. Clypeus wide, semicircular, not sinuate at middle. Genae acutely angled, indistinctly separated from clypeus, strongly protruding past eyes. Margins of clypeus and genae with wide border. Minimum distance between eye and gula approximately the

same as the width of eye in ventral view. Gula with longitudinal groove.

Pronotum black with sides indistinctly lighter, shiny, impunctate on disc, very sparsely punctate on sides; sides with wide border; anterior margin and base not bordered. Posterior angles of pronotum obtusely rounded.

Scutellum triangular, dark brown, shiny, impunctate in apical part, sparsely punctate basally.

Elytra reddish brown, shiny, without humeral denticles, smooth, only apices with sparse, minute setae. Intervals moderately convex, with minute, sparse punctures on disc, becoming denser towards apex. Striae distinctly punctate (punctures separated by 2 to 3 times their diameter).

Apical spur of anterior tibia wide, obtusely rounded at apex, curved downward and outward. Apical spurs of middle tibia slender and acute; lower spur longer than 2/3 of upper spur and longer than two first tarsal segments together. First segment of hind tarsi shorter than upper spur of tibia and longer than 3 following segments together. Apical setae of hind tibiae of unequal length. Claws strongly curved, robust proximally (Fig. 4).

Underside of body black, legs and abdominal sternites slightly lighter. Disc of metasternum smooth, slightly concave, sparsely punctate.

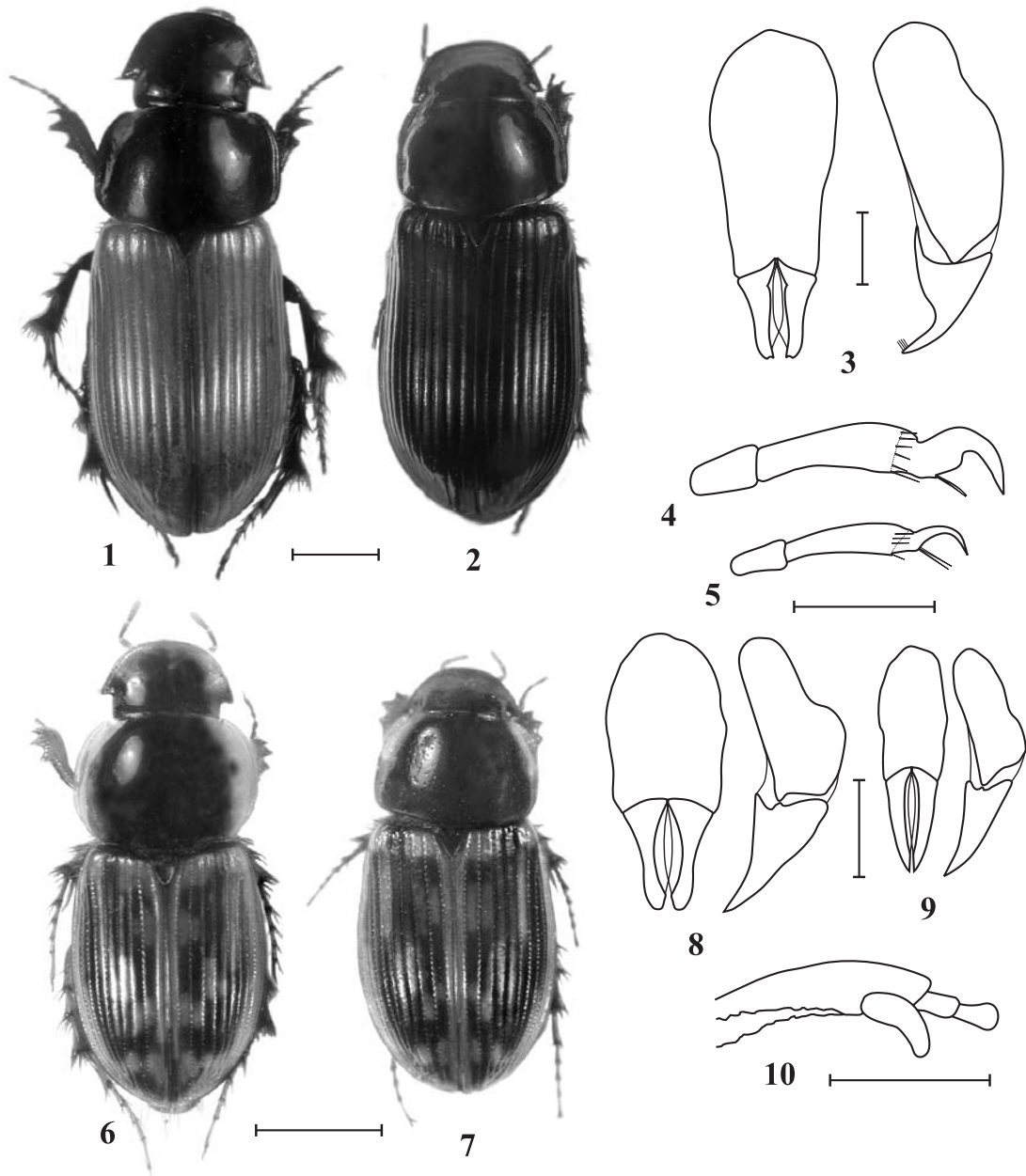
Apices of parameres moderately slender, acute, with a few setae dorso-laterally (Fig. 3).

Female (Fig. 2) can be separated from male by the narrower pronotum with sparsely punctate disc and more densely punctate anterior part of clypeus.

PARATYPES. Body length 11.0 to 12.5 mm. Three ♂♂ of the same color as the holotype, 2 ♂♂ and ♀ with uniformly black upper side, and ♂ with dark brown elytra. Some male paratypes with pronotum finely punctate.

DIFFERENTIAL DIAGNOSIS. This species is most similar to *A. klickai* Balthasar, 1932, but differs from it in being larger, having shiny elytral apices and more robust tarsal claws (Figs. 4, 5), and in the shape of the parameres. Specimens of *A. belousovi* sp.n. with chestnut elytra can be easily separated from the uniformly black *A. klickai* by color alone.

ETYMOLOGY. This species is named in honor of Mr. I.A. Belousov, a famous carabidologist.



Figs 1-10. 1-4 — *A. belousovi* sp.n.; 5 — *A. klickai*; 6-8, 10 — *A. kabaki* sp.n.; 9 — *A. perblandus*. 1, 2, 6, 7 — general view (1, 6 — ♂, 2, 7 — ♀); 3, 8, 9 — aedeagus in dorsal and lateral view; 4, 5 — two last tarsal segments with a claw; 10 — anterior tibia of male in medial view. Scale: 2 mm (1, 2, 6, 7); 0.5 mm (3-5, 7-10).

Рис. 1-10. 1-4 — *A. belousovi* sp.n., holotype ♂ and paratype ♀; 5 — *A. klickai*; 6-8, 10 — *A. kabaki* sp. n., holotype ♂ and paratype ♀; 9 — *A. perblandus*. 1, 2, 6, 7 — общий вид (1, 6 — ♂, 2, 7 — ♀); 3, 8, 9 — эдеагус сверху и сбоку; 4, 5 — два последних сегмента лапки и коготком; 10 — передняя голень со внутреннего края. Масштаб: 2 мм (1, 2, 6, 7); 0,5 мм (3-5, 7-10).

Aphodius (Aphodaulacus) kabaki Frolov, sp.n.
Figs. 6-8, 10.

Type material. Holotype ♂ labeled "CH, Sichuan, Shuamalukou (10 km S), left bank of Somohe River H-3200 m, 17.07.2000 Belousov, Kabak, Davidian"; paratypes: 2 ♀♀ labeled "CH, Sichuan, Shuajingsi (SSE), E of Chiguguan Pass 3500-4400 m, 15.07.2000 Davidian G.E. leg."; ♀ labeled "Та-Цзао-Пин бл.

Лунь-ань-фу [Lunganfu (Long'an): 32°25'N 104°30'E] 28.VII-7.VIII.1893, М. Березовский".

DESCRIPTION. HOLOTYPE. Male (Fig. 6). Body length 7.5 mm. Head dark brown with genae and anterior margin of clypeus chestnut, shiny, not tuberculate, without fronto-clypeal suture, minutely punctate on disk, sparsely punctate on anterior part of clypeus. Clypeus wide, semicircular, not sinuate at middle. Genae acutely angled, not separated from

the margin of clypeus, strongly protruding past eyes; genal sutures visible as dark lines. Margins of clypeus and genae with wide border. Distance between eye and gula approximately 1.5 times the width of eye in ventral view. Gula without longitudinal groove.

Pronotum dark brown on disc with sides pale chestnut, shiny, very sparsely punctate; sides with wide border; anterior margin and base not bordered. Posterior angles of pronotum obtusely rounded.

Scutellum triangular, brown, shiny, impunctate on disc, sparsely punctate basally.

Elytra pale chestnut with longitudinal brown maculae, shiny, without humeral denticles, minutely pubescent on sides and disc, with relatively long and dense setae apically. Intervals slightly convex, impunctate on disc to densely punctate on apex. Striae densely punctate (punctures separated by 0.5 to 1 times their diameter).

Apical spur of anterior tibia short, rounded at apex, curved downward (Fig. 10). Lower apical spur of middle tibia truncate, one-third the length of upper. First segment of hind tarsi shorter than upper spur of tibia and as long as 2 following segments combined. Apical setae of hind tibiae of unequal length.

Underside of body yellowish brown, meso- and metasternum darker. Disc of metasternum flat, smooth, impunctate.

Apices of parameres acute in lateral view (Fig. 8).

Female (Fig. 7) can be separated from male by the more densely punctate head and pronotum, narrower pronotum,

acute and less decurved apical spur of anterior tibia, acute and longer lower spur of middle tibia, and minute pubescence of the elytral apices.

PARATYPES. Body length 6.0 to 6.5 mm.

DIFFERENTIAL DIAGNOSIS. This species is similar to the Middle Asian *A. makowskyi* D. Kosh., 1891 in habitus, color, elytral pattern, puncturation, and elytral pubescence, differing from that species in the shape of apical spur of anterior tibia and lower spur of middle tibia in male, general reddish coloration, and the smooth metasternal disc. Also this species is similar to *A. perblandus* Balthasar, 1933, described from Sichuan, but can be separated from it by the distinctive habitus, less convex elytral intervals, more sparsely punctate head and pronotum, and distinctly pubescent elytral apices. Shape of the aedeagi in these species is similar (Figs. 8, 9), but in *A. kabaki* sp.n. the apices of the parameres are rounded in dorsal view.

ETYMOLOGY. This species is named in honor of Mr. I.I. Kabak, a famous carabidologist.

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