

**A new and a poorly known species of bark beetles
(Coleoptera: Scolytidae) from Middle Asia**

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**Новый и малоизвестный виды короедов
(Coleoptera: Scolytidae) из Средней Азии**

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Abstract. *Pityotrichus turkmenicus* sp. n., the first Palaearctic representative of the genus, considered earlier to be exclusively American, is described from Kopet Dagh. Placement of *Cynanchophagus cornutus* Axentjev, a species of the monotypical genus with previously uncertain taxonomic position in the Scolytidae, in the tribe Dryocoetini is confirmed, where it is closest to the genus *Triotemnus* Woll. After an examination of the male genitalia, the mistake in the sex assignment of the specimens in the original description is corrected.

Key words. Coleoptera, Scolytidae, bark beetles, *Cynanchophagus*, *Pityotrichus*, taxonomy, Middle Asia.

Резюме. Из Копетдага описан новый вид *Pityotrichus turkmenicus* sp. n. – первый палеарктический представитель рода, ранее считавшегося исключительно американским. Уточнено таксономическое положение *Cynanchophagus cornutus* Axentjev в системе семейства Scolytidae. Подтверждена принадлежность рода *Cynanchophagus* Axentjev к трибе Dryocoetini, внутри которой он наиболее близок к роду *Triotemnus* Woll. После изучения гениталий самцов исправлена ошибка оригинального описания, неверно трактующего половую принадлежность экземпляров типовой серии.

Ключевые слова. Coleoptera, Scolytidae, короеды, *Cynanchophagus*, *Pityotrichus*, систематика, Средняя Азия.

Introduction

Wood and Yin (1986) have pointed out that in Asia occur several relict species of Scolytidae taxa formerly considered endemic to America. Out of the higher group taxa, *Pseudothysanoes* considered pre-

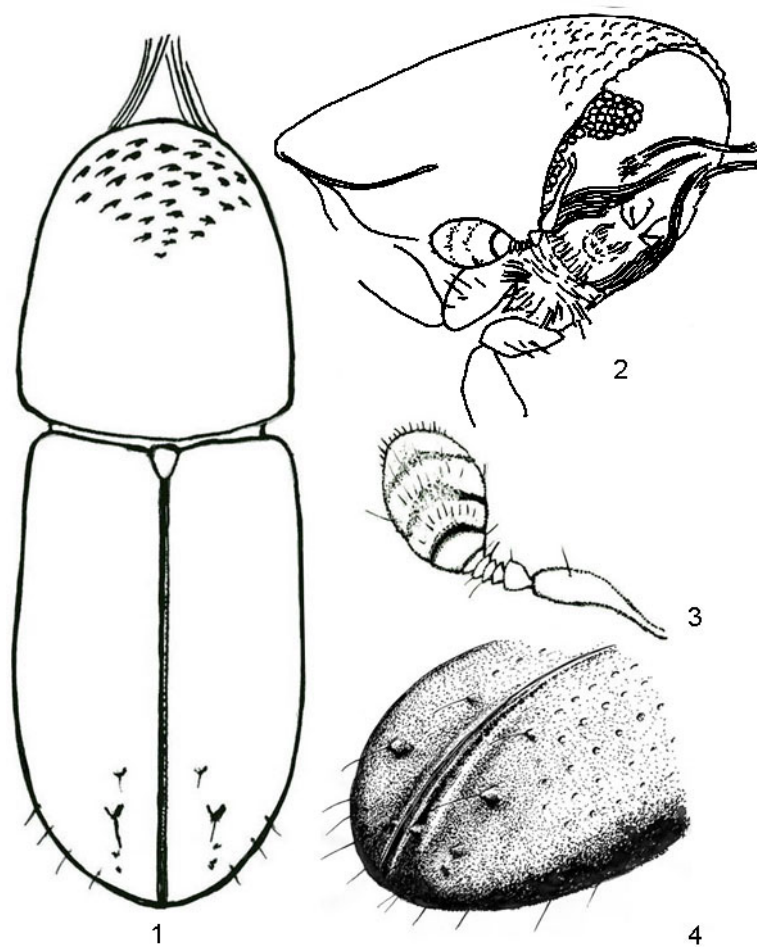
viously to be an American genus, and *Gnatharus*, belonging to Corthylini, the tribe completely restricted to New World, can be mentioned. Only two *Pityotrichus* species were previously known, both breeding in *Pinus* spp., in southern U. S. A. and Mexico (Wood, 1982). The new finding of a representative of the "American" genus allows presuming that further study of the Asian Scolytidae fauna may reveal much more links with the American fauna than it was previously expected.

***Pityotrichus turkmenicus* Mandelshtam et Petrov, sp. n.**

Diagnosis. The new species can be easily distinguished from other representatives of the genus by tremendously long paired brushes of hairs originating from the lower portion of head and by morphology of the elytral declivity. Only one specimen of the new species is known. Since in the previously known *Pityotrichus* species pregenal brushes are the female feature, we believe the holotype to be a female.

Description. Body elongate, 1.85 mm long (Fig. 1). Overall body colour, including legs and antennae, uniformly light yellow. Most probably the beetle is mature and the colour is definitive.

Head rather large, concealed under pronotum and invisible from above. Frons convex, matte, minutely punctured and ornamented at sides with hairs reaching their maximum length at upper portion of frons (Fig. 2). Eyes coarsely faceted



Figs 1–4. *Pityotrichus turkmenicus* Mandelshtam et Petrov, sp. n., holotype. 1 – contour of the body, dorsal view; 2 – head, latero-ventral view; note extremely long hair brushes originating from underside of the head; 3 – antenna; 4 – elytral declivity, dorso-lateral view.

and clearly emarginated anteriorly. Two extremely long brushes of yellowish hairs taking origin at lower part of head (either from pregena or from subgena) and oriented forward protrude before mandibles and curve upwards reaching middle of frons (Fig. 2). Antennae (Fig. 3) quite similar to those of *Pityotrichus barbatus* (Blackman, 1928) as figured in Wood (1982). Scape rather short, not longer than antennal club, and bearing only few bristles. Funicle 5-segmented, with 1st segment as long as rest segments combined. Total length of funicle one third of antennal club length. First funicular segment large, cup-shaped; rest segments clearly transverse and of nearly equal length. Antennal club flattened, oval. First suture moderately procurved and completely septate. Somewhat distal to it, another incomplete asymmetrical septum present.

Pronotum slightly longer than wide (length : width ratio about 1.1), with anterior margin rounded and sides parallel in basal two thirds. Basal margin and sides in basal half bearing clearly indicated fine raised line. Anterior third of pronotum covered with small and low transverse asperities arranged in vague concentric rows; asperities bearing microscopic short hairs. Basal two thirds finely punctured, without vestiture.

Scutellum triangular, clearly visible, flat, yellow.

Elytra as wide as, but nearly 1.5 times as long as pronotum, with regular rows of round, poorly impressed punctures. Interstices finely reticulated; overall surface of disk matte. Vestiture of elytra sparse and confined to erect hair-like bristles on declivity. Elytral apex simply rounded, entire. Declivity moderately steep, bisulcate (Fig. 4). First stria impressed from half of elytral length toward declivity apex, the impression becoming wider nearby apex. Declivital punctures of 2nd stria absent. Third interstice forming elevated, rounded lateral borders of declivity. Suture on declivity clearly raised, smooth except one small hair-bearing tubercle before elytral apex. Lateral borders of declivity with one small pointed hair-bearing tubercle on 3rd interstice in upper part, one slightly larger similar tubercle on 5th interstice posterior to latter, and two minute tubercles without hairs on 7th and 9th interstices closer to elytral apex. Moderately long erect hairs present at lateral borders of declivity and sides of elytra near apex. No evident hairs present on elytral disk.

Abdomen horizontal.

Host plant. Unknown. However, since both previously known *Pityotrichus* species breed in conifers, one may suggest that the new species may breed in *Juniperus* spp., the only native conifers in Turkmenistan.

Etymology. Species name derives from the name of the country (Turkmenistan), where the beetle was collected.

Material. Holotype (probably female): Turkmenistan, Kopet Daghs Mts., 10 km S of Aidere, 27 VI 1992, 600–1000 m, 56°46' E, 38°14' N, No L59, leg. Gy. Fábrián, B. Herczig, A. Podlussány, and Z. Varga (Hungarian Natural History Museum, Budapest, = NHMB).

Tribe Dryocoetini Lindemann, 1876

Genus *Cynanchophagus* Axentjev, 1987

Type species *C. cornutus* Axentjev, 1987, by original designation.

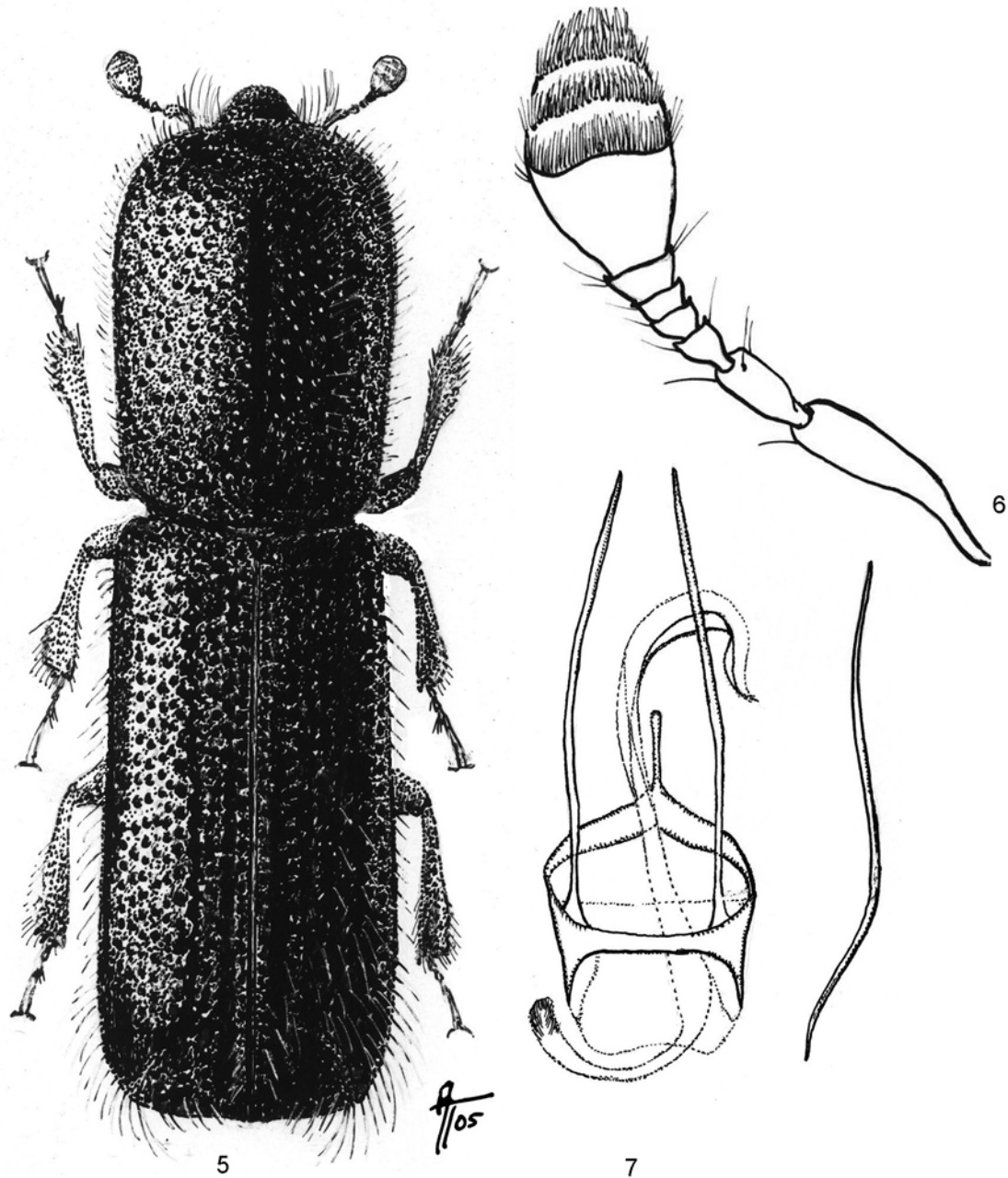
Due to absence of both specimens and description at hand, Wood and Bright (1992) placed the genus *Cynanchophagus* Axentjev in their Catalogue of Scolytidae and Platypodidae among the genera incertae sedis. Later on, Bright and Skidmore (2002) placed this genus into the tribe Dryocoetini. Now, upon examination of a series of *C. cornutus*, we found it reasonable to redescribe both the genus and its only known species and to clarify their position within the tribe.

Diagnosis. Closely related to genera *Triotemnus* Wollaston and *Taphronurgus* Reitter. *Cynanchophagus* can be readily distinguished from *Triotemnus* by external characters. *C. cornutus* has multiple (8–9) socketed denticles of medium size on outer edge of protibia whereas only 4–5 rather large denticles present in *Triotemnus*. Also, antennal funicle as a rule 4-segmented in *Triotemnus*, but 5-segmented in *Cynanchophagus*. Body in *Cynanchophagus* much more elongated than in *Triotemnus* species. Deeply impressed in male frons with anteriorly-protruding tubercle on vertex and horn-like processes of male mandibles clearly separate *Cynanchophagus* from *Taphronurgus*.

Cynanchophagus cornutus Axentjev, 1987

Description. Beetles varying in length between 2.2 and 3.8 mm. Body cylindrical, slightly widened anteriorly and posteriorly, approximately 3.7 times as long as wide (Fig. 5), reddish brown, antennae and legs somewhat lighter. Surface of body shining.

Male. Head with profound impression occupying entire frontal surface. Lateral and upper margins of depression covered with long white hairs. Vertex overhangs above frontal depression forming nearly triangular projection directed forward (dimensions of projection varying between specimens, occasionally projection rather poorly developed) (Fig. 8). Surface of frons and vertex covered with sparse large but non-confluent punctures and fine granules. Gular area smooth and shining, with faint rugosities. Base of mentum punctured and bearing light hairs. Each mandible with denticle before apex and with horn-like upward-directed process on its upper part. Occasionally horn-like processes of mandibles poorly developed, extent of their development correlating with size of protruding part of vertex (Fig. 8). Eyes shallowly emarginated. Antennal funicle 5-segmented. Antennal club nearly as long as scape (Fig. 6). Antennae with erect golden hairs.



Figs 5–7. *Cynanchophagus cornutus* Axentjev, male. 5 – habitus; 6 – antenna; 7 – aedeagus.

Scutellum triangular, clearly visible, dark brown.

Pronotum elongate, slightly widened anteriorly (length : width ratio about 1.3), covered with large and deep circular punctures leaving well developed smooth impunctate median line throughout entire length of pronotum. Entire surface of pronotum sparsely pubescent, with longest setae at sides. The latter rather narrowly rounded, but not marginated.

Scutellum triangular, clearly visible, dark brown.

Elytra elongate, subcylindrical, slightly widening posteriorly (length : width ratio about 1.9), covered with sparse light hair-like pubescence significantly longer and more densely set on lateral borders of apical declivity. Large deep punctures forming regular rows on elytra. Punctures of interstices uniseriate and finer. First stria deepened compared to others. Declivity convex, rather steep and flattened, similar to that in *Taphronurgus exul* Reitter or female of *Xylocleptes bispinus* Duftschmidt. Suture on declivity slightly elevated.

Legs reddish brown, lighter than body, covered with light hairs. Protibia bearing multiple (up to 9) small socketed teeth on outer margin; meso- and metatibiae also with multiple socketed teeth.

Genitalia (Fig. 7). Apophyses not very long (0.1 mm in length). Tegmen wide, with long manubrium on its ventral side. Sides of tegmen strongly widened and embrace penis tube almost up to its apex. Ejaculatory duct sclerotized, strongly bent, in apical portion of aedeagus strongly curved rightwards and protruding apically from body of penis. Apex of ejaculatory duct with brush of microscopic setae. Spiculum gastrale not thickened, of usual form.

F e m a l e . Similar to male, but frons only slightly impressed and mandibles without horn-like processes directed upwards. Also, in contrast to male, pronotum not widened anteriorly and elytra, posteriorly; and declivity less steep.

Host plant. *Cynanchum sibiricum* (L.) R.Br. (Asclepiadaceae). Beetles infest dead stems of the vine.

Material. All specimens originate from one locality in T a d z h i k i s t a n , Dzhilikulskii District, low course of Vakhsh River, "Tigrovaya Balka" Nature Reserve (ca. 37°13' N, 68°27' E), forest formed mainly by *Eleagnus* spp. (authors comment), from grassy vine *Cynanchum sibiricum* dead stem (unless indicated otherwise).

H o l o t y p e (a male, previously misidentified as a female), according to the original specimen label, was collected in May, 1986 and not 10 IV 1986 as stated in the original description. In addition to male holotype, several p a r a t y p e s have been examined (1 ♂, 4 ♀, ZIN; 3 ♀, Siberian Zoological Museum, Novosibirsk; 2 ♂, 2 ♀, Zoological Museum of Moscow State University, Moscow; 12 ♂, 4 ♀, A.V. Petrov private collection, Moscow). Also non-type specimens were examined all collected in the same locality, but 9 V 1986 by T.V. Kompantseva (3 ♂, 4 ♀, ZIN; 10 ♂ and 12 ♀ in private collections); same locality, 11 V 1986, at light, collected by T.V. Kompantseva (1 ♂, ZIN).

Distribution. Known only from the type locality.

Discussion. Original description (Axentjev, 1987) gives no indication of the *C. cornutus* holotype depository. The holotype was stored in the S.I. Axentjev private collection and now is relocated to the Zoological Institute in St. Petersburg (ZIN) in accordance with the information provided by the Wood and Bright catalogue (1992).

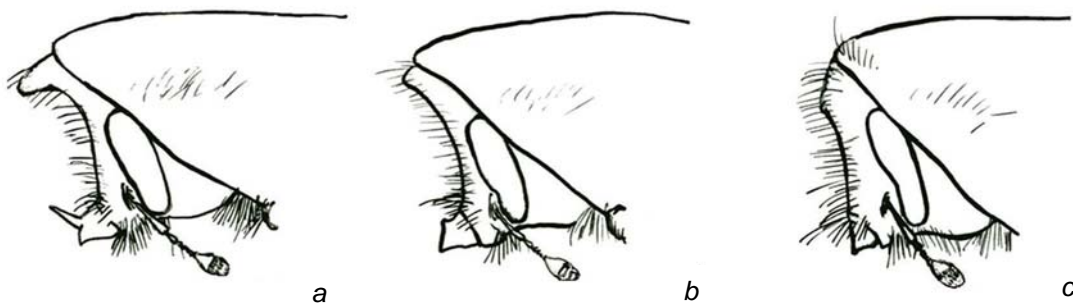


Fig. 8. *Cynanchophagus cornutus* Axentjev, variability of secondary sexual structures on frons. a, b – males; c – female.

However, the sex of the holotype was indicated in the original description (Axentjev, 1987) erroneously; in fact, the holotype with the modified mandibles is a male. Mandibular spines in Scolytidae, when present, are usually a male feature, and rarely a female feature. Importantly, inside the tribe Dryocoetini modified mandibles are exclusively a male feature (occur in most known *Triotemnus* species and in some African species of *Thamnurgus* probably requiring transfer to *Triotemnus*). Report of their occurrence in female of *Cladoctoporus scrofa* Schedl (now in *Triotemnus*) was clearly due to a mistake in the sex assignment in the original description (Schedl, 1975). *Triotemnus scrofa* specimens were also dissected by one of the authors (M.Yu.M.) and the male sex of beetles with modified mandibles was confirmed.

Originally, Axentjev (1987) considered *Cynanchophagus* to be most closely related to the Palaearctic genera *Thamnurgus* Eichhoff and *Taphronurgus* Reitter. Despite the position of *Cynanchophagus* in Dryocoetini is undisputable, we consider the genus to be most closely related to the genera *Triotemnus* Wollaston and *Taphronurgus* Reitter, but not to *Thamnurgus* Eichhoff. Indeed, long curved ejaculatory duct in the *Cynanchophagus* aedeagus (Fig. 7) is the feature shared by *Taphronurgus exul* Reitter, 1913 and *Triotemnus scrofa* (Schedl, 1975), but not by Palaearctic *Thamnurgus* species having straight and rather short ejaculatory duct (Mandelshtam et al., in preparation). The apex of the ejaculatory duct is protruding from the aedeagus body both in *Cynanchophagus cornutus* and *Taphronurgus exul*. However, broad apical processes of the tegmen nearly reaching apex of the penis are never found in *Taphronurgus* or *Triotemnus*. Important, apophyses in the studied *Triotemnus* species (*T. subretusus* and *T. scrofa*) are rather long whereas they are short in *Cynanchophagus*. Modified male mandibles suggest a relationship of *Cynanchophagus* with *Triotemnus*, but elongated form of the body (Fig. 5) and large number (7–9) of protibial socketed denticles distinguish it from *Triotemnus* with 4–5 protibial socketed denticles and rather short elytra. *Taphronurgus exul* possesses multiple protibial spines, but male mandibles are unmodified. Therefore, both aedeagus anatomy and features of external structure argue for a separate position of the genus *Cynanchophagus* in the tribe Dryocoetini.

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We are glad to dedicate this paper to the 75th birthday of Gleb Sergeevich Medvedev.

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