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New and little known species of Lycidae (Coleoptera) from China

Новые и малоизвестные виды Lycidae (Coleoptera) из Китая

Sergey V. Kazantsev
С.В. Казанцев

Donetskaya Str. 13-326, Moscow 109651 Russia.
ул. Донецкая 13-326 Москва 109651 Россия.

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КЛЮЧЕВЫЕ СЛОВА: Coleoptera, Lycidae, новые виды, Палеарктика, Китай.

ABSTRACT. Seventeen new species of Lycidae are described from China: *Macrolycus gansuensis*, *M. oreophilus*, *M. multicostatus*, *M. wrasei*, *Lycostomus tsinlingensis*, *L. potanini*, *Conderis pseudoconderoides*, *C. wolongensis*, *Cautires procautiroides*, *C. callimarginatus*, *C. miaoensis*, *C. leei*, *C. tengjiensis*, *Xylobanus minshanicus*, *X. austrogansuensis*, *X. macrolycoides* and *Libnetis taiwanus* spp.n. A key to the Chinese species of the genus *Macrolycus* (group with parameres of the aedeagus) is provided. Additional information is given on *Xylobanellus gansuensis* Kazantsev, 2000.

РЕЗЮМЕ. Описывается семнадцать новых видов Lycidae из Китая: *Macrolycus gansuensis*, *M. oreophilus*, *M. multicostatus*, *M. wrasei*, *Lycostomus tsinlingensis*, *L. potanini*, *Conderis pseudoconderoides*, *C. wolongensis*, *Cautires procautiroides*, *C. callimarginatus*, *C. miaoensis*, *C. leei*, *C. tengjiensis*, *Xylobanus minshanicus*, *X. austrogansuensis*, *X. macrolycoides* и *Libnetis taiwanus* spp.n. Дается определительная таблица китайских видов рода *Macrolycus* (группа с парамерами эдеагуса). Приводится дополнительная информация по *Xylobanellus gansuensis* Kazantsev, 2000.

Introduction

The net-winged beetles of continental China have been rather intensively studied since 1996 when two first papers appeared after several decades of neglect [Bocak, 1996; Kazantsev, 1996]. Though afterwards quite a number of articles dealing with the lycid fauna of China were published, almost every new collecting trip to the area brings new species, including in the genera that have already been reviewed, such as *Macrolycus* Waterhouse, 1878 [Kazantsev, 2000b], *Plateros* Bourgeios, 1879 [Bocaková, 1997; Kazantsev, 2001], *Libnetis* Waterhouse, 1878 [Bocaková, 2000; Kazantsev, 2000a], etc. There is little doubt that further collecting in China, especially in its central provinces, will entail the discovery of yet undescribed Lycidae.

This study presenting the description of several new species that belong in seven different genera and adding information on a poorly known taxon is to a large extent based on the material collected in 2001 and 2002 in remnants of primary forests of the Minshan Mountains in Southern Gansu and Northern Sichuan.

The following abbreviations are used in the paper: NME — Naturhistorisches Museum, Erfurt; NTU — Coleoptera Collection, National Taiwan University, Taipei; ZIN — Zoological Institute, Saint-Petersburg; ZMMU — Zoological Museum of Moscow University; SVK — author's collection.

Material and Methods

Material used in this study was collected by hand-picking or by sweeping and beating the low strata foliage and grass, occasionally at lights. When extracted from storage bottles male specimens were dissected, with their genitalia pulled out and affixed with water-soluble glue on cardboard plates or put in microvials with glycerine.

Descriptions

Macrolycus gansuensis **sp.n.**
Figs. 1–3.

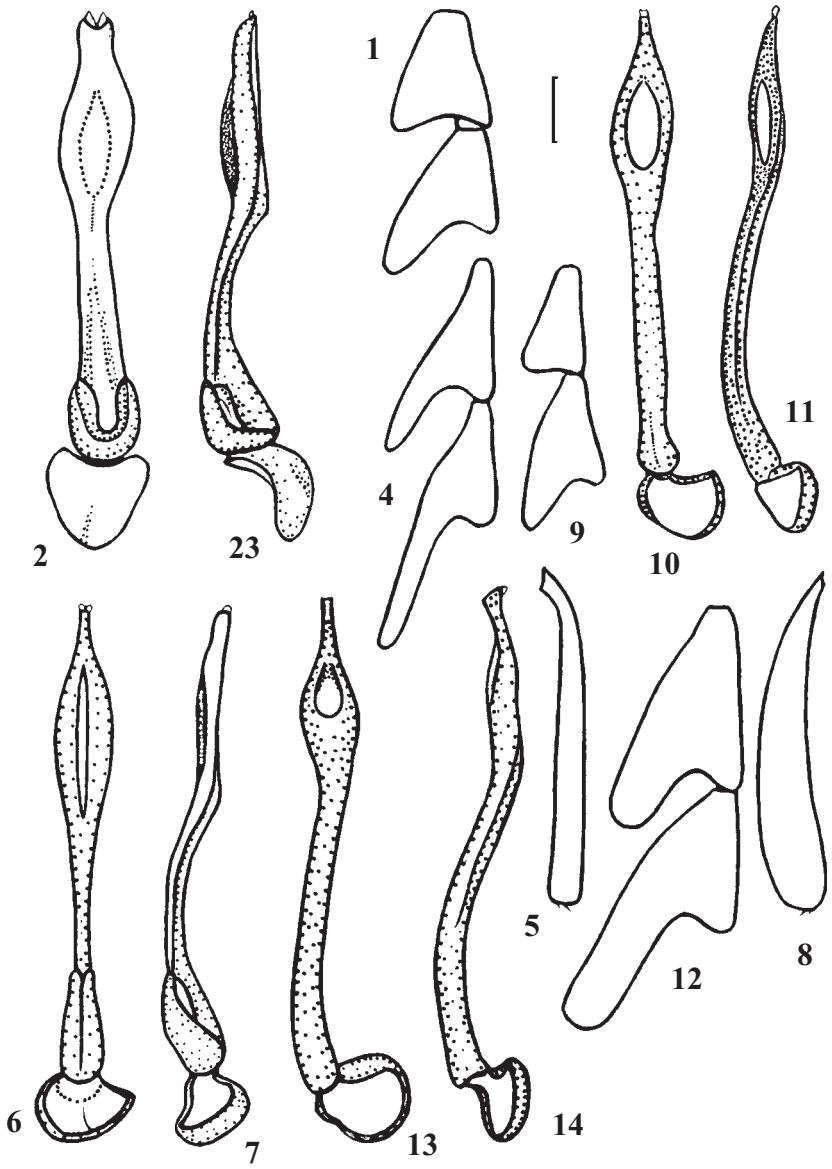
DESCRIPTION. Dark brown. Pronotum, scutellum and elytra brick red. First to fourth antennomeres interiorly light brown.

MALE. Head dorsally almost flat, antennal prominence rather inconspicuous, antennal cavities separated by 3 times less than their width. Eyes relatively small (separated medially above by 3.75 times their radius). Distal joint of maxillary palpi relatively small, elongate, widest in basal fourth. Antennae from 3rd joint flattened, lamellate (Fig. 1), reaching half of elytra; all joints with short decumbent pubescence.

Pronotum transverse, 1.5 times wider than long, with rounded anterior angles, almost straight sides and acute prominent posterior angles, anterior margin relatively little produced forward, with conspicuous median emargination. Scutellum square, straight at apex.

Elytra long (3.1 times as long as wide humerally), widest in middle, with second and fourth primary costae definitely stouter, with third rather inconspicuous, except at base. Pubescence relatively long and dense, completely hiding elytral reticulation.

Legs with wide femorae and tibiae; each claw with minute tooth reaching its middle.



Figs. 1–14. Antennal joints, hind tibiae and aedeagi of *Macrolycus* spp.: 1–3 — *M. gansuensis* sp.n., holotype ♂, 1 — 3rd and 4th antennal joints; 2–3 — aedeagus ventrally (2) and laterally (3); 4–7 — *M. oreophilus* sp.n., holotype ♂, 4 — 3rd and 4th antennal joints; 5 — hind tibia; 6–7 — aedeagus ventrally (6) and laterally (7); 8 — *M. shaanxiensis* Kazantsev, holotype ♂, hind tibia; 9–11 — *M. multicostatus* sp.n., holotype ♂, 9 — 3rd and 4th antennal joints; 10–11 — aedeagus ventrally (10) and laterally (11); 12–14 — *M. wrasei* sp.n., holotype ♂, 12 — 3rd and 4th antennal joints; 13–14 — aedeagus ventrally (13) and laterally (14). Scale: 0.5 mm.

Figs. 1–14. Антенные членики, задние голени и эдеагусы *Macrolycus* spp.: 1–3 — *M. gansuensis* sp.n., голотип, ♂, 1 — 3–4-й антенные членики; 2–3 — эдеагус вентрально (2) и латерально (3); 4–7 — *M. oreophilus* sp.n., голотип, ♂, 4 — 3–4-й антенные членики; 5 — задняя голень; 6–7 — эдеагус вентрально (6) и латерально (7); 8 — *M. shaanxiensis* Kazantsev, голотип, ♂, задняя голень; 9–11 — *M. multicostatus* sp.n., голотип, ♂, 9 — 3–4-й антенные членики; 10–11 — эдеагус вентрально (10) и латерально (11); 12–14 — *M. wrasei* sp.n., голотип, ♂, 12 — 3–4-й антенные членики; 13–14 — эдеагус вентрально (13) и латерально (14). Масштаб: 0,5 мм.

Aedeagus with relatively broad median piece and short and wide parameres (Figs. 2–3).

Length: 13.5 mm. Width (humerally): 3.5 mm.

FEMALE. Unknown.

Holotype ♂: China: S Gansu, Tepo (Tewo), 2500–2800 m, 26–28.VI.2001, S. Kazantsev (SVK); paratype ♂: same label; paratype ♂: China: S Gansu, Tsagan (70 km W Wudu), 2300–2400 m, 16–17.VI.2001, S. Kazantsev (SVK).

DIAGNOSIS. *M. gansuensis* sp.n. belongs in the group with noticeable parameres of the aedeagus (see Kazantsev, 2000b), at the same time readily distinguishable from its other members by the almost straight anterior pronotal margin notched medially, shorter antennal lamellae (Fig. 1) and more robust and flattened basally median piece of the aedeagus with shorter and wider parameres (Figs. 2–3).

Macrolycus oreophilus **sp.n.**
Figs. 4–7.

DESCRIPTION. Black. Pronotum and elytra bright red.

MALE. Head dorsally almost flat, antennal prominence rather inconspicuous, antennal cavities separated by 5 times less than their width. Eyes relatively small (separated medially above by 3.2 times their radius). Distal joint of maxillary palpi large, elongate, widest in basel. Antennae from 3rd joint flattened, lamellate (Fig. 4), reaching over half of elytra; all joints with short decumbent pubescence.

Pronotum transverse, about 1.5 times wider than long, with pronounced blunt anterior angles, almost straight sides and long acute posterior angles, anterior margin triangularly produced forward. Scutellum elongate, parallel-sided, straight at apex.

Elytra long (4.3 times longer than wide humerally), widest just behind middle, with second and fourth primary costae definitely stouter, with third rather inconspicuous. Pubescence relatively long and dense, almost hiding irregular elytral punctuation.

Legs with straight narrow posterior tibiae (Fig. 5).

Aedeagus with slender median piece and parameres, and narrow dorso-apical opening of the median piece (Figs. 6–7).

Length: 12.4–15.5 mm. Width (humerally): 2.4–3.1 mm.

FEMALE. Similar to male, but broader, with just strongly serrate antennae.

Holotype ♂: CHINA: N YUNNAN, Haba Mts, Bailakou Pass, 3450 m, VII.10.2002, S.Murzin leg. (SVK); paratypes, 4 ♂♂: same label; paratype, ♂: China: YUNNAN, Yulongxue Shan, 3600 m, 14−16.VI.1998, S.Murzin leg.; paratypes, ♂ and 2 ♀♀: China: W Sichuan, Jiulong Co., Taka He valley, 2500−4000 m, 28°45'−29°09'(N) & 101°42'−50'(E), 2−10.VII.2001 coll. L. & R. Businsky (SVK).

DIAGNOSIS. *M. oreophilus* sp.n. also belongs in the same group as *M. gansuensis* sp.n., is similar in certain aspects to *M. shaanxiensis* Kazantsev, differing from it by the narrow and straight hind tibiae (Fig. 5) and the details of the aedeagus (Figs. 6–7).

VARIATION. Paratype specimens from western Sichian differ in having dark red coloration of the upperside.

The difference between the 4 currently known Chinese *Macrolycus* species belonging in the group with the parameres of the aedeagus is shown in the key below:

A KEY TO CHINESE SPECIES OF THE GENUS *MACROLYCUS* (WITH PARAMERES OF THE AEDEAGUS)

1. Upperside uniformly orange. Elytra with irregular double rows of cells in interstices ..... *M. yunnanus* Kazantsev
— Elytra red. Elytral interstices with dense irregular punctuation 2
2. Third antennal joint triangular. Posterior pronotal angles inconspicuous. Aedeagus — Figs. 2–3 .... *M. gansuensis* sp.n.
— Third antennal joint lamellate. Posterior pronotal angles conspicuously produced laterlally 3
3. Posterior tibiae relatively broad and curved (Fig. 8) .... *M. shaanxiensis* Kazantsev
— Posterior tibiae narrow and straight (Fig. 5). Median lobe of aedeagus with narrow dorsal opening (Fig. 6) .... *M. oreophilus* sp.n.

Macrolycus multicostatus **sp.n.**
Figs. 9–11.

DESCRIPTION. Dark brown. Pronotum and elytra dark red.

MALE. Head dorsally almost flat, antennal prominence rather inconspicuous, antennal cavities separated by 3 times less than their width. Eyes small (separated medially above by 4 times their radius). Distal joint of maxillary palpi large, considerably exceeding in length and width all other joints taken together, twice as long as wide, widest at base. Antennae from 3rd joint flattened, from 4th lamellate (Fig. 9), reaching over half of elytra; all joints with short decumbent pubescence.

Pronotum almost square, only 1.1 times wider than long, with pronounced blunt anterior angles, widening anteriorly sides and small acute posterior angles, anterior margin triangularly produced forward. Scutellum square, straight at apex.

Elytra long (3.6 times as long as wide humerally), widest just behind middle, with second and fourth primary costae definitely stouter; interstices with double rows of reticulation, arranged in basal half in irregular cells. Pubescence relatively short and scarce, not consealing elytral reticulation.

Legs with narrow femorae and tibiae; each claw with tooth almost reaching its apex.

Aedeagus with slender straight median piece and relatively wide roundish dorso-apical opening and long lateral rib (Figs. 10–11).

FEMALE. Similar to male, but antennae without lamellae, pronotum slightly wider than elytra basally, femorae and tibiae definitely wider and tarsal claws with shorter teeth.

Length: 11.1–12.0 mm. Width (humerally): 2.5–2.9 mm.

Holotype ♂: China: W Sichuan, Jiulong Co., Taka He valley, 2500−4000 m, 28°45'−29°09'(N) & 101°42−50'(E), 2−10.VII.2001, L. & R. Businsky (SVK); paratype ♀: same label (SVK).

DIAGNOSIS. *M. multicostatus* sp.n. somewhat resembles *M. aurantiacus* Kazantsev in having a non-lamellate third antennal segment (Fig. 9), but can be easily differentiated from almost all congenerics, including *M. aurantiacus*, by the presence of secondary elytral costae dividing each interstice into two rows of irregular cells and the details of the aedeagus (Figs. 10–11). *M. yunnanus* Kazantsev, the only *Macrolycus* species that has similar elytral structure, belongs in a different group characterized by the presence of parameres [Kazantsev, 2000b].

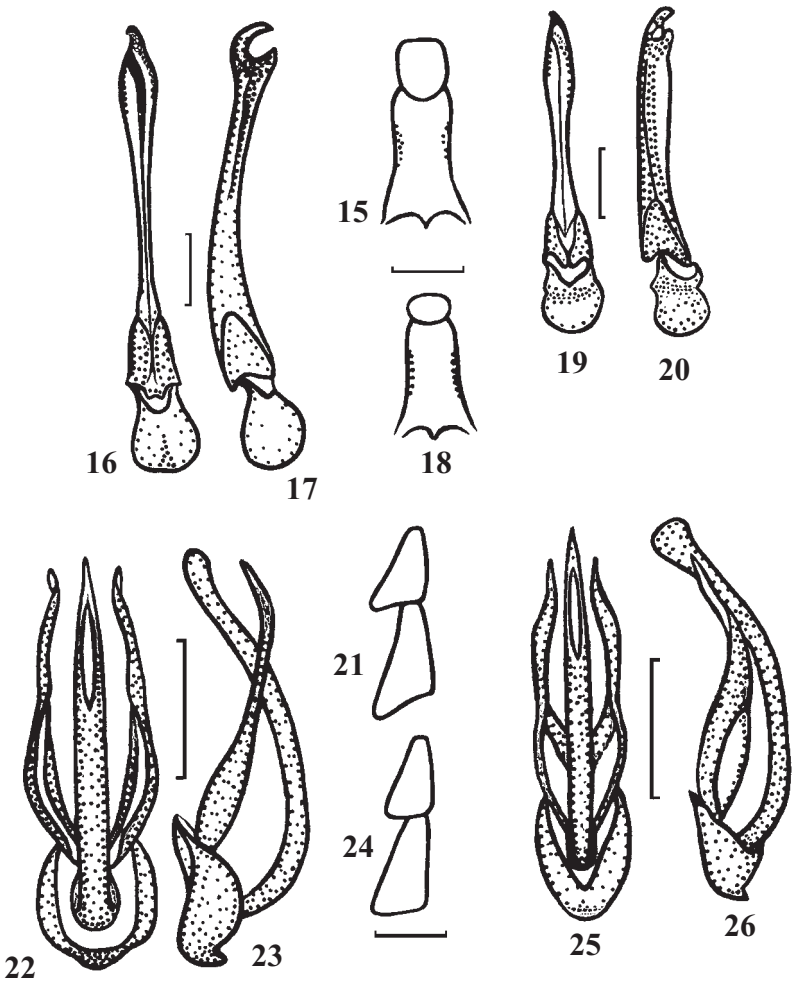
Macrolycus wrasei **sp.n.**
Figs. 12–14.

DESCRIPTION. Dark brown. Anterior and lateral margins of pronotum and elytra dark red, with purplr-red pubescence.

MALE. Head dorsally almost flat, antennal prominence rather inconspicuous, antennal cavities separated by 5 times less than their width. Eyes relatively small (separated medially above by 3.7 times their radius). Distal joint of maxillary palpi large, about twice as long as wide, widest at base, considerably exceeding in length and width all other joints taken together. Antennae from 3rd joint flattened and lamellate (Fig. 12), reaching two thirds of elytra; all joints with short decumbent pubescence.

Pronotum transverse, 1.25 times wider than long, widening anteriorly, with pronounced acute anterior and prominent acute (mostly propleurical) posterior angles, anterior margin bisinuate. Scutellum square, slightly concave at apex.

Elytra long (about 3.9 times longer than wide humerally), widest in distal third, with third primary costa definitely less pronounced in distal half; interstices with dense fine punctu-



Figs. 15–26. Antennal joints, rostrums and aedeagi of *Lycostomus* and *Conderis* spp.: 15–17 — *L. tsinlingensis* sp.n., holotype ♂, 15 — rostrum; 16–17 — aedeagus ventrally (16) and laterally (17); 18–20 — *L. potanini* sp.n., holotype ♂, 18 — rostrum; 19–20 — aedeagus ventrally (19) and laterally (20); 21–23 — *C. pseudoconderoides* sp.n., holotype ♂, 21 — 3rd and 4th antennal joints; 22–23 — aedeagus ventrally (22) and laterally (23); 24–26 — *M. multicostatus* sp.n., holotype ♂, 24 — 3rd and 4th antennal joints; 25–26 — aedeagus ventrally (25) and laterally (26). Scale: 0.5 mm.

Рис. 15–26. Антенные членики, рострумы и эдеагусы *Lycostomus* и *Conderis* spp.: 15–17 — *L. tsinlingensis* sp.n., голотип, ♂, 15 — рострум; 16–17 — эдеагус вентрально (16) и латерально (17); 18–20 — *L. potanini* sp.n., голотип, ♂, 18 — рострум; 19–20 — эдеагус вентрально (19) и латерально (20); 21–23 — *C. pseudoconderoides* sp.n., голотип, ♂, 21 — 3–4-й антенные членики; 22–23 — эдеагус вентрально (22) и латерально (23); 24–26 — *C. wolongensis* sp.n., голотип, ♂, 24 — 3–4-й антенные членики; 25–26 — эдеагус вентрально (25) и латерально (26). Масштаб: 0,5 мм.

ation. Pubescence short and dense, almost consealing elytral structure.

Legs with relatively narrow tibiae.

Aedeagus with roundish dorso-apical cavity open distally and slightly dorso-ventrally dilated apex of median lobe (Figs. 13–14).

FEMALE. Unknown.

Length: 13.9 mm. Width (humerally): 3.0 mm.

Holotype ♂: China (N-Sichuan), Daba Shan, 65 km N Fengjie, river bank, 31°40'N/109°34'E, ~1000 m, (fine gravel bank), 10.VII.2001, Wrase (08) (SVK).

DIAGNOSIS. *M. wrasei* sp.n. may be placed near *M. murzini* Kazantsev from South Shaanxi (Taibaishan) due to the similar structure of the pronotum and the aedeagus, but is readily distinguished by the coloration, the differently shaped apex of the median lobe and other details of the aedeagus (Figs. 13–14).

Lycostomus tsinlingensis **sp.n.**

Figs. 15–17.

DESCRIPTION. Black. Pronotal and elytral margins cinnobar red.

MALE. Head dorsally with conspicuous double impression behind antennal prominence, antennal cavities separated by minute lamina. Eyes relatively small (separated medially above by 2.3 times their radius). Rostrum moderately long (Fig. 15). Distal joint of maxillary palpi small, elongate, 1.8 times longer than wide. Antennae from 3rd joint flattened and serrate, reaching about half of elytra; all joints with short decumbent pubescence.

Pronotum semioval, transverse, 1.6 times wider than long, with rounded anterior and prominent acute posterior angles. Scutellum trapezoidal, almost straight at apex.

Elytra long (3.3 times as long as wide humerally), widened posteriorly, widest in distal fourth, with second and fourth primary costae slightly stouter in distal half; interstices with distinct fine irregular reticulation. Pubescence relatively short and scarce, not consealing elytral structure.

Legs with narrow femorae and tibiae; tibiae conspicuously curved.

Aedeagus with relatively long parameres and short median piece (Figs. 16–17).

FEMALE. Similar to male, but antennae shorter and less serrate.

Length: 11.0–16.5 mm. Width (humerally): 2.9–4.6 mm.

Holotype ♂: China: Shaanxi, env. Haozhenzi, 1350–2000 m, 14–24.VI.(19)99, S. Murzin leg. (SVK); paratypes, 2 ♂♂ and 2 ♀♀: same label; paratype ♂: China: Shaanxi, Taibaishan Nat Park, 1350 m, 10.VI.(19)99, S. Murzin leg.; paratypes, ♂ and 3 ♀♀: China: S Gansu, Tsagan (70 km W Wudu), 2300–2400 m, 16–17.VI.2001, S. Kazantsev; paratype ♂: China: S Gansu, Minshan, 70 km W Wudu, 2000-2700 m, 25.VII.2000, A. Gorodinsky (SVK); paratypes, 4 ♂♂ and 15 ♀♀: China: Shaanxi, Taibaishan Mts, env. Haozhenzi, 1500–2000 m, 33°52'N 107°44'E, VI–VII.2000, A. Plutenko leg. (ZMMU and SVK).

DIAGNOSIS. *L. tsinlingensis* sp.n. is evidently closely allied to *L. porphyrophorus* (Solsky), both species occurring in Taibaishan (Qinling Mts, Shaanxi), differing by the coloration, longer rostrum (Fig. 15), shorter and scarcer elytral pubescence, relatively longer parameres and shorter median piece of the aedeagus (Figs. 16–17).

REMARKS. The dark elytral stripe may considerably vary both in size and tone.

Lycostomus potanini **sp.n.**
Figs. 18–20.

DESCRIPTION. Black. Pronotum anteriorly, in anterior half of lateral margins and in posterior angles dark red; elyrta dark brown with red lateral emargination.

MALE. Head dorsally with conspicuous impression behind antennal prominence, antennal cavities separated by minute lamina. Eyes relatively small (separated medially above by 2.5 times their radius). Rostrum short (Fig. 18). Distal joint of maxillary palpi small, elongate, 1.4 times longer than wide, widest in middle. Antennae from 3rd joint flattened, from 4th serrate, reaching about half of elytra; all joints with short decumbent pubescence.

Pronotum semi-oval, transverse, 1.5 times wider than long, with rounded anterior and prominent acute posterior angles. Scutellum small, trapezoidal, almost straight at apex.

Elytra long (2.8 times as long as wide humerally), conspicuously widened posteriorly, widest in distal third, with third primary costa definitely weaker than others; interstices with distinct fine irregular reticulation. Pubescence relatively short and scarce, not consealing elytral structure.

Legs with narrow femorae and tibiae; tibiae conspicuously curved.

Aedeagus with relatively short median piece (Figs. 19–20).

FEMALE. Similar to male, but antennae shorter, elytra less broadened.

Length: 11.9–12.7 mm. Width (humerally): 3.2–3.6 mm.

Holotype ♂: "Sze-tchuan, 1885, G. Potanin", "Lycostomus modestus Ksw." (Bourgeois' manuscript label), "244" (ZIN); paratypes, 3 ♂♂ and 1 ♀: China: Sichuan, 70 km E Chengkou, 1800–2000 m, 1–7.VII.1995, A. Shamaev leg. (SVK).

DIAGNOSIS. *L. potanini* sp.n. belongs in the same group as *L. porphyrophorus* and *L. tsinlingensis* sp.n., differing from both by the coloration and the short median piece of the aedeagus (Figs. 19–20).

Conderis pseudoconderoides **sp.n.**
Figs. 21–23.

DESCRIPTION. Black. Elytra except at base, suture and margins dark red. Pronotal margins and ribs, as well as elytral base, suture and margins with reddish pubescence.

MALE. Head dorsally almost flat, antennal prominence rather inconspicuous, antennal cavities separated by 4 times less than their width. Eyes relatively small (separated medially above by 3 times their radius). Distal joint of maxillary palpi about as long as 2nd, slightly longer than wide, widest near base. Antennae from 3rd joint flattened and serrate (Fig. 21), reaching over half of elytra; all antennomeres with short dense decumbent pubescence.

Pronotum transverse, 1.3 times wider than long, trapezoidal, with pronounced slightly rounded anterior and acute produced anterior-laterally posterior angles; rounded anteriorly and conspicuously bisinuate posteriorly; median cell posteriorly closed, connected with posterior margin by half cell long rib. Scutellum trapezoidal, almost straight at apex.

Elytra long (4.1 times as long as wide humerally), slightly widening posteriorly, with almost equally developed primary costae, only 4th noticeably stouter in all its length except at base; interstices with double rows of distinct and rather irregular cells. Pubescence represented by minute hairs distributed along elytral costae.

Legs slender and narrow.

Aedeagus — Figs. 22–23.

FEMALE. Similar to male, but antennae serrate, without lamellae.

Length: 7.0–11.1 mm. Width (humerally): 1.6–2.8 mm.

Holotype ♂: China: S Gansu, Tsagan (70 km W Wudu), 2300–2400 m, 16–17.VI.2001, S. Kazantsev (SVK); paratypes, 2 ♂♂ and 1 ♀: same label; paratype ♀: China: Shaanxi, Taibaishan Mts, env. Haozhenzi, 1500–2000 m, 33°52'N 107°44'E, VI–VII.2000, A. Plutenko leg. (SVK).

DIAGNOSIS. *C. pseudoconderoides* sp.n. perhaps should be put near *C. longipennis* (Pic), formerly placed in the genus *Pseudoconderis* Pic, 1921, as it has similar pronotal structure, distinct elytral reticulation and minute hairs along elytral costae, but can be easily distinguished by the coloration, serrate antennae (Fig. 21) and the details of the aedeagus (Figs. 22–23).

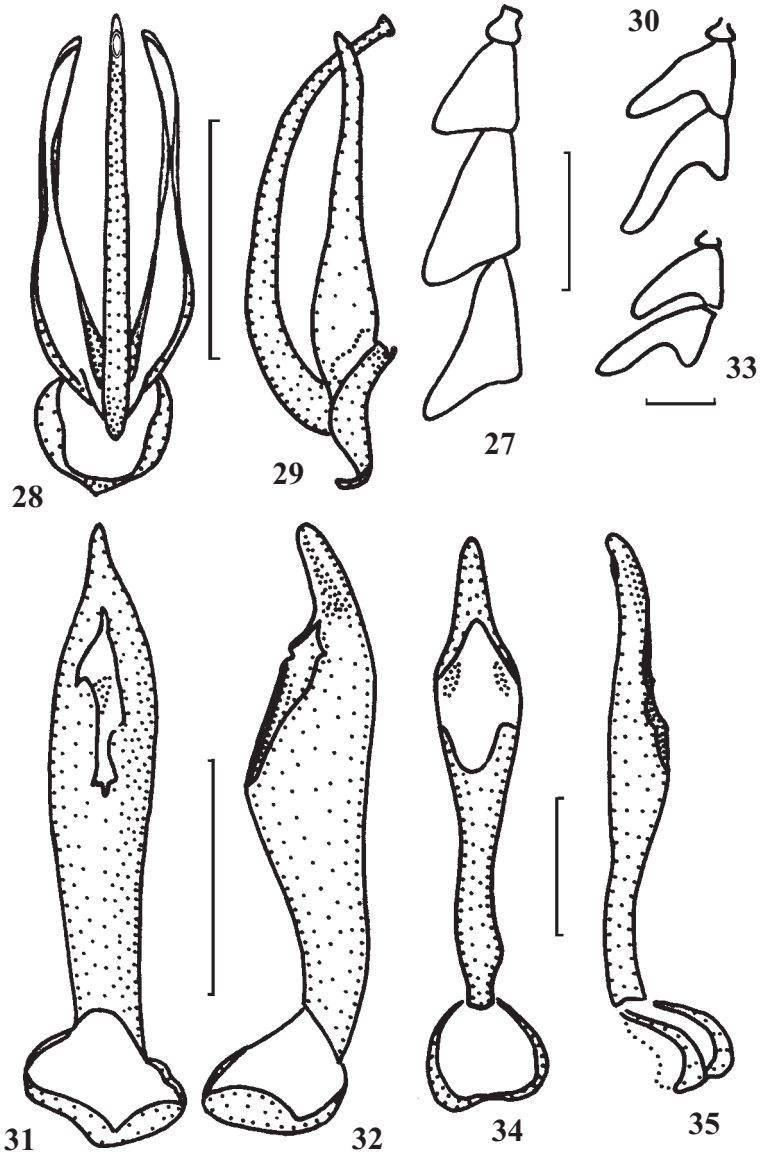
Conderis wolongensis **sp.n.**
Figs. 24–26.

DESCRIPTION. Black. Pronotum deep brown red; elytra dark red.

MALE. Head dorsally almost flat, antennal prominence rather inconspicuous, antennal cavities separated by 4 times less than their width. Eyes relatively small (separated medially above by 3.3 times their radius). Distal joint of maxillary palpi about as long as 2nd, slightly longer than wide, widest near middle. Antennae from 3rd joint flattened and inconspicuously serrate (Fig. 24), reaching over half of elytra; all antennomeres with short dense decumbent pubescence.

Pronotum transverse, 1.3 times wider than long, trapezoidal, with slightly rounded anterior and acute produced anterior-laterally posterior angles; rounded anteriorly and conspicuously bisinuate posteriorly; median cell posteriorly closing at pronotal margin. Scutellum trapezoidal, almost straight at apex.

Elytra long (3.6 times as long as wide humerally), slightly widening posteriorly, with 4th noticeably stouter in all its length except at base; interstices with obscure double rows of



Figs. 27–35. Antennal joints and aedeagi of *Xylobanellus* and *Cautires* spp.: 27–29 — *X. gansuensis* Kazantsev, holotype ♂, 27 — 2nd to 4th antennal joints; 28–29 — aedeagus ventrally (28) and laterally (29); 30–32 — *C. procautiroides* sp.n., holotype ♂, 30 — 2nd to 4th antennal joints; 31–32 — aedeagus ventrally (31) and laterally (32); 33–35 — *C. callimarginatus* sp.n., holotype ♂, 33 — 2nd to 4th antennal joints; 34–35 — aedeagus ventrally (34) and laterally (35). Scale: 0.5 mm.

Рис. 27–35. Антенные членики и эдеагусы *Xylobanellus* и *Cautires* spp.: 27–29 — *X. gansuensis* Kazantsev, голотип, ♂, 27 — 2–4-й антенные членики; 28–29 — эдеагус вентрально (28) и латерально (29); 30–32 — *C. procautiroides* sp.n., голотип, ♂, 30 — 2–4-й антенные членики; 31–32 — эдеагус вентрально (31) и латерально (32); 33–35 — *C. callimarginatus* sp.n., голотип, ♂, 33 — 2–4-й антенные членики; 34–35 — эдеагус вентрально (34) и латерально (35). Масштаб: 0,5 мм.

cells. Primary costae with short dense pubescence; interstices with scarcer hairs.

Aedeagus — Figs. 25–26.

FEMALE. Similar to male, but antennae slightly less serrate and pronotum wider and relatively larger.

Length: 7.7–9.9 mm. Width (humerally): 1.7–2.2 mm.

Holotype ♂: China: Sichuan, 35 km W Wolong, Dansheng, 2800 m, 7–17.VII.2000, S. Murzin leg. (SVK); paratypes, ♂ and ♀: same label (SVK).

DIAGNOSIS. *C. wolongensis* sp.n. is similar in many aspects to *C. pseudoconderoides* sp.n., differing by the coloration, pronotal structure, less conspicuously serrate antennae (Fig. 24), longer and less strictly confined to the costae elytral pubescence and the details of the aedeagus (Figs. 25–26).

Xylobanellus gansuensis Kazantsev, 2000
Figs. 27–29.

MALE. Differs from female in having slenderer body and more serrate antennae, with acute apices of their teeth (Fig. 27).

Aedeagus — Fig. 28–29.

STUDIED MATERIAL: ♂, China: S Gansu, Tsagan (70 km W Wudu), 2300–2400 m, 16–17.VI.2001, S. Kazantsev (SVK).

REMARKS. As the description of this species was based on a female it is complemented with some morphological details of the opposite sex. In addition to characters mentioned in the diagnosis [Kazantsev, 2000a] the male differs from *X. erythropterus* (Baudi), distributed in eastern Europe through Northern Asia to the Pacific Coast, by the definitely more serrate antennae (Fig. 27), absence of a broad membranous lobe in the distal portin of the parameres and other details of the aedeagus (Fig. 28–29).

Cautires procautiroides **sp.n.**
Figs. 30–32.

DESCRIPTION. Black. Elytra and lateral pronotal margins dark brown with reddish pubescence.

MALE. Head dorsally with shallow impression and fine median rib behind antennal prominence, antennal cavities separated by minute lamina. Eyes large (separated medially above by 1.8 times their radius). Distal joint of maxillary palpi small, about as long as 2nd, slightly longer than wide, widest at middle. Antennae from 3rd joint lamellate (Fig. 30), reaching half of elytra; all antennomeres with short dense decumbent pubescence.

Pronotum small (9 times shorter than elytra), transverse, 1.4 times wider than long, trapezoidal, with blunt anterior and small acute posterior angles; slightly produced forward anteriorly and conspicuously bisinuate posteriorly; median cell open posteriorly; anterior and lateral ribs well developed. Scutellum parallel-sided, deeply and broadly cleft at apex.

Elytra long (3.75 times as long as wide humerally), slightly widening posteriorly, with 4th primary costa noticeably stouter than others in distal half; interstices with double rows of rather irregular elongate cells, becoming one row in middle of elytra, especially noticeable in first and last interstice. Pubescence uniform, sparse and short.

Legs slender and narrow.

Aedeagus — Figs. 31–32.

FEMALE. Similar to male, but antennae with shorter lamellae.

Length: 9.7–11.0 mm. Width (humerally): 2.2–2.5 mm.

Holotype ♂: China: S Gansu, Tsagan (70 km W Wudu), 2300–2400 m, 16–17.VI.2001, S. Kazantsev (SVK); paratypes, 3 ♂♂: same label; paratype female: China (W-Hubei), Daba Shan, pass E Mt. Da Shennongjia, 12 km NW Muyuping, 31°30'N/110°21'E, 1950 m, (dry creek vall./mix. decid. for.), 16–22.VII.2001, Wrase (13) (NME); paratypes, 2 ♀♀: China: Shaanxi, Taibaishan Mts, env. Haozhenzi, 1500–2000 m, 33°52'N 107°44'E, VI–VII.2000, A. Plutenko leg.; paratype ♀: China: N Sichuan, valley 5 km N Wenchuan, 1800 m, 28.VII.2001, S. Murzin leg. (SVK).

DIAGNOSIS. *C. procautiroides* sp.n. can be easily distinguished from similarly coloured congenerics by the elytral retuculation with one row of cells in the middle of the elytra, especially noticeable in the first and last interstices (resembling the elytral structure characteristic of the genus *Procautires* Kleine, 1925) and the details of the aedeagus (Figs. 31–32).

Cautires callimarginatus **sp.n.**
Figs. 33–35.

DESCRIPTION. Black. Pronotum except at disk and external elytral emargination red.

MALE. Head dorsally with inconspicuous impression behind antennal prominence, antennal cavities separated by about 5 times their width. Eyes relatively large (separated medially above by 1.8 times their radius). Distal joint of maxillary palpi small, slightly longer than wide. Antennae from 3rd joint lamellate (Fig. 33), reaching about half of elytra; all antennomeres with short dense decumbent pubescence.

Pronotum transverse, 1.2 times wider than long, trapezoidal, with rounded anterior and small acute posterior angles; conspicuously produced forward medially at anterior margin and bisinuate posteriorly; median cell narrowly open posteriorly; anterior and lateral ribs well developed. Scutellum almost parallel-sided, deeply and broadly cleft at apex.

Elytra long (3.8 times as long as wide humerally), slightly widening posteriorly, with 2nd primary costa noticeably stouter than others in distal half; interstices with regular double rows of square cells. Pubescence uniform, sparse and short.

Aedeagus — Figs. 34–35.

FEMALE. Unknown.

Length: 10.0 mm. Width (humerally): 2.2 mm.

Holotype ♂: China: W Hubei, Shennongjia Nat. Res., 2000–2200 m, 3–8.VI.(19)95, S. Kurbatov (SVK).

DIAGNOSIS. *C. callimarginatus* sp.n. can be easily distinguished from other *Cautires* species from China by the coloration, as well as by the details of the aedeagus (Figs. 34–35).

Cautires miaoensis **sp.n.**
Figs. 36–38.

DESCRIPTION. Black. Elytra brick red.

MALE. Head dorsally almost flat, shining, antennal cavities separated by minute lamina. Eyes relatively small (separated medially above by 2.75 times their radius). Distal joint of maxillary palpi small, slightly longer than wide. Antennae from 3rd joint lamellate (Fig. 36), reaching over half of elytra; all antennomeres with short dense decumbent pubescence.

Pronotum slightly transverse, 1.2 times wider than long, trapezoidal, with rounded anterior and small acute posterior angles; slightly produced forward anteriorly and bisinuate posteriorly; median cell closed at posterior margin; anterior ribs except median one feebly developed; lateral carinae hardly noticeable. Scutellum trapezoidal, slightly emarginate at apex.

Elytra long (4 times as long as wide humerally), almost parallel-sided, with 2nd primary costa noticeably stouter than others in distal half; interstices with double rows of rather irregular elongate cells, nearly transferring into one row in middle of elytra, especially manifest in first and second interstices. Pubescence in basal half relatively dense distributed along primary costae, with bottom of cells hairless; in distal half pubescence almost uniform.

Aedeagus — Figs. 37–38.

FEMALE. Unknown.

Length: 7.6–8.5 mm. Width (humerally): 1.6–2.0 mm.

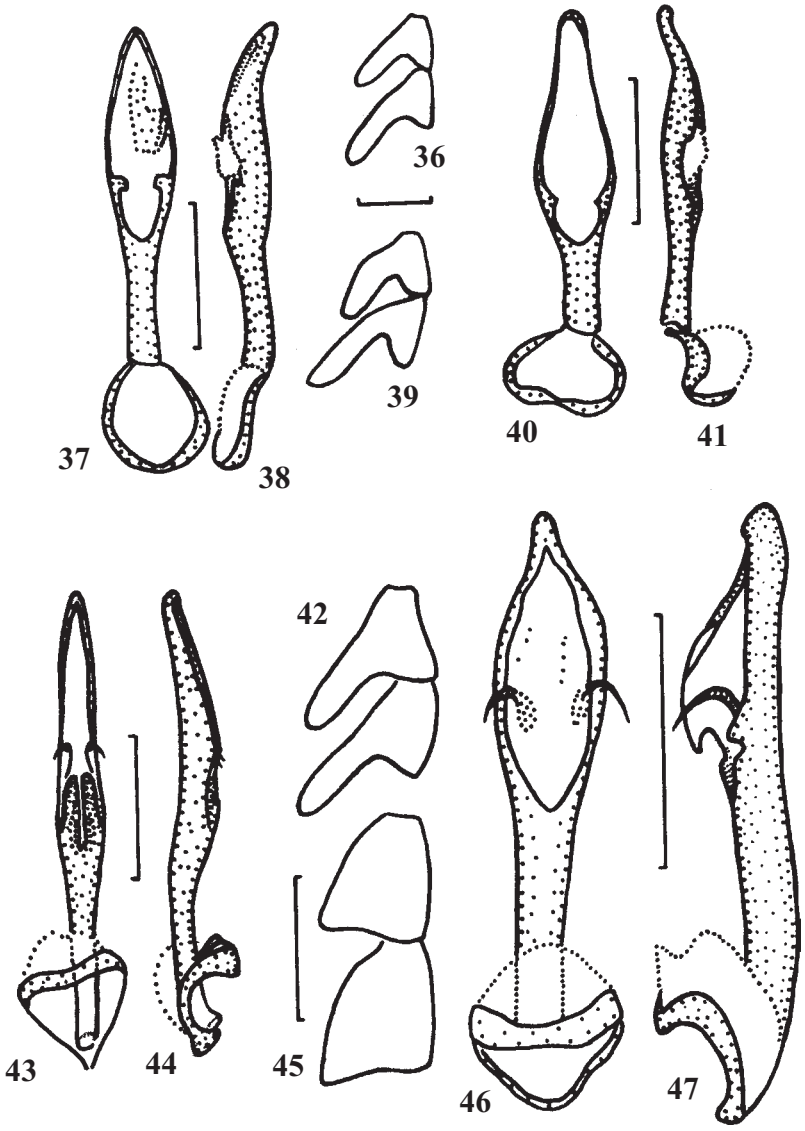
Holotype ♂: China: Guizhou, env. Kaili-Laishan, Miao Mts, 1200 m, 16–19.VI.2000, S. Murzin (SVK); paratypes, 4 ♂♂: same label (SVK).

DIAGNOSIS. *C. miaoensis* sp.n. is distinguishable from other Chinese *Cautires* by the coloration, peculiar elytral reticulation and pubescence, and the details of the aedeagus (Figs. 37–38).

Cautires leei **sp.n.**
Figs. 39–41.

DESCRIPTION. Black. Elytra orange red; pronotum laterally in middle reddish-brown.

MALE. Head dorsally almost flat, shining, antennal cavities separated by about 5 times their width. Eyes small



Figs. 36–47. Antennal joints and aedeagi of *Cautires* and *Xylobanus* spp.: 36–38 — *C. miaoensis* sp.n., holotype ♂, 36 — 3rd and 4th antennal joints; 37–38 — aedeagus ventrally (37) and laterally (38); 39–41 — *C. leei* sp.n., holotype ♂, 39 — 3rd to 4th antennal joints; 40–41 — aedeagus ventrally (40) and laterally (41); 42–44 — *C. tengjiensis* sp.n., holotype ♂, 42 — 2nd to 4th antennal joints; 43–44 — aedeagus ventrally (43) and laterally (44); 45–47 — *X. minshanicus* sp.n., holotype ♂, 45 — 3rd to 4th antennal joints; 46–47 — aedeagus ventrally (46) and laterally (47). Scale: 0.5 mm.

Рис. 36–47. Антенные членики и эдеагусы *Cautires* и *Xylobanus* spp.: 36–38 — *C. miaoensis* sp.n., голотип, ♂, 36 — 3–4-й антенные членики; 37–38 — эдеагус вентрально (37) и латерально (38); 39–41 — *C. leei* sp.n., голотип, ♂, 39 — 3–4-й антенные членики; 40–41 — эдеагус вентрально (40) и латерально (41); 42–44 — *C. tengjiensis* sp.n., голотип, ♂, 42 — 3–4-й антенные членики; 43–44 — эдеагус вентрально (43) и латерально (44); 45–47 — *X. minshanicus* sp.n., голотип, ♂, 45 — 3–4-й антенные членики; 46–47 — эдеагус вентрально (46) и латерально (47). Масштаб: 0,5 мм.

(separated medially above by 2.6 times their radius). Distal joint of maxillary palpi small, elongate, hardly wider than preceeding joints. Antennae from 3rd joint lamellate (Fig. 39), reaching half of elytra; all antennomeres with short dense decumbent pubescence.

Pronotum 1.3 times wider than long, trapezoidal, with parallel in basal fifth and conspicuously narrowing anteriorly sides, prominent anterior and minute acute posterior angles; convex anteriorly and bisinuate posteriorly; median cell narrowly open at posterior margin; all pronotal carinae fine, but well noticeable. Scutellum parallel-sided, broadly and deeply emarginate at apex.

Elytra long (3.5 times as long as wide humerally), slightly widening posteriorly, with 2nd primary costa noticeably stouter than others in distal half; interstices with double rows of rather irregular elongate cells. Pubescence uniform, relatively dense and short.

Aedeagus — Figs. 40–41.

FEMALE. Unknown.

Length: 8.9 mm. Width (humerally): 2.1 mm.

Holotype ♂: Taiwan: Kaohsiung, Tengji, 22.VI.2000, C.-F. Lee leg. (NTU).

DIAGNOSIS. *C. leei* sp.n. is similar in coloration to *C. miaoensis* sp.n., readily distinguishable by the shape of the pronotum, elytral reticulation and details of the aedeagus (Figs. 40–41).

Cautires tengjiensis **sp.n.**
Figs. 42–44.

DESCRIPTION. Black. Pronotum except at disk posteriorly and elytra reddish testaceus.

MALE. Head dorsally slightly concave behind antennal prominence, antennal cavities separated by about 3 times their width. Eyes small (separated medially above by 2.6 times their radius). Distal joint of maxillary palpi small, elongate, hardly wider than preceeding joints. Antennae from 3rd joint lamellate (Fig. 42), reaching about half of elytra; all antennomeres with short dense decumbent pubescence.

Pronotum 1.3 times wider than long, with slightly convex narrowing anteriorly sides, rounded anterior and acute posterior angles; convex anteriorly and bisinuate posteriorly; median cell narrowly open at posterior margin; all pronotal carinae except mdean one hardly noticeable. Scutellum parallel-sided, rather broadly and deeply emarginate at apex.

Elytra long (3.6 times as long as wide humerally), slightly widening posteriorly, with 2nd primary costa slightly stouter in distal half; interstices with double rows of regular elongate cells. Pubescence sparse and short, distributed along costae, leaving bottom of cells hairless.

Aedeagus — Figs. 43–44.

FEMALE. Unknown.

Length: 7.5 mm. Width (humerally): 1.8 mm.

Holotype ♂: Taiwan: Kaohsiung, Tengji, 22.VI.2000, C.-F. Lee leg. (NTU).

DIAGNOSIS. *C. tengjiensis* sp.n. is similar in coloration to *C. katoi* Nakane, but in addition to the aedeagus (Figs. 43–44) can be distinguished by the shape of the pronotum with feeble lateral carinae.

Xylobanus minshanicus **sp.n.**
Figs. 45–47.

DESCRIPTION. Black. Pronotum dark red brown with reddish pubescence at lateral margins; elytra with dark red costae and transverse ribs.

MALE. Head dorsally almost flat, shining, antennal cavities separated by about 7 times their width. Eyes small (separated medially above by 2.6 times their radius). Distal joint of maxillary palpi small, stout, only slightly longer than wide. Antennae from 3rd joint serrate (Fig. 45), reaching over half of elytra; all antennomeres with short dense decumbent pubescence.

Pronotum nearly as wide as long, narrowing anteriorly, with blunt anterior and prominent acute posterior angles; triangularly produced forward anteriorly and bisinuate posteriorly; median cell open at posterior margin; anterior ribs well developed; lateral carinae hardly noticeable. Scutellum parallel-sided, with broad deep emargination at apex.

Elytra long (3.6 times as long as wide humerally), parallel-sided, with 2nd primary costa slightly stouter than others in distal half; interstices with regular transverse cells. Pubescence relatively dense and short, spread along primary costae, with bottom of cells hairless.

Aedeagus — Figs. 46–47.

FEMALE. Similar to male, but antennae slightly less serrate.

Length: 6.5–7.8 mm. Width (humerally): 1.6–1.8 mm.

Holotype ♂: China: N Sichuan, Nanping, 1500−1800 m, 4−6.VII.2001, S. Kazantsev (SVK); paratypes, ♂ and ♀: same label; paratypes, 2 ♂♂: China: N Sichuan, valley 5 km N Wenchuan, 2000 m, 3−5.VII.2001, S. Murzin; paratype, ♂: China: N Sichuan, valley 5 km N Wenchuan, 1800 m, VI.8.2002, S. Murzin (SVK).

DIAGNOSIS. *X. minshanicus* sp.n. differs from *X. montiphionus* Kazantsev, described from Central Sichuan, by the smaller eyes, serrate male antennae (Fig. 45), shape of the pronotum, details of the aedeagus (Figs. 46–47), etc.

Xylobanus austrogansuensis **sp.n.**
Figs. 48–50.

DESCRIPTION. Black. Pronotal and elytral margins, costae and ribs red brown with reddish pubescence.

MALE. Head dorsally almost flat, shining, antennal cavities separated by minute lamina. Eyes large (separated medially above by 1.2 times their radius). Distal joint of maxillary palpi small, narrow, 1.7 times longer than wide. Antennae from 3rd joint lamellate (Fig. 48), reaching basal third of elytra; all antennomeres with short dense decumbent pubescence.

Pronotum nearly as wide as long, slightly narrowing anteriorly, with slightly concave sides, blunt anterior and prominent acute posterior angles; triangularly produced forward anteriorly and medially convex posteriorly; median cell closed at posterior margin; all ribs well developed. Scutellum parallel-sided, with broad deep emargination at apex.

Elytra long (4.3 times as long as wide humerally), parallel-sided, with all primary costa almost equally developed; interstices with elongate cells. Pubescence scarce and short, spread along primary costae, with bottom of cells hairless.

Aedeagus — Figs. 49–50.

FEMALE. Unknown.

Length: 9.5 mm. Width (humerally): 1.9 mm.

Holotype ♂: China: S Gansu, Tsagan (70 km W Wudu), 2300−2400 m, 16−17.VI.2001, S. Kazantsev (SVK).

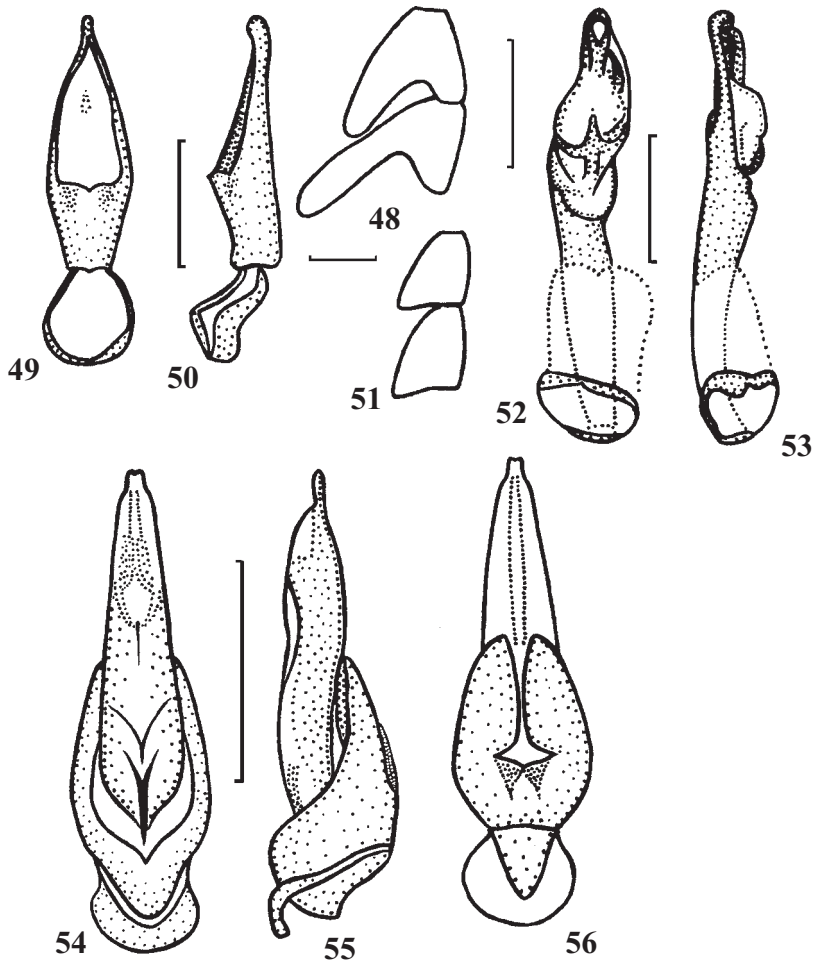
DIAGNOSIS. *X. austrogansuensis* sp.n. differs from other *Xylobanus* known from China by the short lamellate antennae, elongate cells of the elytral reticulation, details of the aedeagus (Figs. 49–50), etc.

Xylobanus macrolycoides **sp.n.**
Figs. 51–53.

DESCRIPTION. Black. Pronotum , scutellum and elytra orange red.

MALE. Head dorsally with conspicuous transverse impression behind antennal prominence, antennal cavities separated by about 6.4 times their width. Eyes relatively large (separated medially above by 1.6 times their radius). Distal joint of maxillary palpi small, slightly longer than wide. Antennae from 3rd joint serrate (Fig. 51), reaching over half of elytra; all antennomeres with short dense decumbent pubescence; joints 3 to 11 additionally with sparse minute scales.

Pronotum transverse, 1.6 times wider than long, trapezoidal, with concave narrowing anteriorly sides, rounded anterior and prominent acute posterior angles; evenly produced forward anteriorly and bisinuate posteriorly; median cell open at posterior margin; anterior ribs except median one feebly developed; lateral carinae hardly noticeable. Scutellum parallel-sided, with rather broad roundish emargination at apex.



Figs. 48–56. Antennal joints and aedeagi of *Xylobanus* and *Libnetis* spp.: 48–50 — *X. austrogansuensis* sp.n., holotype ♂, 48 — 3rd and 4th antennal joints; 49–50 — aedeagus ventrally (49) and laterally (50); 51–53 — *X. macrolycoides* sp.n., holotype ♂, 51 — 3rd to 4th antennal joints; 52–53 — aedeagus ventrally (52) and laterally (53); 54–56 — *L. taiwanus* sp.n., holotype ♂, 54–56 — aedeagus ventrally (54), laterally (55) and dorsally (56). Scale: 0.5 mm.

Рис. 48–56. Антенные членики и эдеагусы *Xylobanus* и *Libnetis* spp.: 48–50 — *X. austrogansuensis* sp.n., голотип, ♂, 48 — 3–4-й антенные членики; 49–50 — эдеагус вентрально (49) и латерально (50); 51–53 — *X. macrolycoides* sp.n., голотип, ♂, 51 — 3–4-й антенные членики; 52–53 — эдеагус вентрально (52) и латерально (53); 54–56 — *L. taiwanus* sp.n., голотип, ♂, 54–56 — эдеагус вентрально (54) латерально (55) и дорсально (56). Масштаб: 0,5 мм.

Elytra long (4 times as long as wide humerally), almost parallel-sided, with 2nd primary costa noticeably stouter in distal half; interstices with regular transverse cells. Pubescence relatively dense and short, distributed along primary costae, with bottom of cells hairless.

Aedeagus with twisted apical portion and sclerotized process of internal sack (Figs. 52–53).

FEMALE. Similar to male, but eyes smaller and antennae less serrate.

Length: 8.0–10.7 mm. Width (humerally): 1.9–2.4 mm.

Holotype ♂: Taiwan: Kaohsiung, Tengji, 22.VI.2000, C.-F. Lee leg. (NTU); paratypes, 2 ♂♂ and 3 ♀♀: same label; paratype, ♂: Taiwan: Taipei, Wulai, 24.XII.1996, S.D. Lee leg. (NTU and SVK).

DIAGNOSIS. In possessing developed sclerotized structures of the internal sack of the aedeagus *X. macrolycoides* sp.n. is evidently close to *X. approximans* Bourgeois, of the Central and East Himalayas [Kazantsev, 1992], readily distinguishable by the twisted apical portion of the median piece and other details of the aedeagus (Figs. 52–53).

Libnetis taiwanus **sp.n.**

Figs. 54–56.

DESCRIPTION. Black. Second antennal joint apically testaceous.

MALE. Head dorsally with conspicuous transverse impression behind antennal prominence, antennal cavities separated by minute lamina. Frons with elongate median areola open anteriorly. Eyes moderately large (separated medially above by 1.6 times their radius). Distal joint of maxillary palpi elongate, widening apically, with three blunt glabrous teeth at apical margin. Antennae nearly filiform, from 3rd joint slightly flattened, reaching over half of elytra, with 2nd joint transverse, considerbaly shorter than 3rd, which in its turn slightly shorter than 4th; all antennomeres with relatively short erect pubescence.

Pronotum transverse, almost twice as wide as long, trapezoidal, with blunt anterior and acute moderately produced

laterally posterior angles; almost straight anteriorly and slightly bisinuate posteriorly; one third anteriorly and almost same width laterally with coarse punctuation; disk with transverse impression and conspicuous narrow median furrow reaching posterior margin. Scutellum nearly parallel-sided and straight at apex.

Elytra long (3 times as long as wide humerally), parallel-sided, with almost equally developed, except at apex, primary costa, irregularly granulose in interstices. Pubescence erect, short and dense.

Aedeagus relatively long and straight, with free elongate parameres (Figs. 54–56).

FEMALE. Unknown.

Length: 5.0 mm. Width (humerally): 1.4 mm.

Holotype ♂: Taiwan: Kaohsiung, Tengji, 22.VI.2000, C.-F. Lee leg. (SVK).

DIAGNOSIS. *L. taiwanus* sp.n. evidently belongs in the same group as *L. opacus* Pic and *L. xilingensis* Kazantsev, differing from both by the conspisuous areola on the frons, details of the aedeagus (Figs. 54–56), etc.

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