



Taxonomy of the subgenus *Euleptarthrus* Jakobson (Coleoptera, Staphylinidae, Osoriinae, *Priochirus*) of China with descriptions of three new species

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Abstract

Three new species of subgenus *Euleptarthrus* Jakobson, 1908 of the genus *Priochirus* Sharp, 1887 are described from China: *P. (E.) trifurcus* Wu & Zhou **sp. nov.** from Xizang, *P. (E.) deltodontus* Wu & Zhou **sp. nov.** from Yunnan and *P. (E.) curtidentatus* Wu & Zhou **sp. nov.** from Xizang and Yunnan. Diagnoses are also given for two species previously described from China, *P. (E.) chinensis* Bernhauer, 1933 and *P. (E.) subbrevicornis* Bernhauer, 1934. An updated version of the key to all Chinese species of the subgenus *Euleptarthrus* is provided. Important morphological characters are illustrated.

Key words: Staphylinidae, *Priochirus*, *Euleptarthrus*, new species, China

Introduction

The genus *Priochirus* Sharp, 1887, of the subfamily Osoriinae (Coleoptera: Staphylinidae), is a successful group well adapted to habitats associated with dead wood in tropical and subtropical forest, and shows remarkable specialization and high diversity in external morphology (Greenslade 1971; Wu & Zhou 2007). In *Priochirus*, the subgenus *Euleptarthrus* is characterized by having at least one pair of blunt and short lateral teeth on head. Greenslade (1971) included in this subgenus 10 species and divided it into three species-groups: 1) *japonicus*-group containing *P. (E.) japonicus* Sharp, 1889, *P. (E.) freyi* Bernhauer, 1941, *P. (E.) formosae* Greenslade, 1971 and *P. (E.) quadrioveatus* Greenslade, 1971; 2) *longicornis*-group including *P. (E.) longicornis* (Fauvel, 1864), *P. (E.) micrognathus* Fauvel, 1902, *P. (E.) chinensis* Bernhauer, 1933, *P. (E.) subbrevicornis* Bernhauer, 1934 and *P. (E.) brevidenticulatus* Scheerpeltz, 1965; 3) *malayanus*-group including only *P. (E.) malayanus* Cameron, 1936. Later, Naomi (1996) found that *P. (E.) freyi* was a junior synonym of *P. (E.) japonicus* and described an additional species, *P. (E.) masahiroi* Naomi, 1996. Among these species, five were recorded from China: two from *longicornis*-group: *P. (E.) chinensis* and *P. (E.) subbrevicornis*, both from the mainland China; and three from *japonicus*-group: *P. (E.) japonicus*, *P. (E.) formosae* and *P. (E.) quadrioveatus*, all from Taiwan.

In a recently published morphology-based phylogenetic analysis of *Priochirus sensu lato*, Wu and Zhou (2007) found *Euleptarthrus* to be polyphyletic. The *japonicus*-group was found to be phylogenetically remote from the two other groups and was placed in a separate subgenus *Sinumandibulus* Wu & Zhou, 2007. In that paper, five new *Euleptarthrus* species were described from the mainland China: *P. (E.) amblyodontus* Wu & Zhou, 2007, *P. (E.) baotingensis* Wu & Zhou, 2007, *P. (E.) elongatus* Wu & Zhou, 2007, *P. (E.) parvicornis* Wu & Zhou, 2007 and *P. (E.) oxygonus* Wu & Zhou, 2007. Thus, prior to this study, excluding the now separate *japonicus*-group, a total of seven *Euleptarthrus* species were recorded from China.

In this paper, three new species of *Euleptarthrus* are described from China: *P. (E.) trifurcus* Wu & Zhou **sp. nov.** from Xizang, *P. (E.) deltodontus* Wu & Zhou **sp. nov.** from Yunnan and *P. (E.) curtidentatus* Wu & Zhou **sp. nov.** from Yunnan and Xizang. Two species previously known to occur in China, *P. (E.) chinensis* and *P. (E.)*

subbrevicornis, are also illustrated and diagnosed. A key to all Chinese species is provided for the subgenus *Euleptarthrus*.

Material and methods

All specimens included in this study were originally pinned or glued on paper cards. For morphological study specimens were relaxed in warm water (60°C) for 3-5 hours, cleaned in 10% KOH solution for 10 minutes, rinsed in water, and then preserved in 75% alcohol for further dissection and observation. Specimen dissections, examination and illustrations were made under the stereoscopic microscope (Olympus SZX 16). Measurements were done at 50× magnification.

Abbreviations used in the text are:

EL—elytron length (from the humerus to the most distal margin)

EW—elytral width (maximal)

HL—head length (from frontal angle to the posterior margin)

HW—head width (maximal, excluding eyes)

PL—pronotum length (along median line)

PW—pronotum width (maximal)

Depositories

Specimens examined for this study are deposited in the following collections:

FMNH Field Museum of Natural History, Chicago, USA (Dr. Alfred F. Newton)

IOZ-CAS Institute of Zoology, the Chinese Academy of Sciences, Beijing, China (Dr. Hong-Zhang Zhou)

NMW Naturhistorisches Museum, Wien, Austria (Dr. Harald Schillhammer)

SEM-CAS Shanghai Entomological Museum, the Chinese Academy of Sciences, Shanghai, China (Dr. Jie Wu)

Euleptarthrus Jakobson, 1908

Euleptarthrus Jakobson, 1908: 466 (subgenus of *Priochirus*; replacement name for *Leptarthrus* Bernhauer, 1903 (*nec* Stephens, 1829); **type species**: *Leptochirus longicornis* Fauvel, 1864, fixed by objective synonymy with *Leptarthrus*, which had its type species fixed by monotypy); Wu & Zhou, 2007: 74, 76–80, 89 (phylogeny, excluding the *japonicus*-group).

Leptarthrus Bernhauer, 1903: 141, 159 (subgenus of *Priochirus*; *nec* Stephens, 1829).

Neoleptarthrus Scheerpeltz, 1933: 1004 (subgenus of *Priochirus*; replacement name for *Leptarthrus* Bernhauer).

Additional references: see Herman (2001)

Diagnosis. Most species of *Euleptarthrus* can be distinguished from the other subgenera of *Priochirus* by the shape of two pairs of lateral teeth on head: the inner lateral teeth blunt or triangularly convex, the outer lateral teeth rounded or weakly pointed. Only in three species, *P. (E.) malayanus*, *P. (E.) oxygonus* and *P. (E.) trifurcus*, both the inner and outer lateral teeth are well developed and distinctly pointed. However, in all known *Euleptarthrus* species, the inner lateral teeth are distinctly shorter than, or at most as long as the outer lateral teeth. Besides cephalic teeth, *Euleptarthrus* species also share the following three characters: the frontal angle of head broadly convex, the median sulcus of head narrowed posteriorly with its lateral margins fused or almost fused at posterior end, lateral depression between the inner and outer lateral teeth is distinct. An additional character (two closely located pairs of long setae in the center of clypeus) is shared by all *Euleptarthrus* species except *P. (E.) trifurcus*, in which the two pairs of setae are widely separated.

Key to Chinese species of the subgenus *Euleptarthrus*

1. Head with outer lateral teeth strongly projecting and sharp, about twice as long as inner lateral teeth *P. (E.) oxygonus*
- Head with outer lateral teeth rounded or bluntly pointed, nearly as long as inner lateral teeth 2.
2. Head with outer and inner lateral teeth distinctly pointed; lateral setae on clypeus absent; 3rd ventral tooth of mandible distinctly pointed and together with 1st and 2nd ventral teeth forming trifurcate structure *P. (E.) trifurcus* **sp. nov.**
- Head with outer lateral teeth rounded, inner lateral teeth at most triangular or bluntly convex; two pairs of lateral setae on clypeus present; 3rd ventral tooth of mandible absent, or if present never forming trifurcate structure with 1st and 2nd ventral teeth 3.
3. Pronotum red or dark red 4.
- Pronotum black or brown 5.
4. Elytra red; pronotum without lateral puncture on each side of median longitudinal sulcus *P. (E.) baoxingensis*
- Elytra black; pronotum with small lateral puncture on each side of median longitudinal sulcus *P. (E.) elongatus*
5. Elytra with disc glossy and only marginal area covered with coriaceous ground sculpture *P. (E.) parvicornis*
- Elytra completely covered with distinct coriaceous ground sculpture 6.
6. First dorsal tooth of mandible shorter than 1st and 2nd ventral teeth, 2nd dorsal tooth absent 7.
- First dorsal tooth of mandible longer than 1st and 2nd ventral teeth, 2nd dorsal tooth present 8.
7. Inner lateral teeth on head triangularly convex; elytra dark red *P. (E.) deltodontus* **sp. nov.**
- Inner lateral teeth on head bluntly convex; elytra dark brown *P. (E.) amblyodontus*
8. Third segment of antennae about 3 times as long as 2nd; inner lateral teeth on head curtate; inclined plane between lateral teeth and clypeus visible from above *P. (E.) curtidentatus* **sp. nov.**
- Third segment of antennae at most 2.5 times as long as 2nd; inclined plane between lateral teeth and clypeus invisible from above 9.
9. Body brown; size smaller (< 10 mm); frontal impression distinctly narrowed frontad *P. (E.) subbrevicornis*
- Body black; size larger (> 12 mm); frontal impression slightly divergent frontad *P. (E.) chinensis*

Priochirus (Euleptarthrus) chinensis Bernhauer, 1933

Priochirus chinensis Bernhauer, 1933: 25 (*Priochirus*; subgenus *Leptarthrus*; Type locality: Szetschwan, Tatsienlu, Tjiji, Urwald-Rodungen); Wu and Zhou, 2007: 90, 91, 96 (*Priochirus*; subgenus *Euleptarthrus*; characters illustration).

Type material. Syntypes: CHINA: Sichuan: 2 exs., “CHINA: Szechuan, Em. Reitter / Tatsienlu Tjiji, Urwald-Rodungen”, “*chinensis* Bernh. (*Leptarthrus*) typus”, “*chinensis*, Bernh. typus”, “Chicago NHMus M. Bernhauer Collection” (FMHN).

Additional material. CHINA: Henan: ♀, Songxian, Baiyunshan, 9–28.viii.1996, Zurao Liu, Weinian Zhang and Haisheng Yin coll. (SEM-CAS); **Hubei:** 3♂, ♀, Shennongjia, 1700 m, 1.viii.1998, Hongzhang Zhou coll. (IOZ-CAS); **Sichuan:** 20♂, 35♀, Baoxing, 7.vi.1997, Haisheng Zhou coll. (IOZ-CAS); 12♂, 8♀, Baoxing, 1900 m, 6.viii.2003, Jie Wu coll. (IOZ-CAS); **Xizang:** 2♀, Chayu, 2000 m, 24.viii.2005, Jie Wu coll. (IOZ-CAS); **Yunnan:** ♂, Pingbian, 2100 m, 21.v.2009, Jie Wu coll. (SEM-CAS).

Diagnosis. Body length 12.0–13.0 mm, body black except for 8th abdominal segment sometimes brown, and tarsi slightly red-brown. Head transverse, frontal impression as long as wide, slightly divergent frontad, width of anterior margin about 1/5 times as wide as head; median sulcus narrowed posteriorly with its lateral margins fused before posterior margin of head; inner lateral teeth bluntly convex, outer lateral teeth rounded, lateral impression widely depressed between inner and outer lateral teeth; clypeus in center with two very close pairs of long setae. Mandibles distinctly protruding, apicad gradually bent inwards, 2nd dorsal tooth bluntly convex, 1st and 2nd ventral teeth forming bifurcate structure, 3rd ventral tooth absent. Mentum trapeziform, anterior margin deeply and narrowly depressed in middle, median denticle distinctly projecting and emarginate at apex, with weak basal impression, without anterior impression. Antenna with 3rd segment about 2.5 times as long as 2nd, 10th quadrate or slightly longer than wide, 11th bluntly pointed, about 1.5 times as long as 10th. For illustrations of characters refer to page 90 in Wu & Zhou (2007).

Remarks. Compared with one paratype of *P. (E.) brevidenticulatus* deposited in NMW (labeled: ‘N. E. Burma: Kambaiti, 7000 ft, 1934 R. Malaise, Scheerpeltz coll.’), the two syntypes of *P. (E.) chinensis* examined in our study were similar in almost all respects. Only two characters were different: in *P. chinensis* the 11th segment of antennae is longer than wide, not quadrate as in *P. (E.) brevidenticulatus*; in *P. chinensis* the 8th abdominal segment is brown or dark brown, not black as in *P. (E.) brevidenticulatus*. However, based on our examination of the specimens of *P.*

(*E.* *chinensis* from different regions, we conclude that the described variation should be treated as intraspecific. Thus, it is possible that *P. (E.) brevidenticulatus* should be placed in synonym with *P. (E.) chinensis*. However, for a formal taxonomic treatment, there is still a need to examine additional type material of *P. (E.) brevidenticulatus*, especially its holotype which was unavailable to us.

Distribution. Known to be widely distributed in China, including Yunnan, Sichuan, Xizang, Hubei and Henan, at elevations of 1700–2100 m.

***Priochirus (Euleptarthrus) curtidentatus* Wu & Zhou, new species**

(Figs. 1–5)

Type material. Holotype: CHINA: Xizang: ♂, Mêdog (=Motuo), Baibung (=Beibeng), E Doxong Pass, Dayandong, 29.4283°N, 95.04982°E, 2890 m, 10.viii.2006, H.B. Liang coll. (IOZ-CAS). **Paratypes: CHINA: Yunnan:** ♂, 3♀, Tengchong, Mingguang, Zizhi, 25.80983°N, 98.6208°E, 2890 m, on log, 23.v.2006, H.B. Liang and P. Hu coll. (IOZ-CAS).

Description. Body length 12.7–13.6 mm. HL 1.00–1.10 mm, HW 2.00–2.05 mm, PL 2.30–2.35 mm, PW 3.05–3.35 mm, EL 2.60–3.00 mm, EW 2.70–2.95 mm.

Coloration. Head black with mouthparts dark brown. Pronotum and elytra black. Abdomen black except for posterior margin of 7th and whole of 8th segment rufous. Antennae brown. Femora black, tibiae brown, tarsi red-brown.

Head (Fig. 1) strongly transverse, about twice as wide as long, sides distinctly contracted backward; frontal impression deep and cupulate, width of its anterior margin about 1/7 of head width; median sulcus narrow and deep, gradually contracted posteriorly with lateral margins fused before posterior margin of head; inner lateral teeth strongly curtate, inclined plane between clypeus and lateral teeth visible from above, outer lateral teeth apically rounded, lateral impression longitudinally depressed between inner and outer lateral teeth; frontal angle of head distinctly convex and rounded; vertex distinctly covered with fine coriaceous ground sculpture, with row of long setae along postero-lateral margin; eyes small, only occupying 2/5 length of head side length. Clypeus steep, anterior margin truncated, disc in center with two very close pairs of long setae; each basal-lateral side of clypeus with pair of long setae.

Mandibles (Fig. 2) moderately symmetrical, strongly protruding, outer surface almost straight along basal 2/3, 1st dorsal tooth sharp and straightly elongate entad, 2nd dorsal tooth bluntly convex and introflexed, apical tooth very small with long seta close to its inner base, 1st and 2nd ventral teeth basally contracted to form bifurcate structure, behind which inner margin straight, 3rd ventral tooth small and triangular.

Mentum (Fig. 3) trapeziform, lateral margin ventrally convex, not interrupted at frontal angle, anterior margin broadly depressed medially; median denticle distinctly projecting, shallowly emarginate at apex, with broad keel on ventral side; ventral surface rugose, in center with long median seta, basal impression oblong, shallow and bearing 3 setae, anterior 1/3 with distinct transverse ridge separating broad anterior impression; 4 anterior setae arranged in row, the inner two close to each other.

Antennae very long, weakly geniculate, posteriorly reaching middle of elytra, 1st segment baculiform, apically emarginate, dorsally without sulcus, 2nd smallest, slightly transverse, 3rd elongate and narrowed at base, more than 3 times as long as 2nd, 4th–10th longer than wide, but gradually decreasing in length, 11th elongate, bluntly pointed, about 1.5 times as long as 10th.

Pronotum distinctly transverse, anterior margin weakly sinuate, lateral sides slightly convex, posterior margin moderately protruding medio-posteriorly; superior marginal line only extending to post-lateral angle of pronotum; disc surface covered with distinct coriaceous ground sculpture, along marginal line with some setiferous punctures, above these punctures, in middle of lateral marginal area with two big setiferous punctures; median longitudinal sulcus very narrow, distinctly expanding at posterior end to form fovea.

Protibiae crenulate externally, with 14–21 denticles, 2nd distinctly smaller than 3rd.

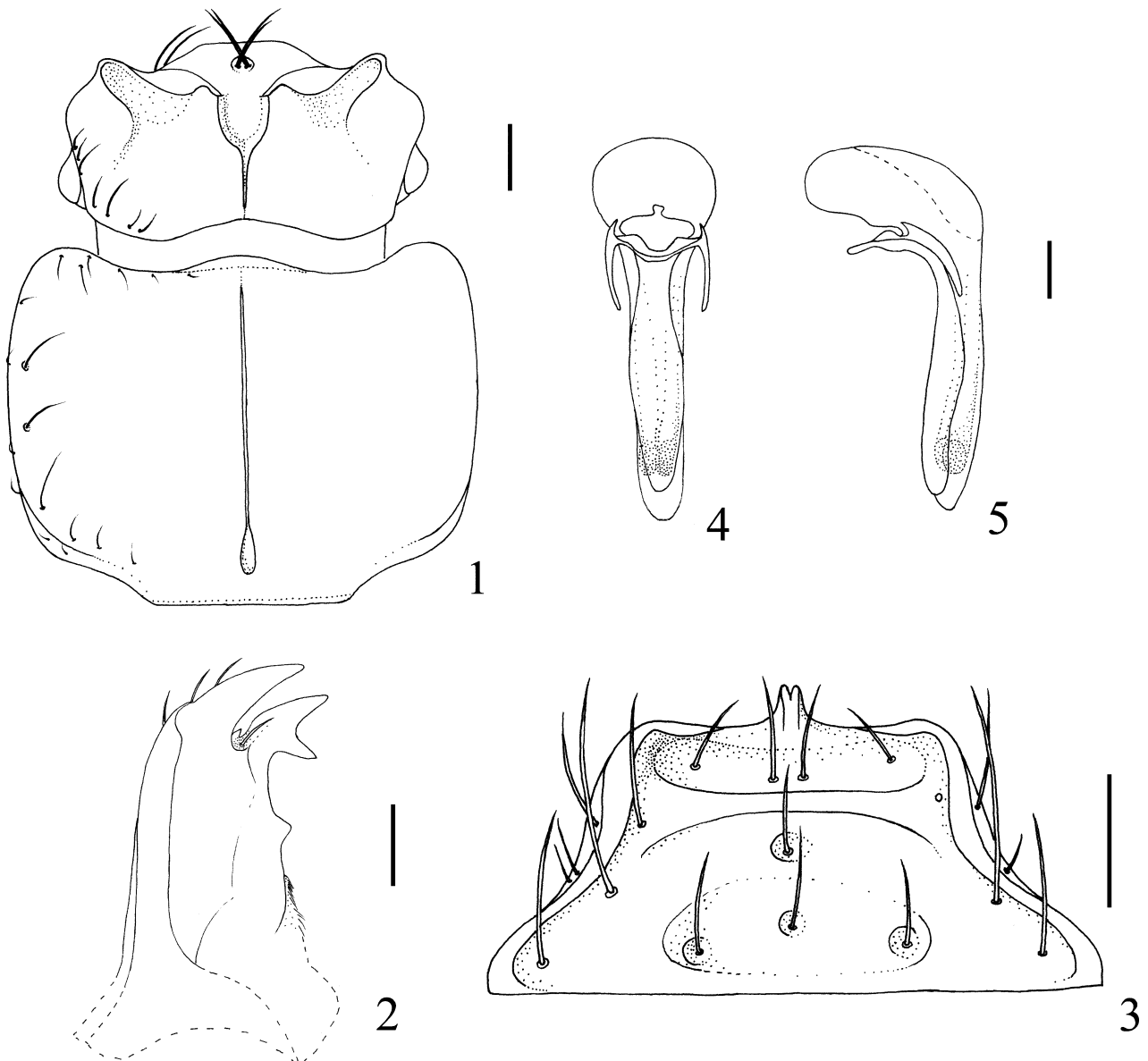
Elytra almost quadrate, sides slightly convex posteriorly, surface covered with coriaceous ground sculpture; along lateral margin sparsely scattered several small setiferous punctures.

Abdomen cylindrical, weakly broadened posteriorly; 3rd–6th segments densely punctuate in basal half,

unpunctuated region with indistinct coriaceous sculpture; 3rd segment with only one row setae: along posterior margin, 4-6th segments with two rows of setae: one along basal and the other along posterior margin, posterior setae longer and denser than basal; punctures on 7th segment smaller than on 3rd-6th segments, occupying almost whole dorsal surface, both 7th and 8th segments densely covered by setae, except for glabrous median part.

Male aedeagus almost membranous (Figs. 4, 5) with median lobe moderately bulbous at base, slightly constricted and squarely curved behind basal orifice, posterior part baculiform, broadly sclerotized on dorsal side; parameres thin and slightly curved with their basal parts protruding ventrally and connected to each other below basal orifice, in dorsal view this protruding structure anteriorly truncated; basal orifice round and distinctly emarginate distally.

Remarks. The new species is similar to *P. (E.) longicornis* in the shape of lateral teeth and frontal impression on head, but can be easily distinguished from the latter by distinctly larger body size and black color, and more distinct 2nd dorsal tooth on mandible.



FIGURES 1-5. *Priochirus curtidentatus* sp. nov. 1, dorsal view of head and prothorax; 2, dorsal view of left mandible (broken line indicating unobserved part); 3, mentum (wrinkles and rugae on surface not shown); 4, ventral view of male aedeagus; 5, lateral view of male aedeagus. Scale bars: 0.25 mm.

Distribution. Known from Yunnan and Xizang, at elevation of 2890 m.

Etymology. The species name is formed from the Latin adjectives 'curtatus' (curtate) and 'dentatus' (denticulate) to indicate the distinctly curtate inner lateral teeth of head.

***Priochirus (Euleptarthrus) deltodontus* Wu & Zhou, new species**

(Figs. 6–10)

Type material. Holotype. CHINA: Yunnan: ♂, Pingbian, Shuiweicheng, 2100 m, decaying log, 21.v.2009, Jie Wu coll. (SEM-CAS). **Paratypes: CHINA: Yunnan:** ♂, ♀, same data as holotype (SEM-CAS); 2♀, same locality, 2025 m, 20.v.2009, Jie Wu coll. (SEM-CAS).

Description. Body length 7.7–9.8 mm. HL 0.58–0.60 mm, HW 1.18–1.24 mm, PL 1.23–1.38 mm, PW 1.72–1.90 mm, EL 1.70–1.78 mm, EW 1.74–1.86 mm.

Coloration. Head black with mouthparts red-brown. Pronotum black, except for posterior margin dark red. Elytra dark red. Abdomen black except for posterior margin of 3th–6th segments red-brown, posterior 1/6 of 7th and whole of 8th segments dark rufous. Antennae red-brown. Femora and tibiae dark red, tarsi slightly rufous.

Head (Fig. 6) strongly transverse, about twice as wide as long, sides almost parallel; frontal impression deep, longer than wide, distinctly narrowed frontad, width of its anterior margin about 1/6 times head width; median sulcus broadly connected with frontal impression and sharply contracted posteriorly, its lateral margins almost fused at posterior margin of head; inner lateral teeth distinctly convex and triangularly pointed, outer lateral teeth blunt and moderately rounded, almost as long as inner teeth, lateral impression between inner and outer lateral teeth longitudinally depressed; frontal angle of head distinctly convex and rounded; vertex distinctly covered with fine coriaceous ground sculpture, row of long setae along postero-lateral margin; eyes distinctly convex, almost 1/2 as long as side of head. Clypeus steep, anterior margin slightly truncated, disc in center with two very close pairs of long setae, each baso-lateral side of clypeus with pair of long setae.

Mandibles (Fig. 7) almost symmetrical, moderately protruding, outer surface almost straight along basal 2/3, 1st dorsal tooth short and apically introflexed, 2nd dorsal tooth absent, apical tooth small with long seta close to its inner base, 1st and 2nd ventral teeth basally contracted to form bifurcate structure, behind which the mandible inner margin straight, 3rd ventral tooth absent.

Mentum (Fig. 8) trapeziform, lateral margin ventrally convex, interrupted at frontal angle, anterior margin not convex and broadly depressed in middle; median denticle distinctly projecting and deeply emarginate at apex, ventrally without keel; ventral surface rugose, basal impression elliptic and shallowly depressed bearing 3 basal setae, in central disc with long median seta, without distinct impression in anterior half; 6 anterior setae arranged in row and extending to midline.

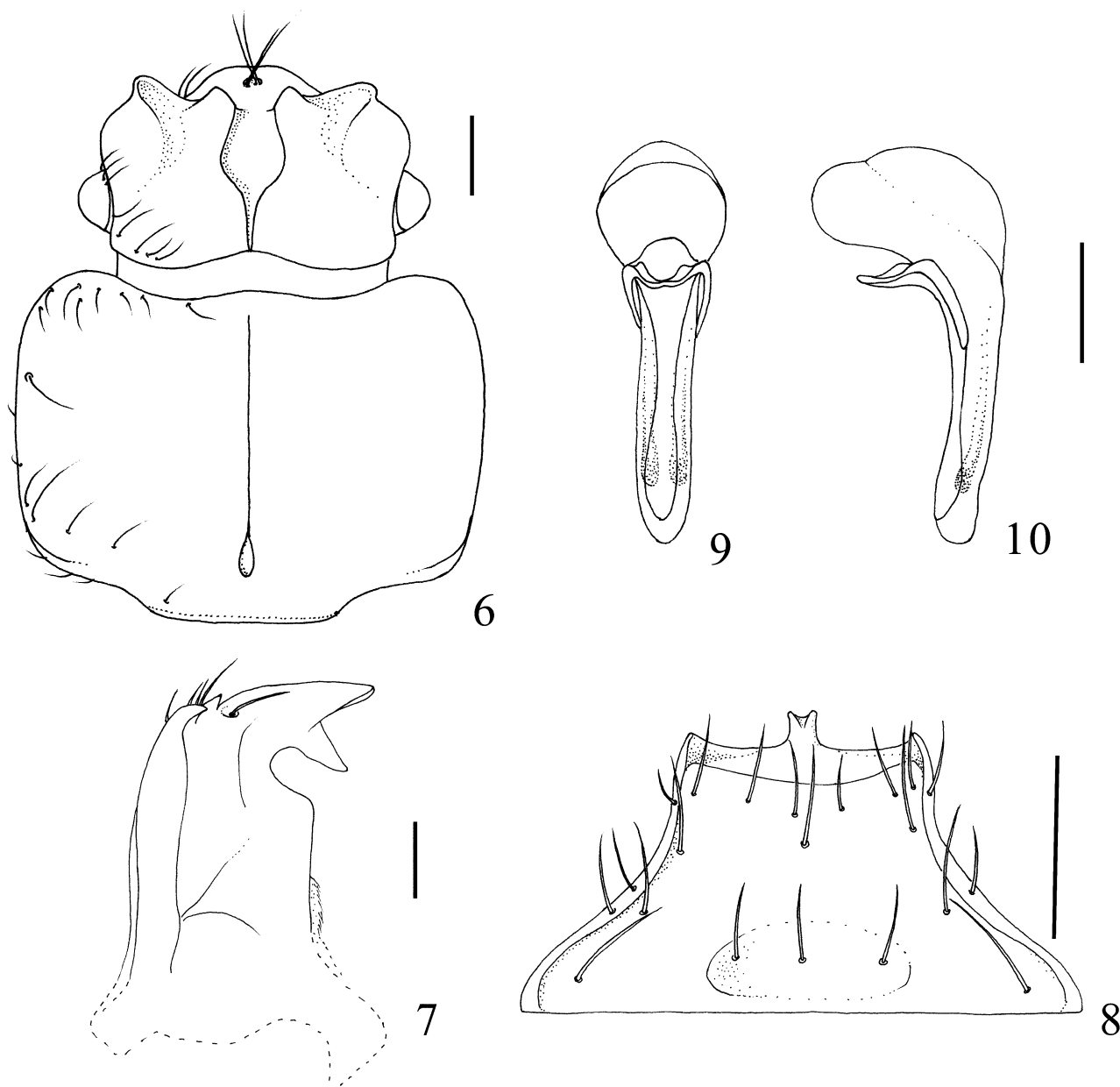
Antennae long, weakly geniculate, posteriorly reaching shoulder of elytra, 1st segment baculiform, apically emarginate, dorsally without sulcus, 2nd smallest, slightly longer than wide, 3rd elongate and narrowed at base, about 2 times as long as 2nd, 4th and 5th slightly elongate ellipsoid, 6th–7th slightly longer than wide, 8th quadrate, 9 and 10th slightly transverse, 11th elongate, bluntly pointed, about two times as long as 10th.

Pronotum slightly transverse, anterior margin weakly sinuate, lateral sides almost parallel, posterior margin moderately protruding medio-posteriorly; superior marginal line only extending to postero-lateral angle of pronotum; disc surface with distinct coriaceous ground sculpture, setiferous punctures sporadically scattered along superior marginal line, above these punctures, in anterior 1/3 of lateral marginal area with big setiferous punctures; median longitudinal sulcus very narrow, distinctly expanding at posterior end to form fovea.

Protibiae crenulate externally, with 14–17 denticles, 2nd one distinctly smaller than 1st and 3rd.

Elytra almost quadrate, sides slightly convex posteriorly, surface covered with coriaceous ground sculpture more distinctly than on pronotum and head; along lateral margin with several sparsely scattered small setiferous punctures.

Abdomen cylindrical, weakly broadened posteriorly; surface of 3th–6th segments basally with dense isolated micropunctures, unpunctated regions with indistinct coriaceous sculpture; 3rd segment with row of posterior setae, 4–6th segments with two rows of setae, one along basal and the other along posterior margin, posterior setae longer and denser than basal; 7th and 8th segments with dense setae, except for glabrous median part.



FIGURES 6–10. *Priochirus deltodontus* sp. nov. 6, dorsal view of head and prothorax; 7, dorsal view of left mandible (broken line indicating unobserved part); 8, mentum (wrinkles and rugae on surface not shown); 9, ventral view of male aedeagus; 10, lateral view of male aedeagus. Scale bars: 0.25 mm.

Male aedeagus almost membranous (Figs. 9, 10) with median lobe distinctly bulbous at base, slightly constricted and squarely curved behind basal orifice, posterior part baculiform, weakly and narrowly sclerotised on the dorsal side; parameres thin and weakly curved with their basal parts protruding ventrally and connected to each other, in dorsal view the protrusion truncated anteriorly; basal orifice rounded distally.

Remarks. The new species is similar to *P. (E.) amblyodontus* in mandible shape and body size, but can be easily distinguished from the latter by triangular inner lateral teeth, narrower frontal impression, and dark red colour of elytra.

Distribution. Known only from the type locality in Yunnan, at elevations of 2025–2100 m.

Etymology. The species name is a combination of the Greek words ‘delta’ (triangular) and ‘odontos’ (tooth) to indicate the shape of the inner lateral teeth on the head.

***Priochirus (Euleptarthrus) subbrevicornis* Bernhauer, 1934**

(Figs. 11, 12)

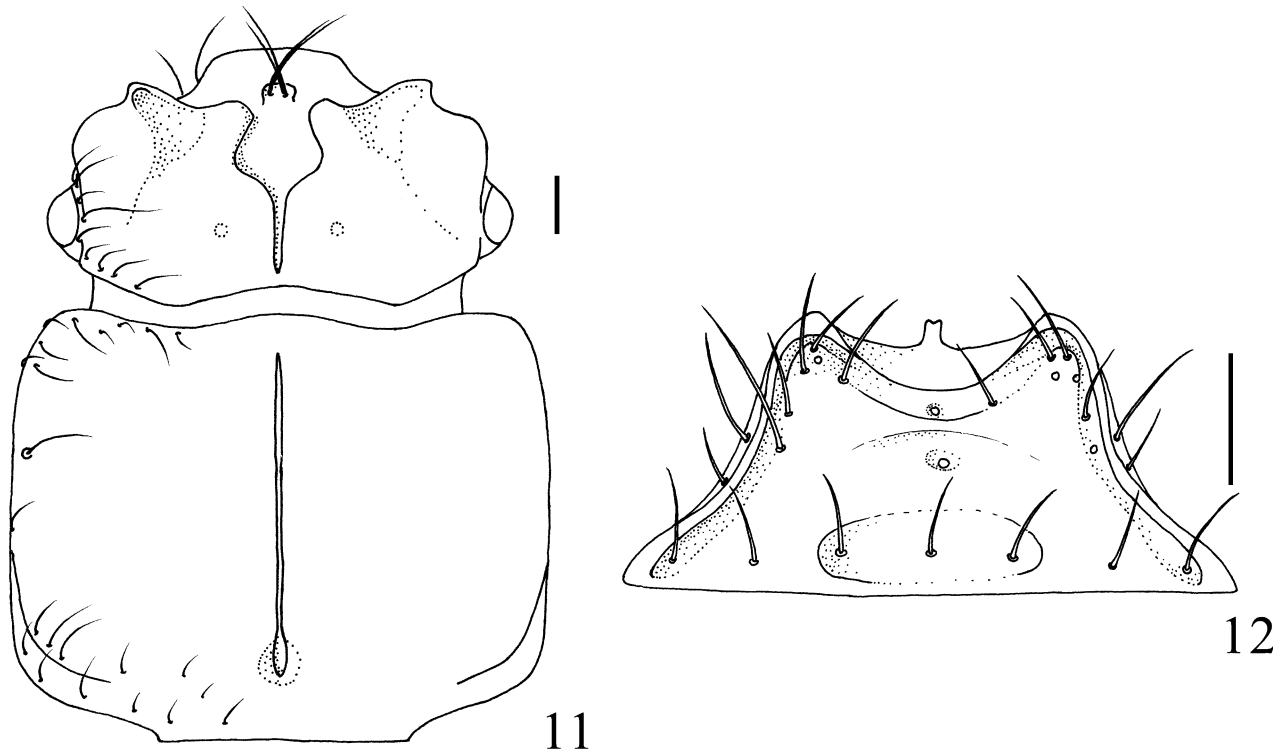
Priochirus (Leptarthrus) subbrevicornis Bernhauer, 1934: 1

Priochirus (Euleptarthrus) subbrevicornis Wu and Zhou, 2007: 91, 96.

Type material. Syntypes: CHINA: Sichuan: ♂, ♀, “CHINA: Mittel Szechuan, Hwayinshan, 1600 m, Reitter”, “*subbrevicornis* Bernh. *Cotypus Leptarthrus*”, “Chicago NHMus M. Bernhauer Collections” (FMHN).

Diagnosis. Body size small (9.0–9.5 mm), body color red-brown. Head transverse (Fig. 11), frontal impression on head distinctly narrowed frontad, anterior border about 1/5 times as long as head; median sulcus narrowed posteriorly with lateral margins fused before posterior margin of head, vertex with two indistinct punctures at sides of median sulcus. Lateral cephalic teeth and mandibles similar to *P. (E.) chinensis*. Mentum similar to *P. (E.) chinensis* but with anterior margin less depressed medially, median denticle less emarginate apically and narrower (Fig. 12). Antenna with 3rd segment short, only 2 times as long as 2nd, 10th weakly transverse, 11th elongate, about 2 times as long as 10th.

Distribution. Known only from the type locality in Sichuan, at elevation of 1600 m.



FIGURES 11–12. *Priochirus subbrevicornis*. 11, dorsal view of head and prothorax; 12, mentum (wrinkles and rugae on surface not shown). Scale bars: 0.25 mm.

***Priochirus (Euleptarthrus) trifurcus* Wu & Zhou, new species**

(Figs. 13–17)

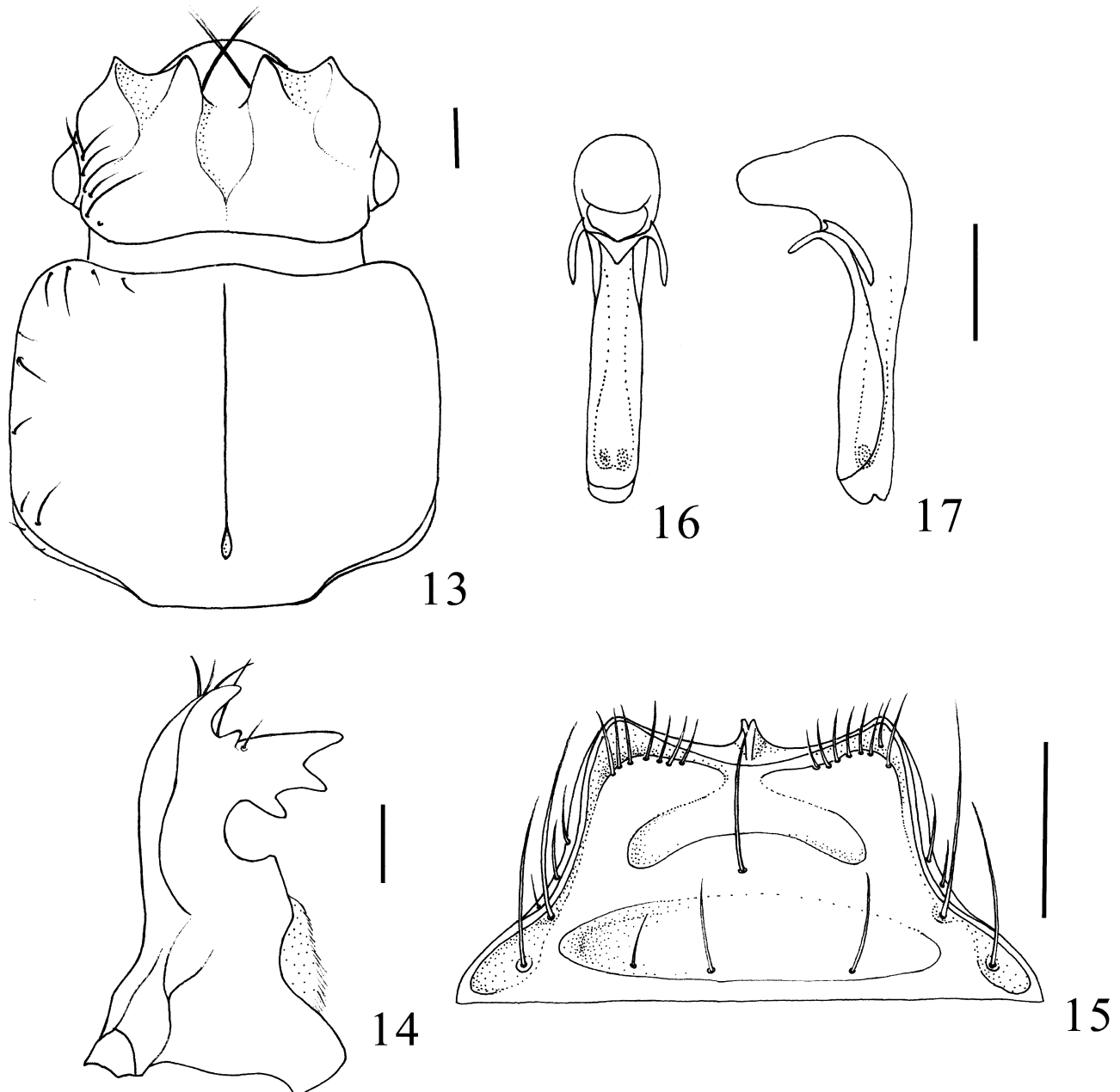
Type material. Holotype: CHINA: Xizang: ♂, Xizang, Motuo, Gedang, 2450 m, 5.iv.1980, Gentao Jin and Jianyi Wu coll. (SEM-CAS). **Paratypes:** CHINA: Xizang: 2♂, 3♀, same data as holotype (SEM-CAS); ♂, same label data except 2100 m, 6.iv.1980 (SEM-CAS).

Description. Body length 7.7–8.5 mm. HL 0.58–0.62 mm, HW 1.22–1.26 mm, PL 1.48–1.60 mm, PW 1.76–1.82 mm, EL 1.74–1.86 mm, EW 1.72–1.94 mm.

Coloration. Head black with mouthparts red-brown. Pronotum and elytra black or slightly red-brown.

Abdomen black except for posterior margine of 3rd–6th segments brown, posterior 1/3 of 7th and whole of 8th segment dark rufous. Antennae red-brown. Femora and tibiae red-brown, tarsi slightly rufous.

Head (Fig. 13) strongly transverse, about twice as wide as long, sides almost parallel; frontal impression deep, longer than wide, slightly narrowed frontad, width of its anterior margin about 1/6 times head width; median sulcus almost undistinguishable behind frontal impression, its lateral margins fused before posterior 1/4 of head; inner and outer lateral teeth distinctly pointed and of equal length, lateral impression between inner and outer lateral teeth triangular and deeply depressed; frontal angle of head distinctly convex and rounded; vertex distinctly covered with fine coriaceous ground sculpture, row of long setae along postero-lateral margin; eyes distinctly convex, occupying almost 1/2 length of head side. Clypeus moderately elongate, slightly rounded anteriorly, disc with two widely separated pairs of similar long setae, basal-lateral sides without lateral setae.



FIGURES 13–17. *Priochirus trifurcus* sp. nov. 13, dorsal view of head and prothorax; 14, dorsal view of left mandible; 15, mentum (wrinkles and rugae on surface not shown); 16, ventral view of male aedeagus; 17, lateral view of male aedeagus. Scale bars: 0.25 mm.

Mandibles (Fig. 14) almost symmetrical, moderately protruding, toward apex gradually bent inwards, 1st dorsal tooth distinctly projecting, introflexed and pointed, 2nd dorsal tooth only slightly convex in apical 1/4, apical tooth small with short seta close to its inner base, 3rd ventral tooth present and forming trifurcate structure with 1st and 2nd ventral tooth, mandible inner side deeply emarginate behind 3rd ventral tooth.

Mentum (Fig. 15) trapeziform, lateral margin ventrally convex, not interrupted at frontal angle, anterior margin broadly depressed in middle; median denticle small, slightly emarginate at apex, with narrow longitudinal keel along ventral side; ventral surface rugose with elongate basal impression bearing 3 basal setae, in central disc with long median seta, in front of which with moderate inverted Y-shaped anterior impression; 6–7 pairs of anterior setae arranged along latero-anterior margin, not extending to middle.

Antennae weakly geniculate, posteriorly barely reaching shoulder of elytra, 1st segment baculiform, apically emarginate, dorsally with indistinct shallow sulcus, 2nd smallest, slightly longer than wide, 3rd elongate and narrowed at base, about 2 times as long as 2nd, 4–6th slightly elongate ellipsoid, 7–9th quadrate, 10th slightly transverse, 11th elongate, bluntly pointed, about two times as long as 10th.

Pronotum slightly transverse, anterior margin weakly bisinuate, lateral sides almost parallel, posterior margin moderately protruding medio-posteriorly; superior marginal line continuous beyond posterior angle of pronotum and reaching the margined medio-posterior protrusion; disc surface covered with coriaceous ground sculpture, setiferous punctures sporadically scattered along superior marginal line, above these punctures, in anterior 1/3 of lateral marginal area with big setiferous punctures; median longitudinal sulcus very narrow, expanding at posterior end to form distinct fovea.

Protibiae crenulate externally, with 9–11 denticles, 2nd one slightly smaller than 3rd.

Elytra almost quadrate, sides slightly convex posteriorly, surface covered with coriaceous ground-sculpture more distinct than that on pronotum and head; along lateral margin several small sparsely scattered setiferous punctures.

Abdomen cylindrical, weakly broadened posteriorly; surface of 3rd–6th segments basally with dense isolated micropunctures, in posterior half with fine coriaceous sculpture, 3rd with row of setae along posterior margin, 4th–6th with two rows of setae, one along basal and the other along posterior margin, posterior setae longer and denser than basal; 7th and 8th segments densely covered by setae, except for glabrous median part.

Male aedeagus almost membranous (Figs. 16, 17) with median lobe bulbous at base, slightly constricted and squarely curved behind basal orifice, posterior part baculiform, weakly and broadly sclerotized on the dorsal side; parameres thin and slightly curved with their basal parts protruding ventrally and connecting to each other below basal orifice, in dorsal view this protruding structure pointed anteriorly; basal orifice rounded distally.

Remarks. The new species can be easily distinguished from other *Euleptarthrus* species by having two pairs of pointed lateral teeth on head and 1st–3rd ventral teeth of mandible forming a trifurcate structure. *Priochirus* (*E.*) *oxygonus* also has two pairs of well developed lateral teeth on head, but can be easily distinguished from the new species by strongly projecting and sharp outer lateral teeth.

Distribution. Known only from the type locality in Xizang province, at elevation of 2100–2450 m.

Etymology. The species name, the Latin adjective “*trifurcus*” (trifurcate) indicates the shape of ventral teeth on its mandible.

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