

New species of the longicorn beetles genus *Anoplodera* Mulsant, 1839 (Coleoptera: Cerambycidae) from China

НОВЫЕ ВИДЫ ЖУКОВ-ДРОВОСЕКОВ РОДА *Anoplodera* Mulsant, 1839 (Coleoptera: Cerambycidae) из Китая

A.I. Miroshnikov
А. И. Мирошников

Krasnodar Forestry Board, ul. Krasnaya 22, Krasnodar 350000 Russia.

E-mail: a_miroshnikov@kuban.net

Краснодарское управление лесами, ул. Красная, 22, Краснодар 350000 Россия.

KEY WORDS: Cerambycidae, *Anoplodera* s.str., new species, China.

КЛЮЧЕВЫЕ СЛОВА: Cerambycidae, *Anoplodera* s.str., новые виды, Китай.

ABSTRACT: Descriptions of the three new *Anoplodera* species from China are given — *A.* (s.str.) *przewalskii*, *A.* (s.str.) *sergeii*, and *A.* (s.str.) *shamaevi* spp.n. An identification key to Chinese species of the nominotypical subgenus of the genus *Anoplodera* is provided. Lectotype of *A.* (s.str.) *atramentaria* (Ganglbauer, 1889) is designated.

РЕЗЮМЕ: Даны описания трех новых видов рода *Anoplodera* из Китая — *A.* (s.str.) *przewalskii*, *A.* (s.str.) *sergeii* и *A.* (s.str.) *shamaevi* spp.n. Приведена определительная таблица видов номинотипического подрода рода *Anoplodera*, известных из Китая. Обозначен лектотип *A.* (s.str.) *atramentaria* (Ganglbauer, 1889).

Only three species of the nominotypical subgenus of the genus *Anoplodera* Mulsant, 1839 were hitherto known from China [Ganglbauer, 1889; Holzschuh, 1993]. Recent studies of the abundant private collections belonging to Dr. S. Murzin (Moscow, Russia) and Ing. J. Vorišek (Jirkov, Czechia) revealed three further new species of *Anoplodera* s.str., their descriptions are given below.

Holotypes of the species below described are kept in the collections of Dr. S. Murzin (SM) and Ing. J. Vorišek (JV).

During this study, the identification key to the Chinese species of *Anoplodera* s.str. was also elaborated, however, it must be stressed, that 4 species are still known only from males, and 2 species — from females.

Genus *Anoplodera* Mulsant, 1839

Type species *Leptura sexguttata* Fabricius, 1775, by subsequent designation (Thomson, 1864).

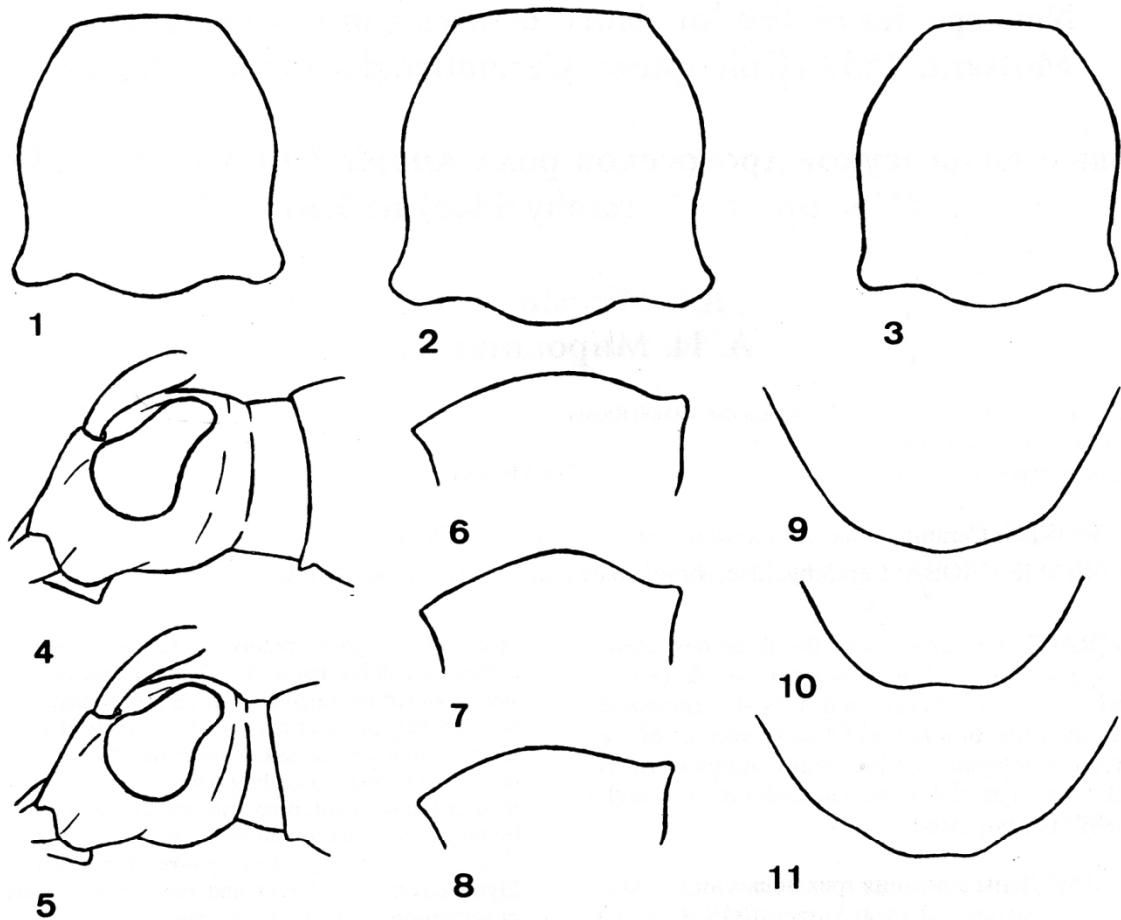
Subgenus *Anoplodera* Mulsant, 1839

KEY TO CHINESE SPECIES

1. Integument black, sometimes extreme bases of several basal antennomeres and protarsi brown..... 2

- At least elytra partly reddish or reddish-brown, elytral pattern resembles that of the *Vadonia*-species 4
- 2. Elytra covered by much smaller and more shallow punctures, puncturation at basal elytral one-third in general looks smaller than on disk of pronotum. Temples strongly oblique, antennae extending beyond the elytral apex by their apical segment; pronotum and elytral base covered by long erect hairs, pronotum as in Figs 1 and 6 *A. atramentaria* (Ganglbauer), ♂¹
- Elytra covered by larger and more coarse punctures, puncturation at basal elytral one-third similar or even more coarse than on disk of pronotum, pronotum as in Figs 2 and 3 3
- 3. Temples longer and less oblique, dorsal lobe of eye more narrow (Fig. 4); pronotum stronger constricted basally, at base broader than in the middle (Fig. 2); body more slender (Fig. 13); antennae slightly extending beyond apical one-third of elytra *A. shamaevi* sp.n., ♀
- Temples shorter and more oblique, dorsal lobe of eye broader (Fig. 5); pronotum slighter constricted basally, at base nearly as broad as in the middle (Fig. 3); body less slender (Fig. 17); antennae extending beyond apical quarter of elytra *A. corvina* Holzschuh, ♀
- 4. Temples less prominent posteriorly (Figs 12, 16); pronotum less convex (Fig. 8); antennae extending beyond elytral apex; at least legs partly reddish, elytral pattern as in Figs 12 and 16 5
- Temples quite prominent posteriorly (Fig. 14); pronotum stronger convex (Fig. 7); antennae not reaching elytral apex; legs, antennae, and abdomen entirely black, elytral pattern as in Fig. 14. The dark ovate lateral spot in the middle of elytra careless, not contrast *A. sergeii* sp.n., ♂
- 5. Outer corner at apices of antennomeres 7–10 considerably extending laterally, antennomeres 3–7 stronger elongate (Fig. 12); pronotum stronger constricted basally, at base distinctly broader than in the middle, its disk stronger

¹ I have studied ♂ from the collection of Mr. J. Vorišek (Jirkov), labelled “Kan-ssu 1885 G.Patanin” (upper side) and “18.VI. 85” (from below), identical to the single type specimen [Ganglbauer, 1889], this fact being already reported in my previous paper [Miroshnikov, 1998]. Even this specimen does not bear the taxonomic designation by Ganglbauer, I am inclined to treat it as syntype and designate it here as lectotype.



Figs 1-11. *Anoplodera* (s.str.) spp., details: 1 — pronotum of *A. atramentaria* (Ganglbauer), ♂; 2 — idem, *A. shamaevi* sp.n., ♀; 3 — idem, *A. corvina* Holzschuh, ♀; 4 — head of *A. shamaevi* sp.n., ♀, lateral view; 5 — idem, *A. corvina* Holzschuh, ♀; 6 — pronotum of *A. atramentaria* (Ganglbauer), ♂, lateral view; 7 — idem, *A. sergeii* sp.n., ♂; 8 — idem, *A. peregrina* Holzschuh, ♂; 9 — apex of ultimate sternite of *A. przewalskii* sp.n., ♂; 10 — idem, *A. sergeii* sp.n., ♂; 11 — idem, *A. shamaevi* sp.n., ♀.

Рис. 1-11. Детали строения *Anoplodera* (s.str.) spp.: 1 — переднеспинка *A. atramentaria* (Ganglbauer), ♂; 2 — то же *A. shamaevi* sp.n., ♀; 3 — то же *A. corvina* Holzschuh, ♀; 4 — голова *A. shamaevi* sp.n., ♀, вид сбоку; 5 — то же *A. corvina* Holzschuh, ♀; 6 — переднеспинка *A. atramentaria* (Ganglbauer), ♂, вид сбоку; 7 — то же *A. sergeii* sp.n., ♂; 8 — то же *A. peregrina* Holzschuh, ♂; 9 — вершина последнего стернита *A. przewalskii* sp.n., ♂; 10 — то же *A. sergeii* sp.n., ♂; 11 — то же *A. shamaevi* sp.n., ♀.

depressed, without smooth median line in basal half; puncturation of pronotum and elytra distinctly larger; antennae, abdomen, middle and hind legs blackish-brown, fore legs partly reddish; the dark ovate lateral spot in the middle of elytra more sharp (Fig. 12) *A. przewalskii* sp.n., ♂
 — Outer corner at apices of antennomeres 7-10 faintly extending laterally, antennomeres 3-7 less elongate (Fig. 16); pronotum slightly constricted basally, at base nearly as broad as in the middle, its disk more convex, with fine but distinct smooth median line in basal half; puncturation of pronotum and elytra distinctly smaller; antennae, abdomen, and legs partly reddish; the dark ovate lateral spot in the middle of elytra less distinct (Fig. 16)
 *A. peregrina* Holzschuh, ♂

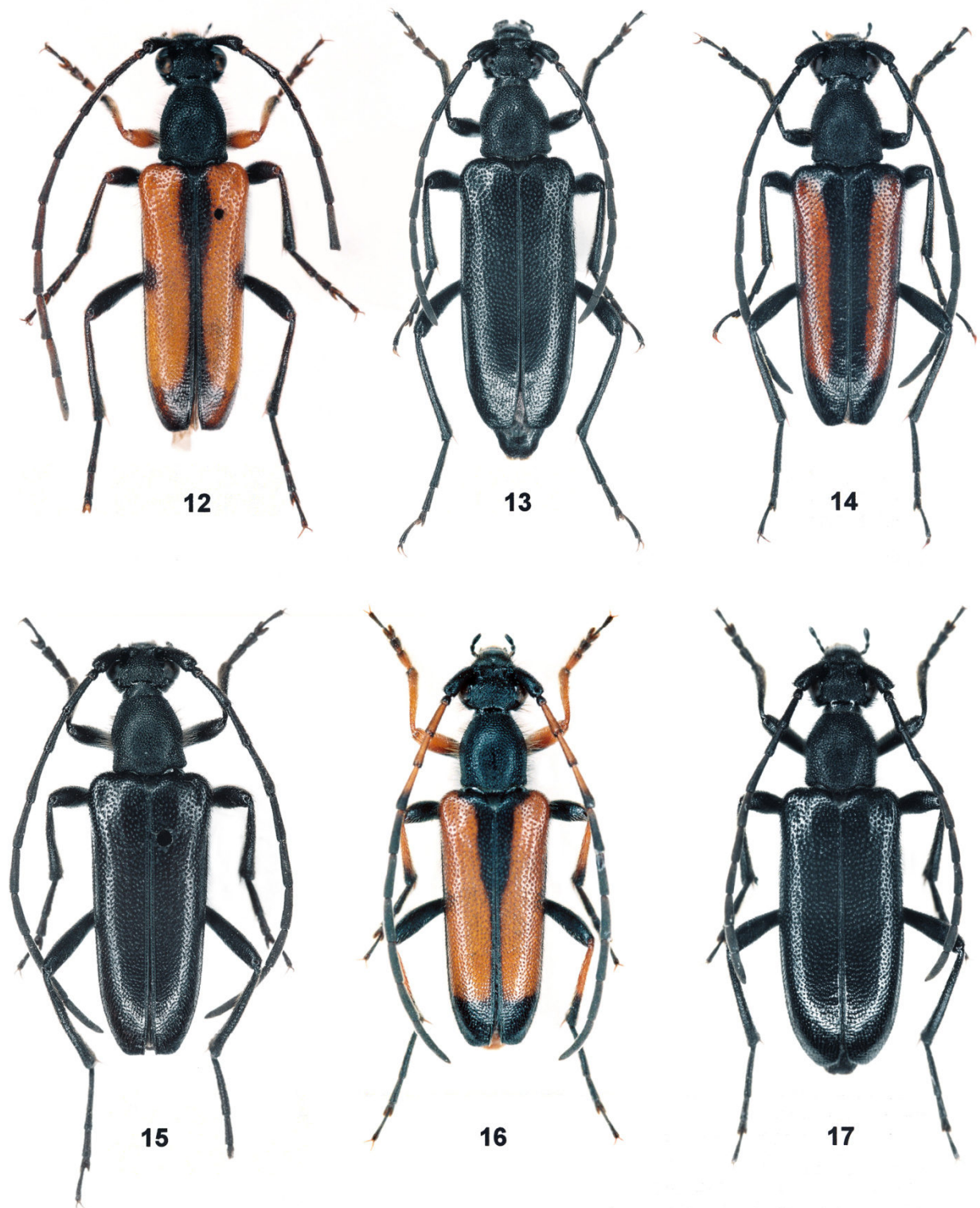
Descriptions of new species

Anoplodera (s. str.) *przewalskii* sp.n.

Figs 9, 12.

DESCRIPTION. ♂. Head, thorax, and scape black, other antennomeres, palpi, legs, and abdomen blackish-brown, par-

tially somewhat lighter, except for fore femora reddish apically and fore tibiae — basally; elytra reddish, blackish only along suture (wider basally) and at apex, with dark ovate spot laterally near middle and dark vague lateral spot in basal one-third, this pattern readily resembling that of some *Vadonia* — species. Head with irregular puncturation, the most coarse, with punctures partly fused, on vertex, covered by long erect hairs. Genae well-developed, nearly as long as fore tarsomere 2. Temples strongly and somewhat roundly oblique, forming obtuse angle posteriorly. Antennae extending beyond elytral apex by their ultimate segment; antennomeres 1-11 ratio — 35 : 10 : 36 : 34 : 46 : 41 : 42 : 39 : 40 : 37 : 52; outer corner at apices of antennomeres 7-10 considerably extending laterally, especially in antennomere 9; antennomeres 1-4 with numerous suberect coarse hairs, latter persisting but shorter on antennomere 5 as well. Pronotum moderately convex, faintly longitudinal, 1.13 times as long as wide, wider at base than in the middle, covered by rather large, dense, regular punctures, bearing long erect hairs (missing on disk, probably being damaged), median line completely missing. Scutellum triangular, elongate. Elytra moderately tapering apically, 2.44 times as long as wide at base, covered by coarse puncturation, somewhat obliterated apically, distance between punctures being



Figs 12–17. *Anoplodera* (s.str.) spp., general view: 12 — *A. przewalskii* sp.n., ♂, holotype; 13 — *A. shamaevi* sp.n., ♀, holotype; 14 — *A. sergeii* sp.n., ♂, holotype; 15 — *A. atramentaria* (Ganglbauer), ♂, lectotype; 16 — *A. peregrina* Holzschuh, ♂, holotype; 17 — *A. corvina* Holzschuh, ♀, holotype.

Рис. 12–17. *Anoplodera* (s.str.) spp., общий вид: 12 — *A. przewalskii* sp.n., ♂, голотип; 13 — *A. shamaevi* sp.n., ♀, голотип; 14 — *A. sergeii* sp.n., ♂, голотип; 15 — *A. atramentaria* (Ganglbauer), ♂, лектотип; 16 — *A. peregrina* Holzschuh, ♂, голотип; 17 — *A. corvina* Holzschuh, ♀, голотип.

generally longer than punctures' diameter, with rather short suberect hairs. Legs moderately long; length of hind tibia and tarsi subequal; tarsomere 1 1.33 times as long as tarsomeres 2 + 3. Ultimate sternite obtuse-angled apically (Fig. 9). Total length 9.0 mm.

Holotype. ♂ (JV), China, S-E Mongolia, second half of V—beginning of VI. 1871. Przewalski (originally written in Russian: "Юго-вост[очная] Монголия, втор[ая] пол[овина] V—нач[ало] июня 1871. Пржевальский")².

ETYMOLOGY. The specific epithet refers to the name of the collector, the famous Russian traveler and naturalist Nikolay Mikhailovich Przewalski.

REMARKS. This species resembles *A. peregrina* Holzschuh and *A. sergeii* sp.n., but differs from both of them in antennal structure (outer corner of antennomeres 7–10 extending laterally at apex, antennomeres 3–7 more elongate); more coarse, larger punctation of pronotum and elytra; more elongate elytra (in *A. peregrina* and *A. sergeii* sp.n., elytra are 2.31 and 2.28 times as long as wide at base, respectively); different body coloration, particularly presence of strongly marked lateral spot in the middle of elytra.

Anoplodera (s.str.) *sergeii* sp.n.

Figs 7, 10, 14.

DESCRIPTION. ♂. Integument black, elytra generally reddish-brown, blackish at shoulders, along suture (forming a wide strip there), at apex, and laterally, with ovate dark vague spot in the middle. Head with irregular punctation, the largest and even confluent punctures situated on vertex, covered by long erect hairs. Genae moderately long, slightly longer than fore tarsomere 2. Temples strongly oblique, forming protruded and sharp angle posteriorly. Antennae almost reaching elytral apex; antennomeres 1–11 ratio — 35 : 9 : 31 : 31 : 38 : 34 : 33 : 32 : 31 : 29 : 43; antennomeres 1–4 with numerous suberect robust hairs, latter present, but being shorter on antennomere 5. Pronotum somewhat convex (viewed laterally), faintly longitudinal, 1.08 times as long as wide, strongly constricted basally (viewed dorsally) (Fig. 7), covered by moderately large, dense, regular punctures, bearing long erect hairs, median line completely missing. Scutellum triangular, oblong. Elytra moderately tapering apically, 2.28 times as long as wide at base, covered by shallow, smaller than pronotal one, punctation, somewhat obliterated apically, distance between punctures being generally longer than punctures' diameter, with short suberect hairs and single longer hairs basally. Legs moderately long; hind tarsi somewhat longer than hind tibia; tarsomere 1 1.37 times as long as tarsomeres 2 + 3. Ultimate sternite slightly depressed apically, faintly emarginate (Fig. 10). Total length 8.5 mm.

Holotype. ♂ (SM), China, N Sichuan, Songpan, 9.VII.1997, S. Murzin.

ETYMOLOGY. The specific epithet refers to the name of the collector, my friend and colleague, Dr. Sergei Murzin (Moscow).

REMARKS. This species resembles *A. peregrina* Holzschuh and *A. przewalskii* sp.n., but differs in temples strongly protruding posteriorly, distinctly more convex pronotum (Figs 7, 8), different length of antennae, not extending beyond elytral apex, body coloration, particularly completely

black legs; from *A. przewalskii* sp.n. it can be distinguished also by emarginate ultimate sternite (Figs 9, 10).

Anoplodera (s. str.) *shamaevi* sp.n.

Figs 2, 4, 11, 13.

DESCRIPTION. ♀. Integument black, antennomeres 2–6 brownish basally. Head with irregular punctation, the largest and more dense on vertex, covered by erect hairs, latter longer on vertex. Genae long, subequal in length to fore tarsomere 1. Temples moderately oblique, forming obtuse angle posteriorly. Antennae slightly extending beyond apical one-third of elytra; antennomeres 1–11 ratio — 40 : 11 : 34 : 32 : 42 : 31 : 33 : 29 : 29 : 27 : 37; antennomeres 1–4 with strongly sloping robust hairs. Pronotum nearly as long as wide (Fig. 2), covered by moderately large, dense, regular punctures, somewhat smaller on disk, bearing short robust erect hairs and single long fine erect ones. Scutellum triangular, oblong. Elytra parallel-side, only in apical one-third tapering apically, 2.38 times as long as wide at base, covered by coarse dense punctation, larger than pronotal one in basal one-third, distance between punctures being subequal to punctures' diameter or even less, with short subdepressed hairs. Legs moderately long; hind tarsi hardly longer than hind tibia; tarsomere 1 1.21 times as long as tarsomeres 2 + 3. Ultimate sternite as in Fig. 11. Total length 11.5 mm.

Holotype. ♀ (SM), China, Qinghai, 70 km S Xining, Garang, 3600 m, 25. VI. 1997, A. Shamaev.

ETYMOLOGY. The specific epithet refers to the name of the collector, my colleague, Mr. Andrei Shamaev (Moscow).

REMARKS. This species differs from the similarly colored *A. corvina* Holzschuh in more elongate body (Figs 13, 17), more narrow dorsal lobe of eye, longer and less oblique temples (Figs 4, 5), shorter antennae (in *A. corvina* antennae distinctly extending beyond apical quarter of elytra), stronger constricted basally pronotum (Figs 2, 3), stronger sloping elytra on disk and larger elytral punctation; from another consubgener similar in color, *A. atramentaria* (Ganglbauer), it can be distinguished by prominently coarser elytral punctation, less oblique temples, different shape of pronotum (Figs 1, 2), and body dorsal pubescence.

ACKNOWLEDGEMENTS. I am sincerely thankful to both Dr. S. Murzin (Moscow, Russia) and Ing. J. Voříšek (Jirkov, Czechia) for opportunity kindly given to study their collections, as well as to Dr. C. Holzschuh (Vienna, Austria), for loan of the holotypes of *A. peregrina* and *A. corvina*, described by him.

References

- Ganglbauer L. 1889. Insecta a cl. G. N. Potanin in China et in Mongolia novissime lecta. VII. Buprestidae, Oedemeridae, Cerambycidae // Horae Soc. Ent. Ross. T.24. P.21–85.
- Holzschuh C. 1993. Sechzig neue Bockkäfer aus Europa und Asien, vorwiegend aus China und Thailand (Coleoptera: Disteniidae und Cerambycidae) // FBVA — Berichte Schriftenreihe der Forstlichen Bundesversuchsanstalt. № 75. S.5–63.
- Miroshnikov A.I. 1998. Reclassification of the longicorn beetles *Anoplodera* — complex of the tribe Lepturini (Coleoptera, Cerambycidae) of the Holarctic fauna. 1 // Entomol. obozr. Vol.77. No.2. P.384–420 [in Russian, with English summary].
- Przewalski N.M. 1946. [Mongolia and the country of tanguts. 3-years voyage to the East mountainous Asia] (ed. by E.M. Murzaev). Moscow: OGIZ. 333 pp. [in Russian].
- [Scientific results of the N.M. Przewalski's voyages to the Central Asia (metrological division. Routes and metrological observations)] 1895. (ed. by A.I. Voyeykov). St.-Petersburg, 282 pp. [in Russian].

² According to the route of N.M. Przewalski's expedition [Scientific results..., 1895; Przewalski, 1946], the period pointed in the label corresponds to the region between Kalgan (Zhangjiakon, Hebei Prov., nowadays) and Baotou, including In-Shan Mt. Range near the northern curve of Hwang Ho (Nei Mongol — Inner Mongolia, Autonom. Reg.).