

Odontoedon, a new genus from China with descriptions of nine new species (Coleoptera: Chrysomelidae: Chrysomelinae)

SI-QIN GE, MAURO DACCORDI, JING REN, JUN-ZHI CUI, WEN-ZHU LI & XING-KE YANG

Abstract

Odontoedon n. gen., a new chrysomelid genus from China, and nine new species, *O. globosus* n. sp., *O. kippenbergi* n. sp., *O. lopatini* n. sp., *O. impressus* n. sp., *O. rufulus* n. sp., *O. sericeus* n. sp., *O. sichuanus* n. sp., *O. taiwanus* n. sp., and *O. thibetanus* n. sp. are described and illustrated. *Phaedon chinensis* Gressitt & Kimoto, *P. fulvescens* Weise, *P. limbatus* Lopatin, *P. maculicollis* Chen, and *P. potentillae* Wang are transferred to *Odontoedon*. *Phaedon cupreus* Wang and *P. fulgidus* Ge & Wang are new synonyms of *Odontoedon chinensis* (Gressitt & Kimoto). A key to the species of *Odontoedon* is presented.

Key words: Chrysomelidae, Chrysomelinae, new genus, new species, China.

Zusammenfassung

Odontoedon n. gen., eine neue Chrysomeliden-Gattung aus China wird zusammen mit neun neuen Arten beschrieben: *O. globosus* n. sp., *O. kippenbergi* n. sp., *O. lopatini* n. sp., *O. impressus* n. sp., *O. rufulus* n. sp., *O. sericeus* n. sp., *O. sichuanus* n. sp., *O. taiwanus* n. sp. und *O. thibetanus* n. sp. *Phaedon chinensis* Gressitt & Kimoto, *P. fulvescens* Weise, *P. limbatus* Lopatin, *P. maculicollis* Chen und *P. potentillae* Wang werden zu *Odontoedon* gestellt. *Phaedon cupreus* Wang und *P. fulgidus* Ge & Wang sind neue Synonyme von *Odontoedon chinensis* (Gressitt & Kimoto). Ein Schlüssel für die Arten von *Odontoedon* wird erstellt.

Contents

1 Introduction.....	199
2 Materials and Methods.....	201
3 Taxonomy.....	201
3.1 Description of <i>Odontoedon</i> Ge & Daccordi, n. gen.....	201
3.2 Descriptions and redescrptions of species of <i>Odontoedon</i> n. gen.....	203
4 Key to the species of <i>Odontoedon</i> n. gen.....	221
5 References.....	222

1 Introduction

A new Chrysomelinae genus, *Odontoedon* n. gen., and nine new species, *O. globosus* n. sp., *O. kippenbergi* n. sp., *O. lopatini* n. sp., *O. impressus* n. sp., *O. rufulus* n. sp., *O. sericeus* n. sp., *O. sichuanus* n. sp., *O. taiwanus* n. sp., and *O. thibetanus* n. sp. from China are described and illustrated. The new genus differs from *Yunnaedon* Daccordi & Medvedev, 2000 in the bilobed tarsomere III and the pronotum without longitudinal depressions laterally. Five species, *O. chinensis* (Gressitt & Kimoto, 1963), *O. fulvescens* (Weise, 1922), *O. limbatus* (Lopatin, 2002), *O. maculicollis* (Chen, 1974), and *O. potentillae* (Wang, 1992) were treated under *Phaedon* Latreille, 1829 before our study, but all of them share the characters typical for the new genus *Odontoedon* (onychium enlarged apically with two short teeth, the third segment of the tarsi bilobed, and the claws simple). Type species of *Odontoedon* n. gen. is *Phaedon fulvescens*.

Odontoedon n. gen. is endemic to China, most of the included species occur in the southwestern part of this

country. The biology of the new genus is still insufficiently studied. Host plant records are known only from two species: *Rubus* sp. for *O. fulvescens*, and *Potentilla* sp. for *O. potentillae*.

Acknowledgements

We thank Dr. FRANCO MASON (Forestry State Corps National Centre for Forestry Biodiversity Study and Conservation, Verona, Italy), Dr. FABRIZIO RIGATO and Dr. MICHELE ZILIOLI (both Museo Civico di Storia Naturale Milano, Italy) for the use of the SEM facilities. Warm thanks are due to Dr. LUCA TOLEDANO (Verona, Italy) for transferring SEM pictures. We are very grateful to Prof. Dr. EDUARD PETITPIERRE (Palma de Mallorca, Spain) and an anonymous referee for valuable suggestions which have considerably improved this manuscript.

The project was supported by a grant from the National Science Foundation of China to XING-KE YANG (PI, Grant no. 31010103913) and SI-QIN GE (PI, Grant no. 30970390), and by the grants from the Key Laboratory of Zoological Systematics and Evolution of the Chinese Academy of Sciences (no. O529YX5105), the Knowledge Innovation Program of Chinese Academy of Sciences (no. KSCX3-IOZ-1004), and the National Science Fund for Fostering Talents in Basic Research

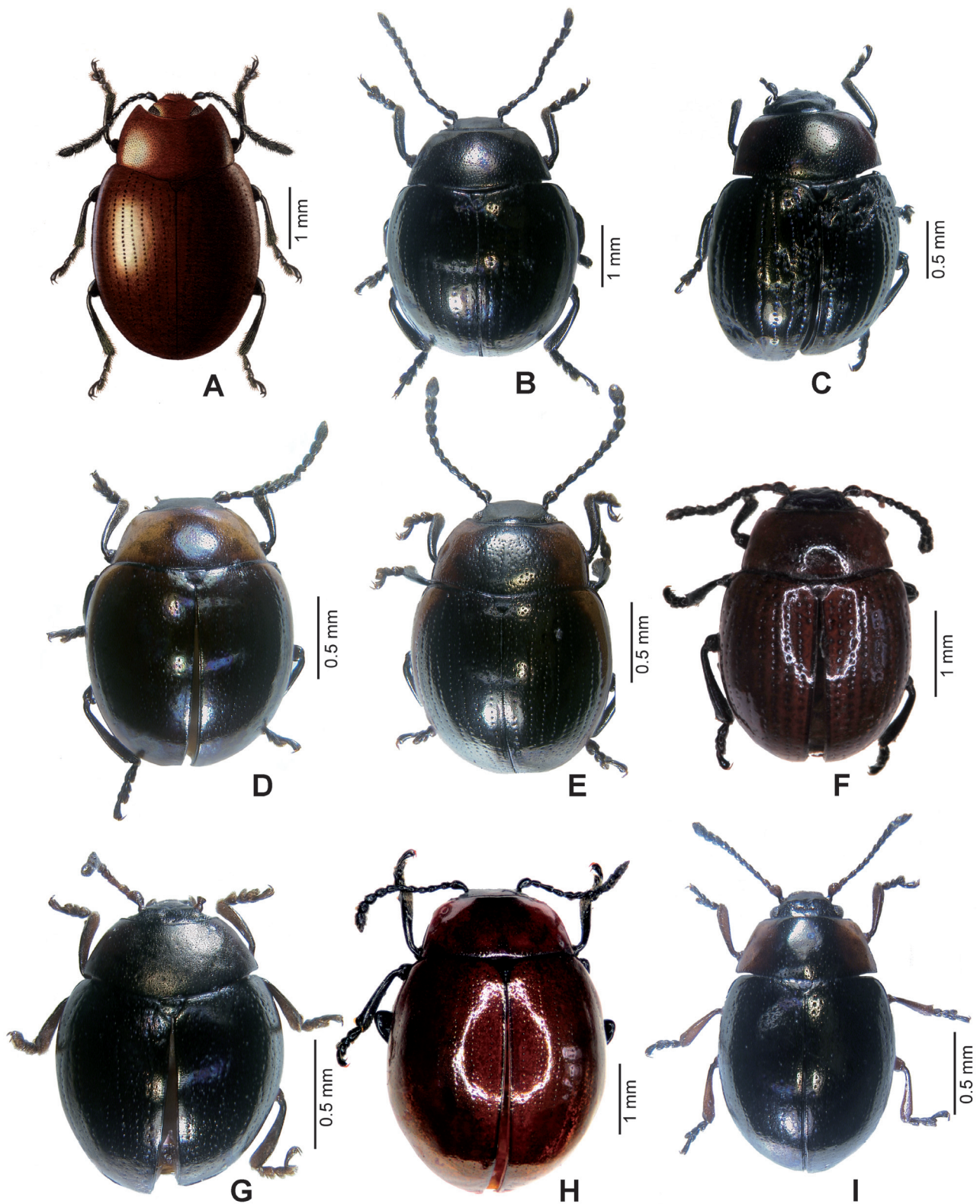


Fig. 1. Habitus, dorsal view. – A. *Odontoedon fulvescens* (Weise). B. *O. chinensis* (Gressitt & Kimoto). C. *O. impressus* n. sp. D. *O. kippenbergi* n. sp. E. *O. lopatini* n. sp. F. *O. rufulus* n. sp. G. *O. sericeus* n. sp. H. *O. taiwanus* n. sp. I. *O. thibetanus* n. sp.

(Special Subjects in Animal Taxonomy, NSFC-J0630964/J0109, J0930004).

2 Materials and Methods

The present study includes all known species of the new genus occurring in China. It is based on the examination of own-collected material, loans from museums and private collections, and several gifts from individual collectors.

Acronyms of depositories

APC	ANDREAS PÜTZ'S collection, Eisenhüttenstadt, Germany
CAS	California Academy of Sciences, San Francisco, California, USA
CNC	Canadian National Collection of Insects, Ottawa, Ontario, Canada
IZAS	Institute of Zoology, Chinese Academy of Sciences, Beijing, China
HKC	HORST KIPPENBERG'S collection, Herzogenaurach, Germany
MDC	MAURO DACCORDI'S collection, Verona, Italy
MNHN	Muséum National d'Histoire Naturelle, Paris, France
NMEG	Naturkundemuseum Erfurt, Germany
ZIN	Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia
ZSM	Zoologische Staatssammlung, Munich, Germany

Adults were placed and dissected in pure alcohol. Some specimens were digested with 10% solution of potassium hydroxide for the study of head, mouthparts and internal skeleton. All of the materials, including adults, were treated with ultrasonic vibrations before being observed under the SEM, adult samples were fixed by dehydration in different percentages of alcohol followed by air drying and gold-sputter coating; then photographed with XL20 ESEM-TMP. In the SEM microscope, we photographed the frontal, lateral and dorsal views of the head of the larvae, and close-ups of the anterior view of the mouthparts and legs. Drawings of the skeleton were made with a camera lucida on a Leica MZ 125. For the female genitalia a Zeiss Axioplan microscope and Delta-Pix software was used. All pictures were evaluated and assembled with Adobe Photoshop CS 3 and Illustrator CS 3 software.

The following standards are used for the description of characters: Puncture density is defined as dense if punctures are nearly confluent to less than two puncture diameters apart, moderately dense if punctures are between two to six puncture diameters apart, and sparse if punctures are separated by more than six puncture diameters. Puncture size is defined as small if 0.02 mm or smaller, moderate if between 0.02 and 0.06 mm, and large if 0.06 mm or larger. Coloration is described based on specimens viewed under magnification and with artificial illumination. Body length is measured from the apex of the clypeus to the apex of the elytra. The body width is measured at the broadest part of the elytra. Length of pronotum is the average length at the middle. Width of pronotum is the average width at the middle. Suture length is measured from the base of the elytral suture to apex. Width of elytra is measured at the middle.

The terms mesoventrite and metaventrite are used according to BEUTEL & HAAS (2000) and LAWRENCE et al. (2010).

3 Taxonomy

3.1 Description of *Odontoedon* Ge & Daccordi, n. gen.

Type species: *Phaedon fulvescens* Weise, 1922.

Etymology

From ancient Greek, odonto = tooth. The genus name is the combination of Odonto and *Phaedon* which is a genus of Chrysomelinae.

Description

Habitus: Body sub-spherical, strongly convex (Fig. 1).

Head: Small, deeply inserted into prothorax (Fig. 1); clypeus with coarse punctures and pubescent; frons slightly depressed, flattened along antennal sockets; upper clypeus (lower frons) between antennal sockets with sub-triangular carina; frons slightly depressed, flattened along antennal sockets; compound eyes elongate or sub-spherical. Anterior part of labrum emarginate (Fig. 2D). Apical segment of maxillary palpi slender and pointed, twice as long as penultimate segment (Fig. 2E). Antennae extending well beyond base of elytra, antennomeres 7–11 broadened apically (Figs. 1D, 1E).

Pronotum: Anterior margin broadly emarginate with projecting anterior angles (Figs. 5E, 5K); much narrower at base than elytra; lateral margins evenly, gradually rounded, slightly narrower at antero-lateral angles; posterior angles obtuse; anterior, lateral and posterior borders marginate.

Scutellum: Triangular with rounded apex, impunctate.

Elytra: Broader than pronotum at base, slightly broadened posterior to the middle (Fig. 1); with ten striae, not including incomplete basal scutellar row (Figs. 7D–F); humeral callus not prominent; interspace tapered and narrow apically; interspaces equally spaced except the 8th which is wider; epipleuron flat, broadened basally, slightly narrowed posteriorly, inner edge without pubescence (Fig. 2A).

Underside: Prosternal process slender or wide, truncate apically, slightly broadened (Figs. 2B, 2C); procoxal cavities open behind (Fig. 2B); process of mesoventrite broadened, emarginate apically (Fig. 3A); antero-lateral plate of metaventrite small or large, without punctures (Figs. 2A, 3A).

Legs: Femora robust (Figs. 3C, 3D); tibiae slender, lateral margin of tibiae curved, with dense pubescence especially at apex (Fig. 3C); third segment of tarsi bilobed (Fig. 3B); onychium enlarged apically with two short teeth (Fig. 4B), claws simple (Fig. 4B).

Aedeagus: In dorsal view broadened basally, tapered to apex, slightly pointed apically (Fig. 6D); in lateral view bent at right angles (Fig. 6E); internal sac invisible at posterior border of basal foramen; flagellum invisible.

Spermatheca: Falciform or C-shaped, with or without long convoluted duct, with or without bulbiform structure (Figs. 6G, 16F).

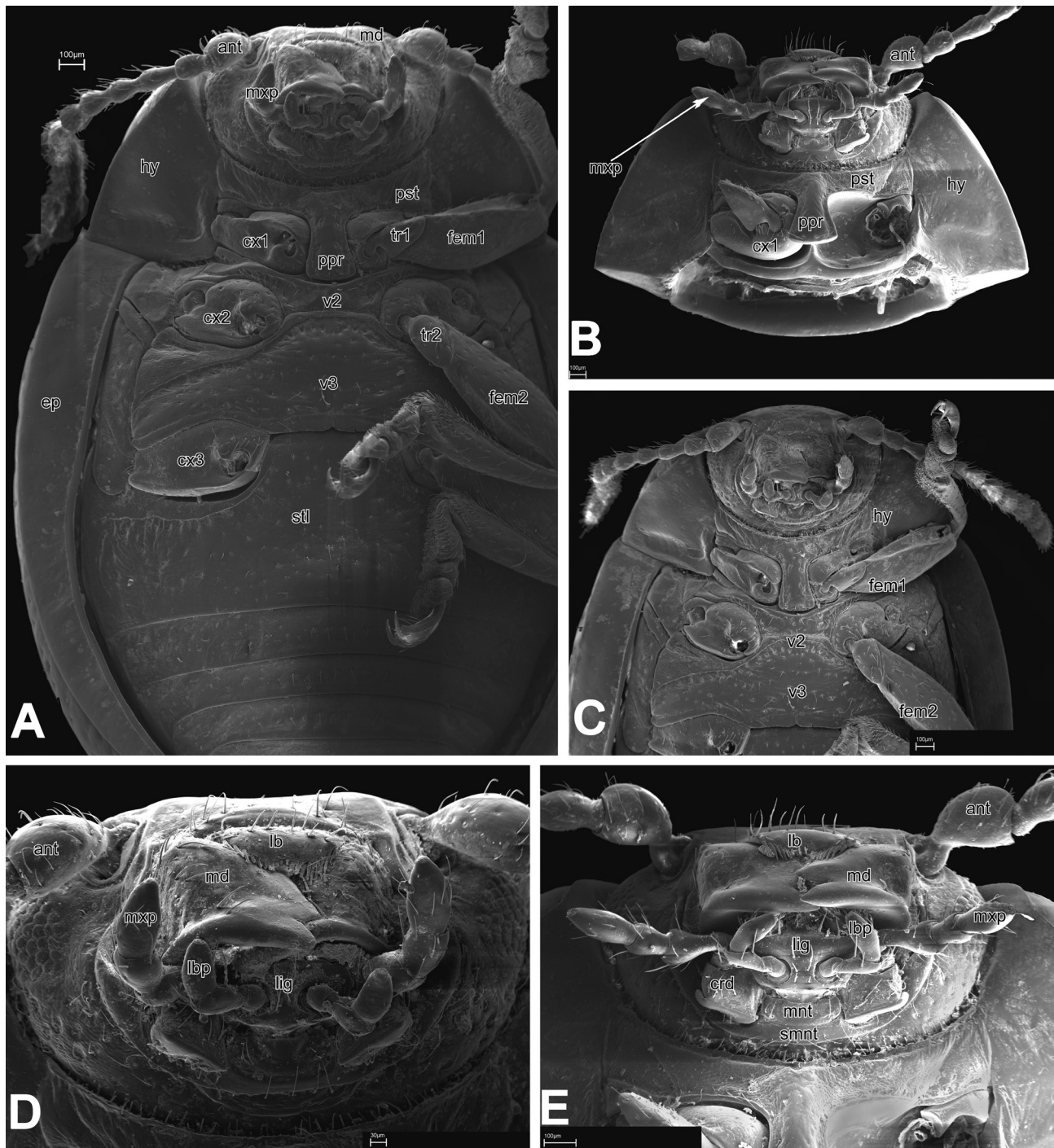


Fig. 2. *Odontoedon chinensis* (Gressitt & Kimoto), SEM. – **A.** Ventral side of body. **B.** Ventral side of head and prosthernum. **C.** Ventral side of head and thorax. **D.** Head, frontal view. **E.** Head, ventral view, showing mouthpart. – Abbreviations: ant = antenna; crd = cardo; cx1 = procoxal cavity; cx2 = mesocoxal cavity; cx3 = metacoxal cavity; ep = epiphernum; fem1 = profemora; fem2 = metafemora; hy = hypemeron; lb = labrum; lbp = labial papli; lig = ligular; md = mandible; mnt = mentum; mxp = maxillary palpi; ppr = prosternal process; pst = prosthernum; smnt = submentum; stl = first segment of abdominal sternite; tr1 = pro-trochantin; tr2 = meso-trochantin; v2 = mesoventrite; v3 = metaventrite.

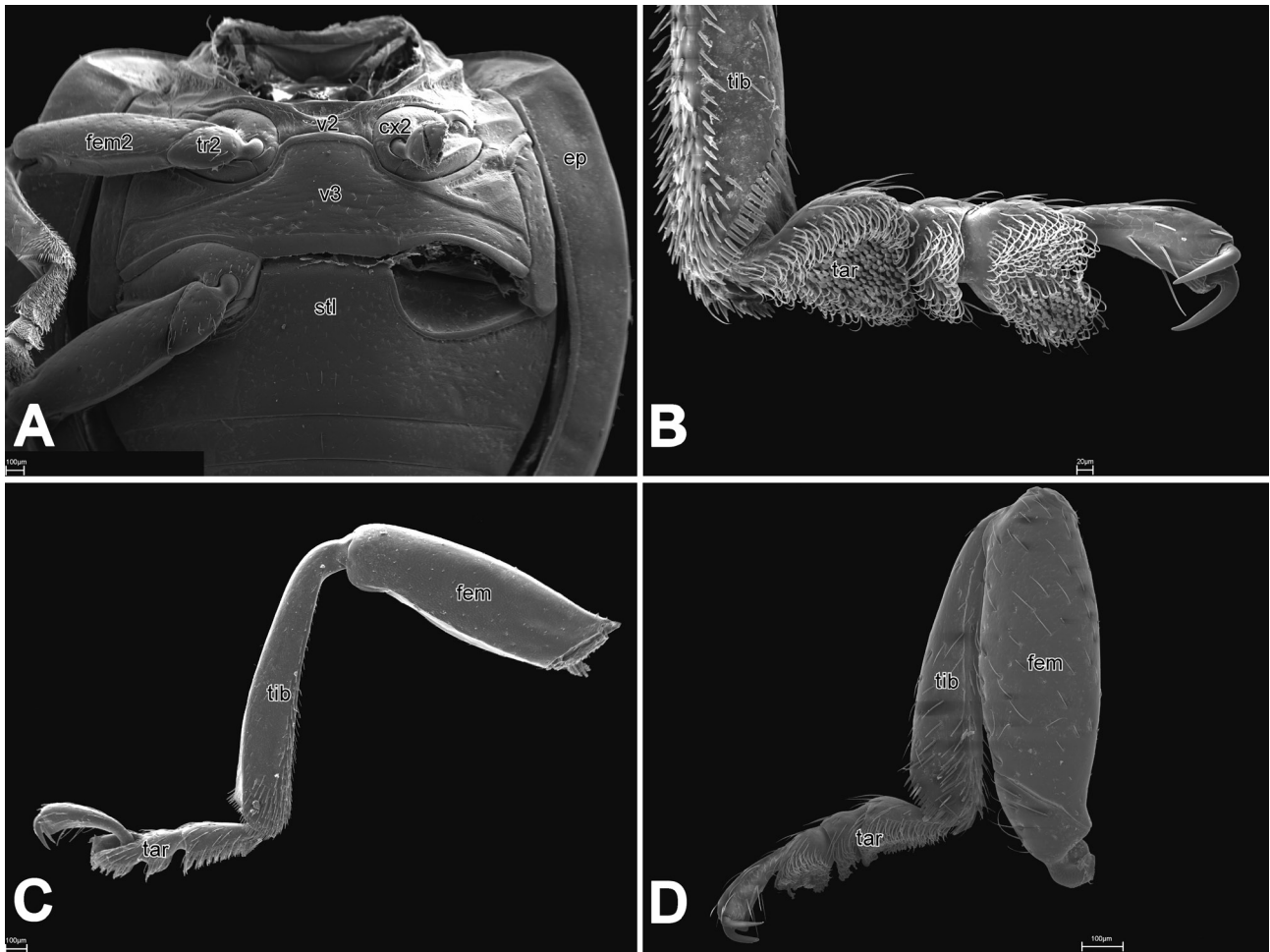


Fig. 3. *Odontoedon chinensis* (Gressitt & Kimoto), SEM. – **A.** Thorax, ventral view. **B.** Tibia and tarsi, lateral view. **C.** Proleg. **D.** Hindleg. – Abbreviations: cx2 = mesocoxal cavity; ep = epipleuron; fem2 = metafemora; stl = first segment of abdominal sternite; Tar = tarsus; Tib = tibia; tr2 = meso-trochantin; v2 = mesoventrite; v3 = metaventrite.

Differential diagnosis

The genus *Odontoedon* is similar to *Yunnaedon* Daccordi & Medvedev, but it can be distinguished by the bilobed tarsomere III and the pronotum without longitudinal depressions laterally.

Distribution

China: Anhui, Hubei, Hunan, Zhejiang, Jiangxi, Taiwan, Guangdong, Guangxi, Guizhou, Sichuan, Yunnan; Vietnam; Laos.

3.2 Descriptions and redescrptions of species of *Odontoedon* n. gen.

Odontoedon chinensis (Gressitt & Kimoto, 1963),
n. comb.
(Figs. 1B, 2, 3, 5A, 6)

Phaedon chinensis GRESSITT & KIMOTO, 1963: 335.

Phaedon cupreum WANG, 1992b: 176, 177, **n. syn.**

Phaedon fulgidus GE & WANG [in GE, YANG & CUI], 2004: 77,
n. syn.

Material examined

Phaedon chinensis Gressitt & Kimoto: Holotype: ♀, “China: Sui-sa-pa, 1000 m, Lichuan Distr., W. Hupeh, China, VII-31, 48 / GRESSITT & DJOU Collrs. / Holotype, female, *Phaedon chinensis* Gressitt & Kimoto / *Phaedon* sp. nov., det. S. KIMOTO, ‘51 / California Academy of Sciences, Type no. 13296” (CAS).

Phaedon cupreum Wang: Holotype: ♀, “China: Hunan, Sanzhi, Tianping Shan, 1570 m, 12 August 1988, leg. SHU-YONG WANG” (IZAS).

Phaedon fulgidus Ge & Wang: Holotype: ♂, “China, Guizhou Province, Huixiangping County, Fanjing Shan (27.9°N, 108.6°E), 1780 m, 1 August 2001, Coll. HONGBIN LIANG”. – Paratypes: 2 ♀♀, same data as holotype, except collected by KANGZHEN DONG (all IZAS).

Other material: China: Aihui, Huangshan, Yungu Temple, 1000 m, 22.VIII.1978, 2 ♀♀, leg. SHU-YONG WANG. – Hubei,

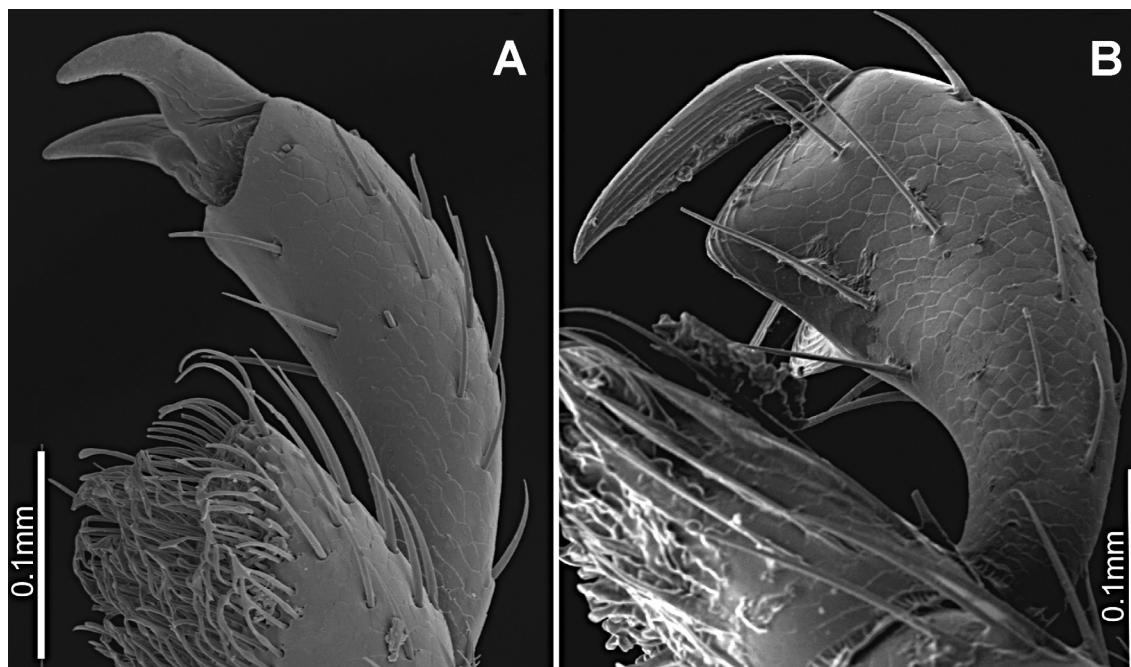


Fig. 4. *Phaedon* and *Odontoedon* spp., onychium, lateral view, SEM. – A. *Phaedon alticola* Wang. B. *Odontoedon fulvescens* (Weise).

Shennongjia, Badongya, 2700 m, 23.VII.1980, 1 ♀, leg. PEI-YU YU; Sahu Linchang, 1640 m, 22.VII.1980, 1 ♂, leg. PEI-YU YU. – Sichuan, Wushan, Liziping, 1800 m, 18.V.1994, 1 ♂, leg. YOU-WEI ZHANG; 1850 m, 8.VII.1993, 1 ♀, leg. XING-KE YANG (all IZAS).

Redescription

Measurements: Body length 3.6–4.6 mm, body width 2.6–3.2 mm.

Habitus: Body sub-spherical, strongly convex (Fig. 1B).

Coloration: Metallic bronze, pitch-dark; clypeus, last segment of maxillary palpi, two apical segments of labial palpi and claws reddish brown.

Head: Frons with coarse, sparse punctures; vertex finely shagreened, with very fine, sparse, confused punctures. – Antennae: Slender, extending well beyond base of elytra, segments 7–11 with dense pubescence; ratio of antennal segments of ♂ and ♀ see Figs. 6A, 6B.

Pronotum (Fig. 1B): Average length at middle 1.2 mm, average width at middle 1.6 mm; disc with sparse punctures, diameter of punctures same as those of clypeus (Fig. 5A); lateral and anterior angles with coarse punctures; posterior margin with coarse and dense punctures; surface shagreened.

Scutellum: Ligulate, smooth and impunctate, surface slightly shagreened.

Elytra: Length 2.7 mm, width at middle 3.2 mm; convex; abbreviated scutellar stria plus 10 complete striae composed of deep, large punctures, same as those of the

pronotum, ninth stria with very sparse punctures (Fig. 6C); interspace surface smooth, impunctate, finely shagreened.

Hind wings: Absent.

Underside: Lateral margins of prosternal process with punctures and pubescence, apically truncate, slightly broadened, central area with a longitudinal ridge; process of mesoventrite with sparse punctures and pubescence; metaventrite with large, coarse punctures, larger than those of the elytra, anterior margin emarginate; abdominal sternites with small, shallow punctures and sparse pubescence.

Aedeagus: In dorsal view broadened basally, tapered to apex, slightly pointed apically; in lateral view bent at right angles (Figs. 6D–6F).

Spermatheca: Falciform, with long convoluted duct and bulbiform structure (Fig. 6G).

Differential diagnosis

After studying the type specimens of the three taxa *Odontoedon chinensis* (Gressitt & Kimoto), *O. fulgidus* (Ge & Wang), and *O. cupreus* (Wang), we found that they are quite similar, particularly in the shape of the aedeagus (Figs. 6D, 6F). *O. chinensis* has slightly finer and denser punctures than *O. fulgidus* and *O. cupreus* (Fig. 7), but we believe that this small difference does not justify a separation on species level, so we treat the latter two names as new synonyms of *O. chinensis*.

Distribution

China: Anhui, Hubei, Hunan.

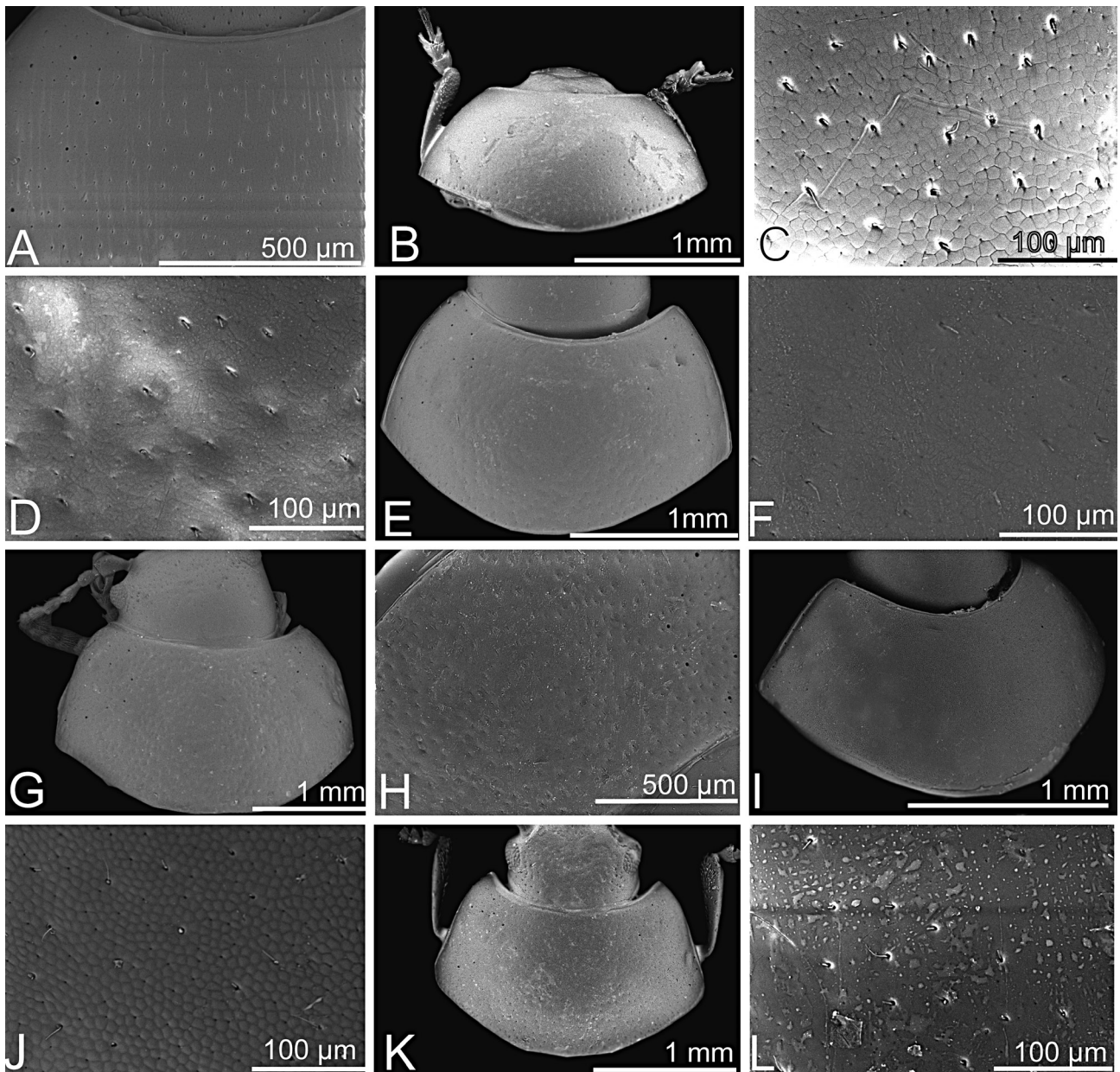


Fig. 5. *Odontoedon* spp., SEM, showing head and pronotum, and punctures of pronotum. – **A.** *O. chinensis* (Gressitt & Kimoto), punctures of pronotum. **B.** *O. globosus* n. sp., head and pronotum, dorsal view. **C.** *O. globosus* n. sp., punctures of pronotum. **D.** *O. kippenbergi* n. sp., punctures of pronotum. **E.** *O. lopatini* n. sp., pronotum, dorsal view. **F.** *O. lopatini* n. sp., punctures of pronotum. **G.** *O. potentillae* (Wang), pronotum, dorsal view. **H.** *O. potentillae* (Wang), punctures of pronotum. **I.** *O. sericeus* n. sp., pronotum, dorsal view. **J.** *O. sericeus* n. sp., punctures of pronotum. **K.** *O. tibetanus* n. sp., pronotum, dorsal view. **L.** *O. tibetanus* n. sp., punctures of pronotum.

Odontoedon fulvescens (Weise, 1922), **n. comb.**
(Figs. 1A, 4B, 8)

Phaedon fulvescens WEISE, 1922: 55.

Material examined

Older material: "Tonkin, Montes Mauson, April Mai, 2–3000', H. FRUHSTORFER / *Phaedon fulvescens* Weise", 1 ♀, 1 ♂ (ZSM). –

"Tonkin, Montes Mauson, April Mai 2–3000', H. FRUHSTORFER, Museum Paris, Coll. H. CLAVAREAU, 1932", 1 ♂ (MNHN). – "Tonkin, Montes Mauson, April–Mai, 2–3000', H. FRUHSTORFER" 2 ♂♂, 2 ♀♀ (MDC). – "Museum Paris, Honai, Coll. L. BEDEL, 1922", 1 ♂ (MNHN). – "Museum Paris, Tonkin, Dong-Van & Laokey (Vitalis de Salvaza), Mme, A. VUILLET, 1920", 1 ♂ (MNHN). – "Tonkin, Tan-moi, Juni–Juli, H. FRUHSTORFER", 1 ♂ (MNHN). – "Museum Paris, Tonkin, Vinyen, Tamduo, Coll. A. BONHORE,

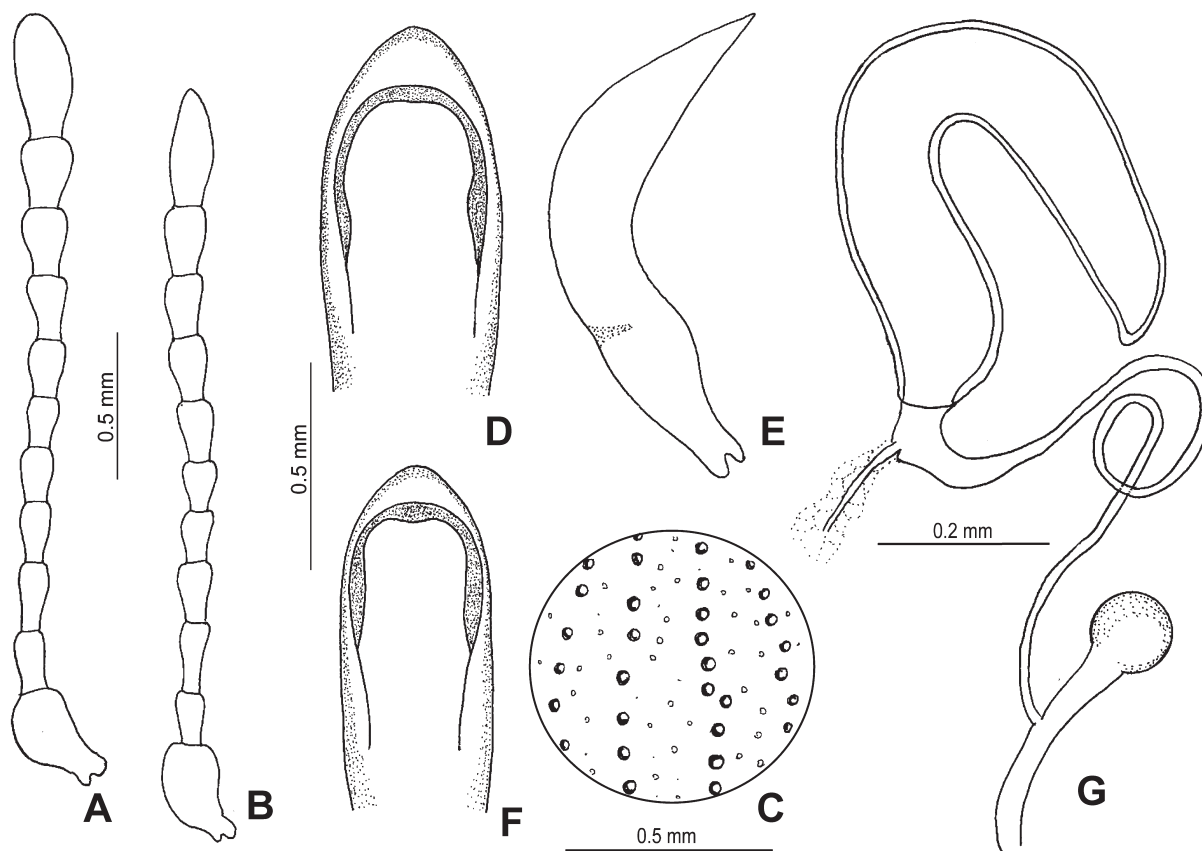


Fig. 6. *Odontoedon chinensis* (Gressitt & Kimoto) (A–E, G), *O. cupreus* (Wang) (F). – A. Antenna, ♂. B. Antenna, ♀. C. Elytral punctures (schematic). D. Aedeagus, dorsal view. E. Aedeagus, lateral view. F. Aedeagus, dorsal view. G. Spermatheca.

1909, Juni”, 1 ♀ (MNHN). – “Museum Paris, Tonkin, Vinh Yen, Tamdao, Coll. A. BONHOURE, 1909, Juin”, 1 ♀ (MNHN). – “Museum Paris, Kouy-Tchéou, Gal Chouen, Hiny fou ey Tchen-Fong, Tchéou, P. CAVALERIE, 1912 / Juin”, 1 ♂ (MNHN).

Recent material: Zhejiang: Zhoushan, Dinghai, 24.IV.1991, 1 ♂, 1 ♀, collector unknown (IZAS). – Jiangxi: Longnan, Nilian Mts., 21.VI.1975, 1 ♀, leg. SHI-MEI SONG (IZAS). – Hunan: Yizhang, 30.VI.1974, 1 ♂, leg. SHU-YONG WANG (IZAS). – Guangxi: Guilin, Yanshan, 200 m, 16.V.1963, 2 ♂♂, 2 ♀♀, leg. SHU-YONG WANG (IZAS); Longzhou, Daqingshan Mts., 360 m, 27.IV.1963, 1 ♂, 3 ♀♀, leg. YONG-SHAN SHI, SHU-YONG WANG (IZAS); Yaoshan Mts., V.1938, 1 ♂, 1 ♀, collector unknown (IZAS). – Guizhou: Libo, Maolan, 500–800 m, 25.X.1998, 1 ♂, 1 ♀, leg. XING-KE YANG and WEN-ZHU LI (IZAS). – Yunnan: Pinbian, Daweishan Mts., 1500 m, 17.VI.1956, 1 ♂, leg. KE-REN HUANG (IZAS); Jinping, Hetouzhai, 1700 m, 13.V.1956, 1 ♂, leg. KE-REN HUANG (IZAS). – N. Vietnam, Tam-Dao, 17.IX.1980, 1000 m, 1 ♂, leg. F. HEIKE (MDC). – Laos-CE, Boli Kham Xai prov. Ban Nape (8 km NE), 600 m, 18°21'N, 105°08'E, 1.–18.V.2001, 1 ♂, leg. PACHOLÁTKO (MDC).

Redescription

Measurements: Body length 5.0–6.2 mm, body width 3.0–4.1 mm.

Habitus: Body sub-spherical, convex dorsally (Fig. 1A).

Coloration: Yellowish brown; antennae, legs, mesoventrite, metaventrite and first segment of abdomen dark brown; antennomeres I and II paler than remaining segments.

Head: Frons with dense, moderate punctures; vertex with moderate confused punctures; eyes elliptical. – Antennae: Slender, extending well beyond base of elytra, segments 7–11 with dense pubescence; ratio of antennal segments of ♂ and ♀ see Figs. 8A, 8B.

Pronotum: Average length at middle 1.3 mm, average width at middle 1.6 mm; disc with moderate and dense punctures, diameter of punctures same as those of frons; with finer punctures interspersed; laterally with slightly sparser punctures; posterior margin with denser and larger punctures.

Scutellum: Sub-triangular, smooth, impunctate.

Elytra: Length 2.7 mm, width at middle 3.3 mm; convex; abbreviated scutellar stria plus 10 complete striae composed of deep, large punctures, larger than those of pronotum, ninth stria with very sparse punctures; interspace surface with small and sparse punctures (Fig. 8C).

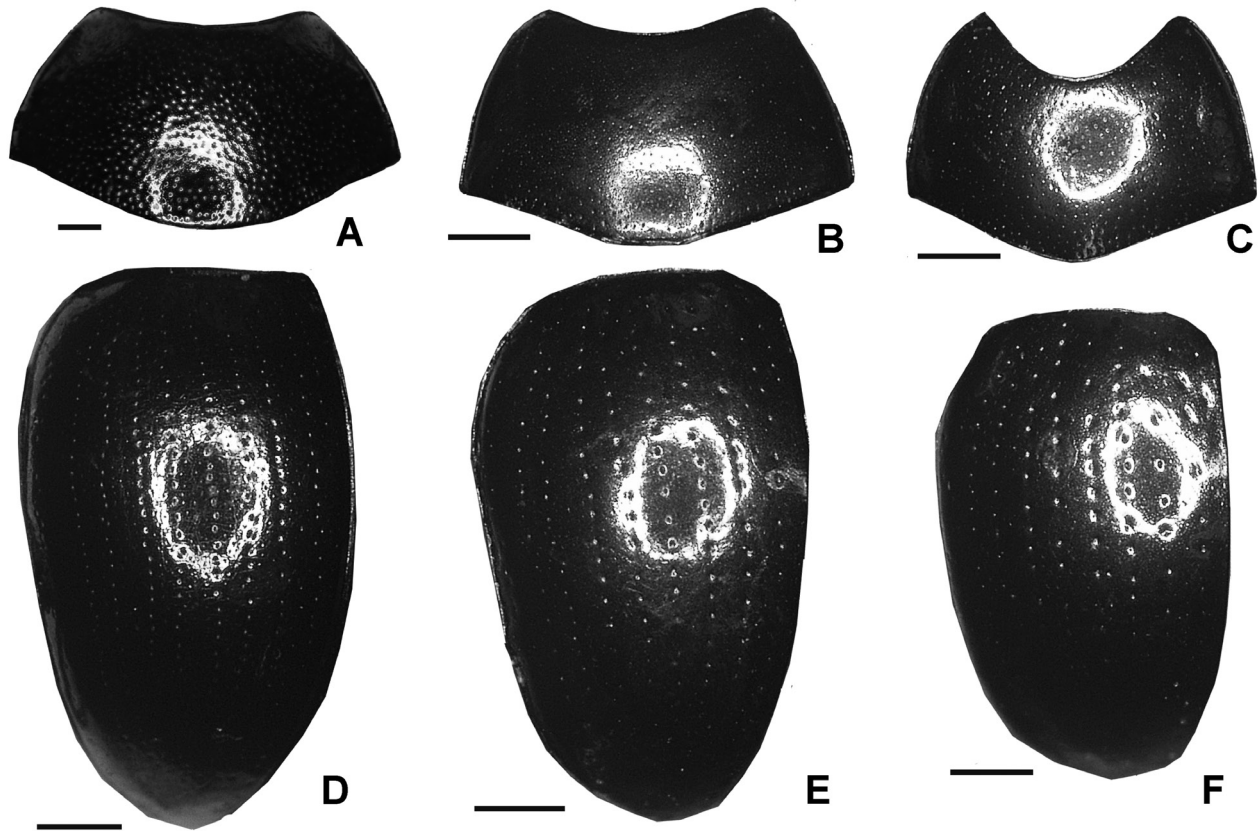


Fig. 7. *Odontoedon* spp., pronotum (A–C) and elytra (D–E). – A. *O. chinensis* (Gressitt & Kimoto). B. *O. cupreus* (Wang). C. *O. fulgidus* (Ge & Wang). D. *O. chinensis* (Gressitt & Kimoto). E. *O. cupreus* (Wang). F. *O. fulgidus* (Ge & Wang). – Scales: 1 mm.

Hind wings: Present.

Underside: Lateral margins of prosternal process with punctures and pubescence, apically rounded, slightly broadened, central area with a longitudinal ridge; mesoventrite with sparse punctures and pubescence; metaventrite with large and sparse punctures, larger than those of the elytra, anterior margin emarginate; abdominal sternites with small, shallow, sparse punctures and sparse pubescence.

Aedeagus: In dorsal view broadened basally, tapered to apex, slightly pointed apically; in lateral view bent at right angles (Figs. 8D, 8E).

Spermatheca: Falciform, with long convoluted duct and bulbiform structure (Fig. 8F).

Differential diagnosis

Odontoedon fulvescens is similar to *O. chinensis* Gressitt & Kimoto, but differs from it primarily in the punctuation of the pronotum and the morphology of the aedeagus. *P. chinensis* differs from *O. fulvescens* by the following characters: vertex with dense and fine punctures; pronotum with coarse and dense punctures; scutellum sub-triangular,

with fine punctures; diameter of punctures of elytral striae the same as those of pronotum, interstriae with fine punctures.

Distribution

China: Zhejiang, Jiangxi, Hunan, Taiwan, Guangdong, Guangxi, Guizhou, Yunnan; Vietnam; Laos.

Host plant

Only *Rubus* sp. is known as host plant.

Odontoedon globosus Daccordi & Ge, **n. sp.** (Figs. 5B, 5C, 9)

Holotype (♂): “Ch. S. Gansu, SSW Minxian Du Shan, SE of Chulong, ~34.13N/103.53E / 2700–3000 m, forest, SW Slope, 3–4.VII.2002, BELOUSOV & KABAK” (ZIN).

Etymology

From Latin, *globosus* = spherical, because the body shape of the new species is spherical.

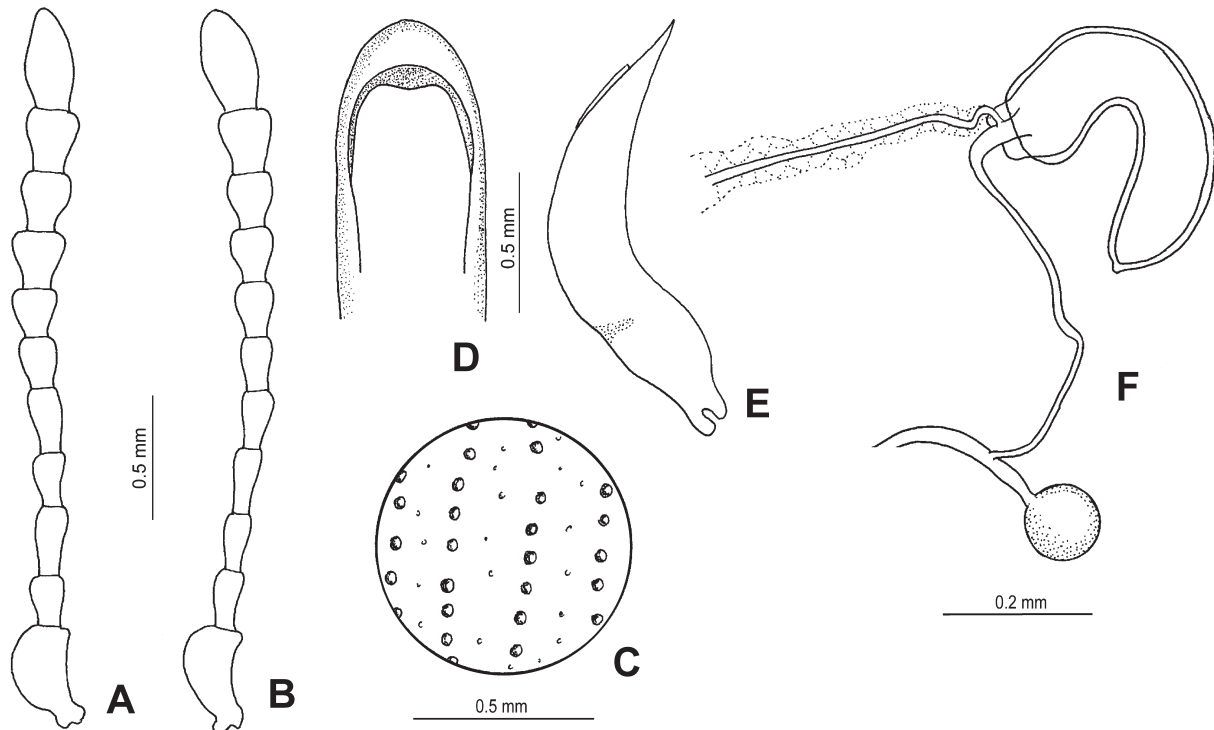


Fig. 8. *Odontoedon fulvescens* (Weise). – A. Antenna, ♂. B. Antenna, ♀. C. Elytral punctures (schematic). D. Aedeagus, dorsal view. E. Aedeagus, lateral view. F. Spermatheca.

Description

Measurements: Body length 2.8 mm, body width 2.33 mm.

Habitus: Very small, sub-spherical, strongly convex.

Coloration: Black, only lateral sides of pronotum dark red.

Head: Frons slightly depressed, with sparse, small punctures; vertex shagreened, with moderate, dense, confused punctures; eyes elliptical. – Antennae: Only basal five segments present, other segments missing (Fig. 9A).

Pronotum (Figs. 5B, 9E): Average length at middle 0.87 mm, average width at middle 1.74 mm; disc with moderate and dense punctures, diameter of punctures same as those of vertex; with finer punctures densely interspersed (Fig. 5C); laterally with much sparser punctures (Fig. 9E).

Scutellum: Sub-triangular, smooth, impunctate.

Elytra: Length 2.4 mm, width at middle 1.5 mm; abbreviated scutellar stria plus 10 complete striae composed of deep, dense and very large punctures, 3 times as large as

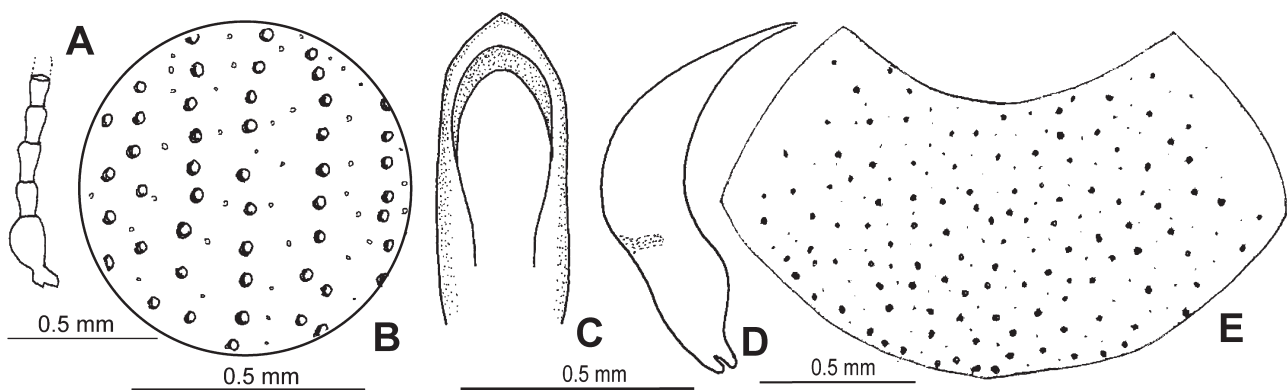


Fig. 9. *Odontoedon globosus* n. sp. – A. Antenna, ♂. B. Elytral punctures (schematic). C. Aedeagus, dorsal view. D. Aedeagus, lateral view. E. Pronotum, dorsal view.

those of pronotum, ninth stria with very sparse punctures; interspace surface with fine and sparse punctures (Fig. 9B).

Hind wings: Absent.

Underside: Lateral margins of prosternal process with punctures and pubescence, apically rounded, slightly broadened, central area with a longitudinal ridge; process of mesoventrite narrow, posterior margin emarginate; metaventrite with large and sparse punctures, similar to those of the elytra, anterior margin emarginate; abdominal sternites with small, shallow, sparse punctures and sparse pubescence.

Aedeagus: In dorsal view broadened basally, tapered to apex, slightly pointed apically; in lateral view bent at right angles (Figs. 9C, 9D).

Spermatheca: Unknown.

Differential diagnosis

The new species differs from all other species of the genus *Odontoedon* in its very small body length and the entirely black colour.

Remarks

M. DACCORDI received the type specimen of the new species from Prof. IGOR LOPATIN in the beginning of 2011. The original name written by LOPATIN on the label was "*Phaedon globosus* Lopatin, n. sp.". After examination in detail, M. DACCORDI and S.-Q. GE regarded this new species as belonging to *Odontoedon*, and asked LOPATIN if he

agrees that the species will be described in a new genus. After we received his positive answer, we decided to publish the description together, but, unfortunately, LOPATIN passed away recently. We used LOPATIN's species name *globosus* to respect his opinion.

Distribution

China: Sichuan.

Odontoedon impressus Daccordi & Yang, n. sp. (Figs. 1C, 10)

Holotype (♀): "China-S Sichuan, 2600–2700 m, pass between Wupo-Jinyang *Corylus-Rhododend.-Quercus* shrubs, 15.–21.VI.2004, leg. R. FABBRI" (IZAS).

Paratype: 1 ♀, same data as holotype (MDC).

Etymology

From Latin, impress = strong; *impressus* means the strong punctures on the elytra.

Description

Measurements: Body length 5.1 mm, body width 3.8 mm.

Habitus: Body sub-spherical, convex dorsally (Fig. 1C).

Coloration: Head, underside of body, antennae, and legs dark; pronotum reddish brown; central disc of pronotum with a large black marking which covers more than half of the pronotum.

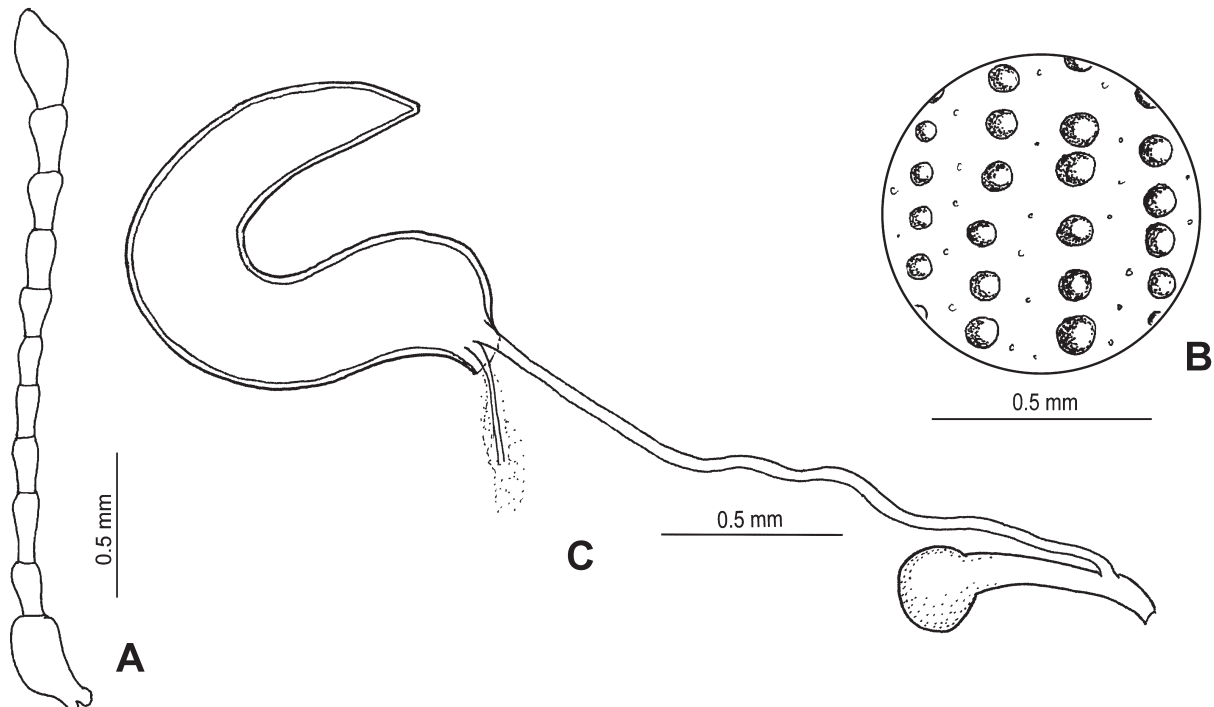


Fig. 10. *Odontoedon impressus* n. sp. – A. Antenna, ♀. B. Elytral punctures (schematic). C. Spermatheca.

Head: Frons with dense, small punctures; vertex with moderate confused punctures; eyes elliptical. – Antennae: Slender, extending well beyond base of elytra, segments 7–11 with dense pubescence; ratio of antennal segments see Fig. 10A.

Pronotum: Average length at middle 2.7 mm, average width at middle 1.4 mm; disc with fine and dense punctures, diameter of the punctures the same as or larger than those of frons, finer punctures densely interspersed; laterally with much sparser punctures; posterior margin with denser and larger punctures.

Scutellum: Sub-triangular, smooth, impunctate.

Elytra: Length 2.8 mm, width at middle 2.6 mm; convex; abbreviated scutellar stria plus 10 complete striae composed of very deep, large punctures, larger than those of pronotum, ninth stria with very sparse punctures; interspace surface convex, with fine and sparse punctures (Fig. 10B).

Hind wings: Absent.

Underside: Lateral margins of prosternal process with punctures and pubescence; process of mesoventrite with sparse punctures and pubescence; metaventrite with large and sparse punctures, similar to those of the elytra, anterior margin emarginate; abdominal sternites with small, shallow, sparse punctures and sparse pubescence.

Aedeagus: unknown.

Spermatheca: Falciform, with long convoluted duct and bulbiform structure (Fig. 10C).

Differential diagnosis

The new species, near to *O. chinensis*, can be recognized by its very strong and depressed elytral striae.

Distribution

China: Sichuan.

Odontoedon kippenbergi Daccordi & Ge, n. sp. (Figs. 1D, 5D, 11)

Holotype (♂): “China: W.Sichuan, Ya’an Prefecture, Tianquan, Co., E. Erlang Shan Pass / 2900 m, 20.VI.1999, 29°52'36"N, 102°17'82"E, leg. A. PÜTZ / Sammlung ANDREAS PÜTZ, Eisenhüttenstadt” (IZAS).

Paratypes: 1 ♀, same data as holotype (MDC). – 1 ♂, “China [W. Sichuan] Erlang Shan E Sautao Kiao Pass, 3000 m, 29°52'N, 102°17'E, 19.V.1997, WRASE / coll. U. ARNOLD (Jan. 2000)” (HKC). – 1 ♀, “Ch., C-Sichuan (Tianguan), pass betw. Tianguan-Luding, 29°51'73"N, 102°16'85"E, 3000 m, 22.7.2000, lgt. M. JANATA” (IZAS). – 1 ♀, “China: Sichuan env. Maoxian, h=4150 m, 30.VII.2000, leg. S. Murzin” (MDC).

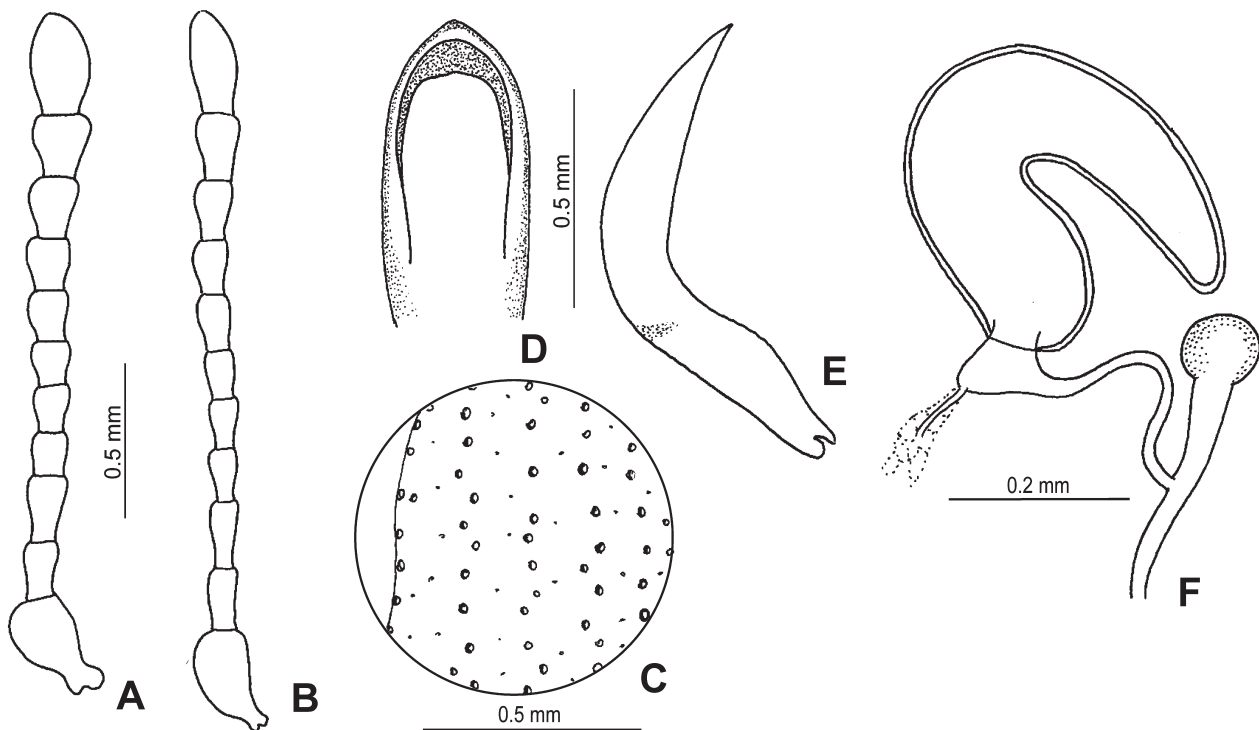


Fig. 11. *Odontoedon kippenbergi* n. sp. – A. Antenna, ♂. B. Antenna, ♀. C. Elytral punctures (schematic). D. Aedeagus, dorsal view. E. Aedeagus, lateral view. F. Spermatheca.

Etymology

Named after the well-known German Chrysomelidae taxonomist Dr. HORST KIPPENBERG (Herzogenaurach).

Description

Measurements: Body length 3.50–4.25 mm, body width 2.25–2.50 mm.

Habitus: Body sub-spherical, convex dorsally (Fig. 1D).

Coloration: Head dark; antennae, mouthparts, legs, mesoventrite, metaventrite, first segment of abdomen, and elytra dark brown; pronotum and lateral margin of elytra reddish brown; central disc of pronotum usually with dark longitudinal markings (a trapezoidal macula over the entire length, a triangular macula near anterior margin, or a subtriangular macula near posterior margin), sometimes macula absent.

Head: Frons with dense, small punctures; vertex with small confused punctures; eyes elliptical. – Antennae: Slender, extending well beyond base of elytra, segments 7–11 with dense pubescence; ratio of antennal segments of ♂ and ♀ see Figs. 11A, 11B.

Pronotum: Average length at middle 1.0 mm, average width at middle 1.75 mm; lateral margins evenly, slightly narrower at anterior angles, with a line of punctures along lateral margins; disc with moderate punctures, diameter of punctures same as those of frons; with very fine punctures interspersed (Fig. 5D); laterally with slightly sparser punctures; posterior margin with denser and larger punctures.

Scutellum: Sub-triangular, smooth, impunctate.

Elytra: Length 2.75 mm, width at middle 2.9 mm; convex; abbreviated scutellar stria plus 10 complete striae composed of shallow, moderate punctures, same as those of pronotum, ninth stria with very sparse punctures; interspace surface with small and sparse punctures (Fig. 11C).

Hind wings: Absent.

Underside: Lateral margins of prosternal process with punctures and pubescence, apically rounded, slightly broadened, central area with a longitudinal ridge; with sparse punctures and pubescence; metaventrite with large and sparse punctures, larger than those of the elytra, anterior margin emarginate; abdominal sternites with small, shallow, sparse punctures and sparse pubescence.

Aedeagus: In dorsal view broadened basally, tapered to apex, slightly pointed apically; in lateral view bent at right angles (Figs. 11D, 11E).

Spermatheca: Falciform, with long convoluted duct and bulbiform structure (Fig. 11F).

Differential diagnosis

The new species is similar to *O. lopatini*, but it can be distinguished by the following characters: pronotum totally red or with a very little dark shade, punctures of elytra striae small and relative sparse.

Distribution

China: Sichuan.

Odontoedon limbatus (Lopatin, 2002), **n. comb.**
(Fig. 12)

Phaedon limbatus LOPATIN, 2002: 115.

Material examined

Holotype: ♂, “CH. Sichuan, SSW of Shimian, E. Slope of Mt. 4977, W of Lijipin, 3000–4200 m, 5.07.2000, BELOUSOV, KABAK, DAVIDIAN” (ZIN).

Other material: 1 ♂, “China, W. Sichuan, West of Zhier (Zi'er) 2866 m; N 28°22,293'; E 101°32,701' R. SEHNAL & M. TRYZNA” (MDC).

Redescription

Measurements: Body length 3.47 mm, body width 2.33 mm.

Habitus: Body sub-spherical, convex dorsally.

Coloration: Head, antennae, mouthparts, legs, and underside of body dark; pronotum and lateral margin of elytra reddish brown, central disc of pronotum with a large black trapezoidal marking.

Head: Frons with dense, moderate punctures, rugous; vertex with moderate confused punctures; eyes elliptical. – Antennae: Slender, extending well beyond base of elytra, segments 7–11 with dense pubescence; ratio of antennal segments see Fig. 12A.

Pronotum: Average length at middle 0.99 mm, average width at middle 1.86 mm; disc with moderate punctures, interspace with some scattered fine punctures, diameter of punctures same as those of frons; laterally with much sparser punctures; posterior margin with denser and larger punctures.

Scutellum: Sub-triangular, smooth, impunctate.

Elytra: Length 2.8 mm, width at middle 1.5 mm; abbreviated scutellar stria plus 10 complete striae composed of deep, large punctures, larger than those of pronotum, ninth stria with very sparse punctures; interspace surface with fine, sparse punctures (Fig. 12B).

Hind wings: Absent.

Underside: Lateral margins of prosternal process with sparse punctures and pubescence; metaventrite with large, sparse punctures, larger than those of the elytra, anterior margin emarginate; abdominal sternites with small, shallow, sparse punctures and sparse pubescence.

Aedeagus: In dorsal view broadened basally, tapered and slightly pointed apically; in lateral view bent at right angles (Figs. 12C, 12D).

Spermatheca: Unknown.

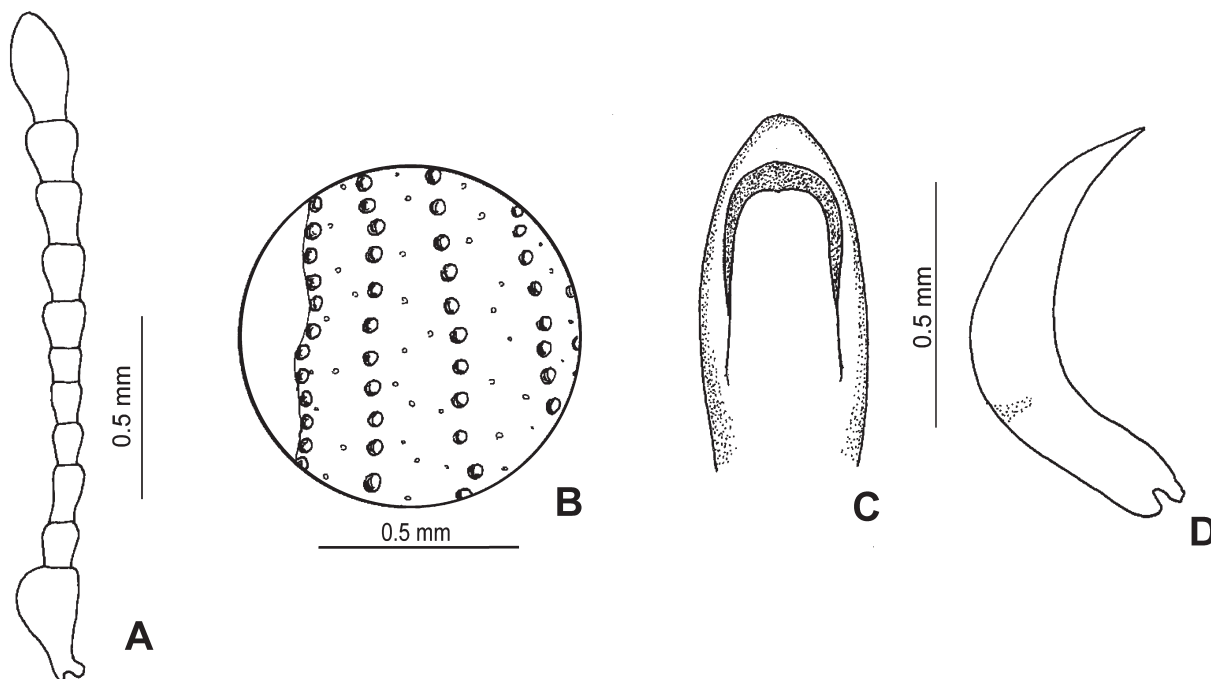


Fig. 12. *Odontoedon limbatus* (Lopatin). – **A.** Antenna, ♂. **B.** Elytral punctures (schematic). **C.** Aedeagus, dorsal view. **D.** Aedeagus, lateral view.

Differential diagnosis

The species is similar to *O. lopatini*. The latter species differs from the new one in the pronotum with coarse and sparse punctures and the interspace without fine punctures.

Distribution

China: Sichuan.

Odontoedon lopatini Ge & Daccordi, n. sp.

(Figs. 1E, 5E, 5F, 13)

Holotype (♂): “China, Yunnan prov., 18.6.–4.7.1993, Heishui = 35 km N Lijiang, 27°13'N, 100°19'E, lgt. S. BECVAR” (IZAS).

Paratypes: 1 ♂, 2 ♀♀, “Yunnan, 3500–4000 m, 27°10'N, 100°13'E, Yulongshan Mts, 16.–19.VI.1993, lgt. VIT KUBÁN” (1 ♂, 1 ♀ MDC; 1 ♀ IZAS). – 1 ♀, “Yunnan, 17.–19.vii.1996, 27°14'N, 99°27'E, 3300 m, Hengduan mts-Yungling, VIT KUBÁN leg.” (IZAS). – 2 ♂♂, 1 ♀, “Yunnan, 16.–19.Jun.1993, Yulong Mts., 27°10'N, 100.13'E, 3900 m, BOLM lgt.” (1 ♂, 1 ♀ MDC; 1 ♂ IZAS). – 3 ♀♀, “Cina [China] NW Yunnan, S. of Lijang, V-99, WENFENG” (MDC). – 1 ♂, “N. W. Yunnan 6-98, N of Lijang, Jade Dragon Mt.”, collector unknown (MDC). – 2 ♂♂, 1 ♀, “China pr. Yunnan bor., Heishui env., 24.–28.5.1993, R. CERVENKE lgt.” (MDC). – 2 ♂♂, 1 ♀, “China NW Yunnan Bai Ma Xue Shan, 35 km S Degen, h=4300–4800 m, 24.vi.1998, lgt. S. MURZIN” (MDC).

Etymology

Named after the Russian entomologist, Prof. IGOR LOPATIN (1923–2012), for his work on Chrysomelidae.

Description

Measurements: Body length 3.70–4.25 mm, body width 2.35–2.60 mm.

Habitus: Body sub-spherical, convex dorsally (Fig. 1E).

Coloration: Head, antennae, mouthparts, legs, and underside of body dark; pronotum and lateral margin of elytra reddish brown, central disc of pronotum with a large black trapezoidal marking.

Head: Frons slightly depressed, flattened along antennal sockets, with dense and moderate punctures, rugous; vertex with moderate confused punctures; eyes elliptical. – **Antennae**: Slender, extending well beyond base of elytra, segments 7–11 with dense pubescence; ratio of antennal segments of ♂ and ♀ see Figs. 13A, 13B.

Pronotum (Fig. 5E): Average length at middle 1.15 mm, average width at middle 2.15 mm; disc with moderate and sparse punctures, diameter of punctures same as those of frons (Fig. 5F); laterally with much sparser punctures; posterior margin with denser and larger punctures.

Scutellum: Sub-triangular, smooth, impunctate.

Elytra: Length 3.3 mm, width at middle 2.9 mm; convex; abbreviated scutellar stria plus 10 complete striae

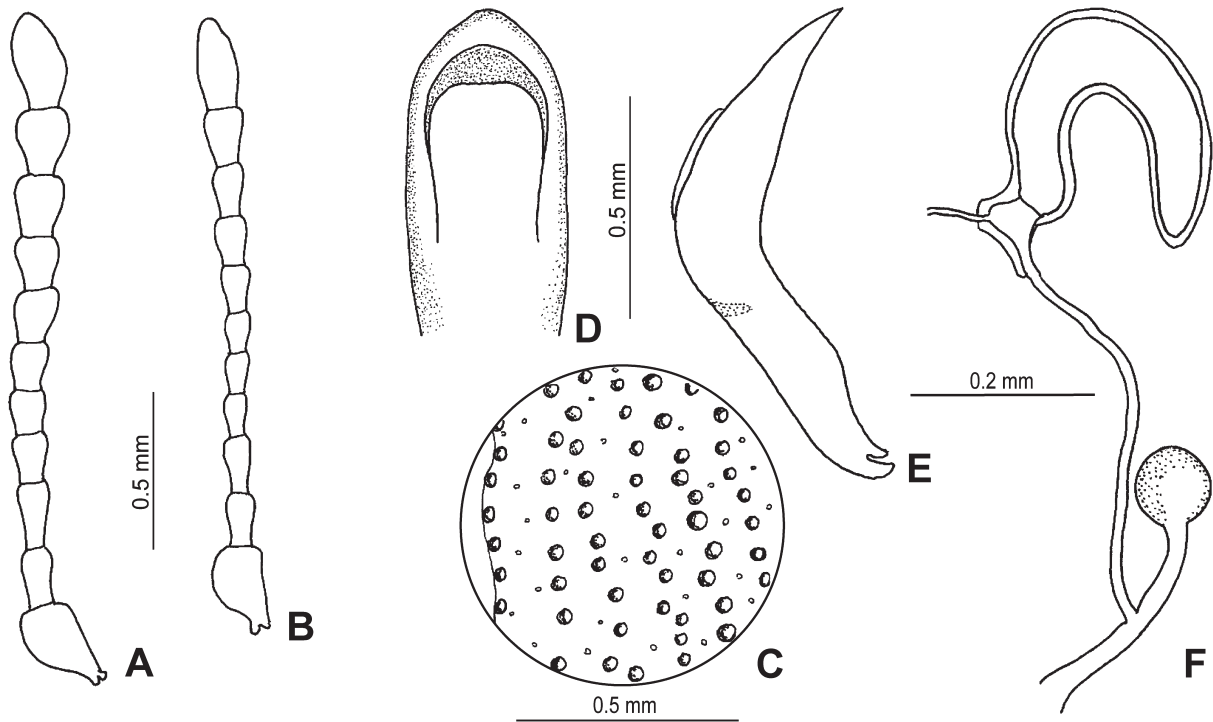


Fig. 13. *Odontoedon lopatini* n. sp. – A. Antenna, ♂. B. Antenna, ♀. C. Elytral punctures (schematic). D. Aedeagus, dorsal view. E. Aedeagus, lateral view. F. Spermatheca.

composed of deep, large punctures, larger than those of pronotum, ninth stria with very sparse punctures; interspace surface with small, dense punctures (Fig. 13C).

Hind wings: Absent.

Underside: Lateral margins of prosternal process with punctures and pubescence, apically rounded, slightly broadened, central area with a longitudinal ridge; with sparse punctures and pubescence; metaventricle with large and sparse punctures, larger than those of the elytra, anterior margin emarginate; abdominal sternites with small, shallow, sparse punctures and sparse pubescence.

Aedeagus: In dorsal view broadened basally, tapered and slightly pointed apically; in lateral view bent at right angles (Figs. 13D, 13E).

Spermatheca: Falciform, with long convoluted duct and bulbiform structure (Fig. 13F).

Differential diagnosis

The new species is similar to *O. limbatus*. The latter differs from *O. lopatini* by the pronotum with coarse and dense punctures and the interspace with scattered fine punctures.

Distribution

China: Yunnan.

Odontoedon maculicollis (Chen, 1974), **n. comb.** (Fig. 14)

Phaedon maculicollis CHEN, 1974: 46.

Material examined

Holotype: ♂, "Sichuan: Emeishan, 1600–2100 m, 1955-VI-24, leg. SHU-YONG WANG" (IZAS). – Allotype, ♀, same data as holotype (IZAS). – Paratypes: 2 ♀♀, same data as holotype (1 in IZAS, 1 in MDC).

Other material: 1 ♂, Sichuan: Emeishan, Xixiangchi, 1800–2000 m, 19.VIII.1957, leg. FU-XING ZHU (IZAS). – 1 ♂, PT, China, Sichuan, Emei Shan, 3000 m, 28°32'N, 103°21'E, leg. J. FARKAČ, P. KABATEK and A. SMETANA (MDC). – 1 ♂, China, Si Schuan, Enri Shan, 4.VI.1992, leg. SAUER (MDC).

Redescription

Measurements: Body length 4.1–5.0 mm, body width 2.40–2.65 mm.

Habitus: Body sub-spherical, strongly convex.

Coloration: Head and elytra greenish aeneous with ground colour black; prothorax reddish brown, central disc black; underside of body castaneous black, abdomen sometimes largely testaceous.

Head: Frons slightly depressed, with dense, small punctures; vertex shagreened, with moderate, dense, con-

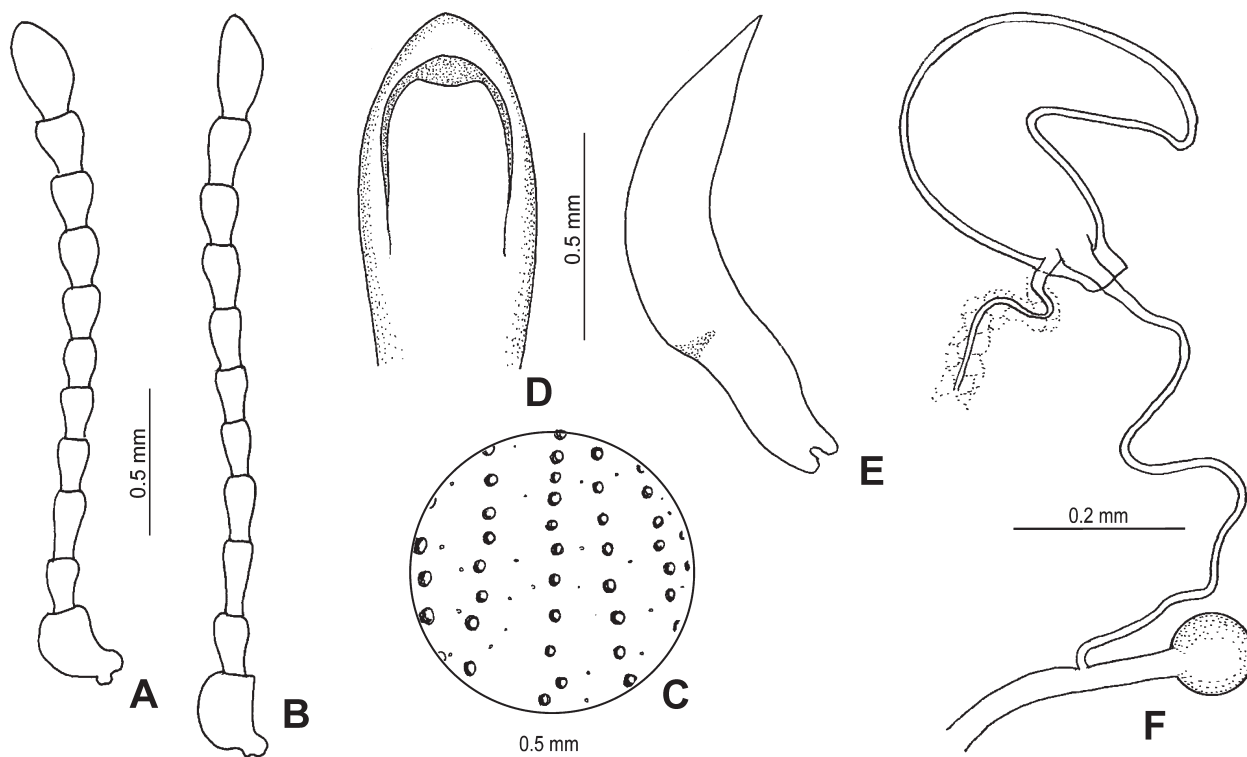


Fig. 14. *Odontoedon maculicollis* (Chen). – A. Antenna, ♂. B. Antenna, ♀. C. Elytral punctures (schematic). D. Aedeagus, dorsal view. E. Aedeagus, lateral view. F. Spermatheca.

fused punctures; eyes elliptical. – Antennae: Slender, extending well beyond base of elytra, segments 7–11 with dense pubescence; ratio of antennal segments of ♂ and ♀ see Figs. 14A, 14B.

Pronotum: Average length at middle 1.25 mm, average width at middle 2.35 mm; lateral margins evenly, slightly narrower at anterior angles, with a line of punctures along lateral margins; disc with moderate and sparse punctures, diameter of punctures same as those of vertex; with finer punctures densely interspersed; laterally with much sparser punctures.

Scutellum: Sub-triangular, smooth, impunctate.

Elytra: Length 4.15 mm, width at middle 3.6 mm; convex; abbreviated scutellar stria plus 10 complete striae composed of deep, dense and very large punctures, 3 times as large as those of pronotum, ninth stria with very sparse punctures; interspace surface, with very sparse, fine punctures (Fig. 14C).

Hind wings: Absent.

Underside: Lateral margins of prosternal process with punctures and pubescence; metaventrite with large and sparse punctures, similar to those of the elytra, anterior margin emarginate; abdominal sternites with small, shallow, sparse punctures and sparse pubescence.

Aedeagus: In dorsal view broadened basally, tapered and slightly pointed apically; in lateral view bent at right angles (Figs. 14D, 14E).

Spermatheca: Falciform, with long convoluted duct, without bulbiform structure (Fig. 14F).

Differential diagnosis

This species is close to *O. fulvescens*, but has a very different body coloration, the terminal segments of the antennae distinctly more elongate, and the hind wings absent.

Distribution

China: Sichuan.

Odontoedon potentillae (Wang, 1992), **n. comb.**
(Figs. 5G, 5H, 15)

Phaedon potentillae WANG, 1992a: 633.

Material examined

Holotype: ♂, "Sichuan: Dege, Keluodong, 3600 m, 1983-VIII-5, leg. SHU-YONG WANG" (IZAS). – Paratypes: 2 ♂♂, 2 ♀♀, same data as holotype (IZAS). – 2 ♂♂, 2 ♀♀, "Sichuan: Kangding, Gonggashan, west slope, Gongga Temple, 3530–3650 m, 1982-XI-2, leg. SHU-YONG WANG" (IZAS).

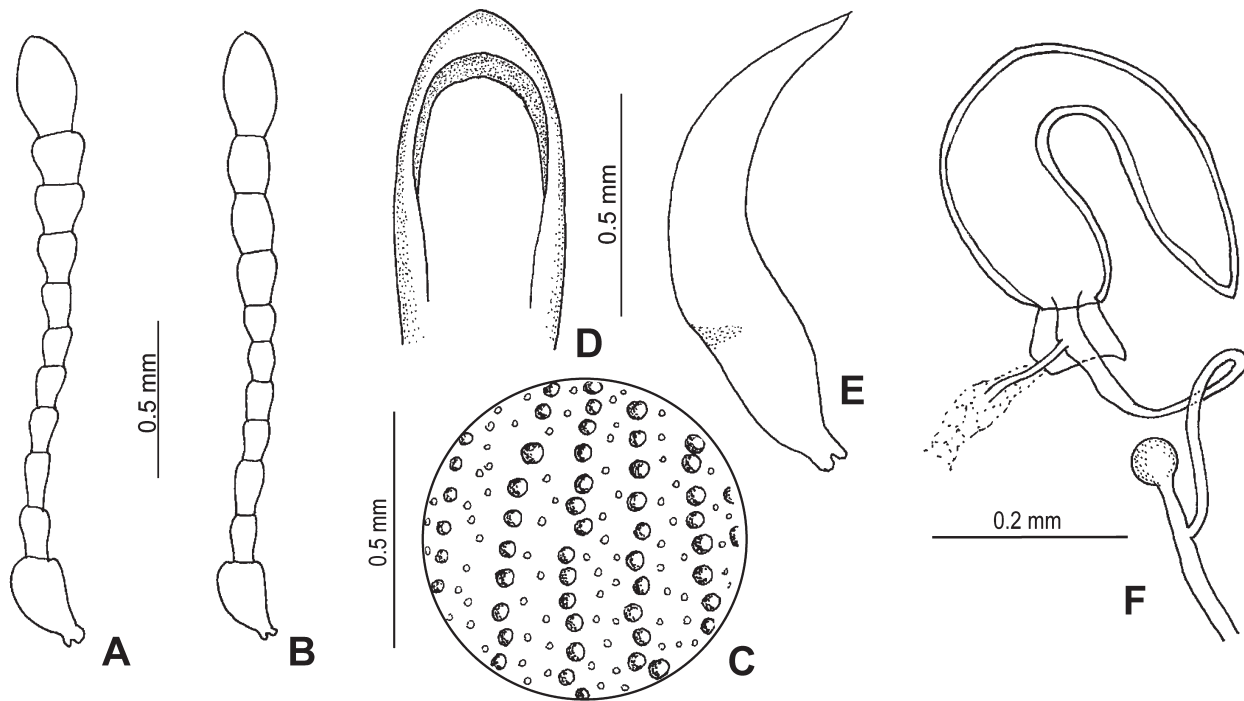


Fig. 15. *Odontoedon potentillae* (Wang). – A. Antenna, ♂. B. Antenna, ♀. C. Elytral punctures (schematic). D. Aedeagus, dorsal view. E. Aedeagus, lateral view. F. Spermatheca.

Redescription

Measurements: Body length 3.50–3.75 mm, body width 2.25–2.75 mm.

Coloration: Body bronze, with purple metallic shine; pronotum laterally reddish brown, middle part black; antennae dark.

Habitus: Body sub-spherical, convex dorsally.

Head: Frons slightly depressed, with sparse, small punctures; vertex shagreened, with moderate, dense, confused punctures; eyes elliptical. – Antennae: Slender, extending well beyond base of elytra, segments 7–11 with dense pubescence; ratio of antennal segments of ♂ and ♀ see Figs. 15A, 15B.

Pronotum (Fig. 5G): Average length at middle 1.0 mm, average width at middle 1.75 mm; lateral margins evenly, slightly narrower at anterior angles, with a line of punctures along lateral margins; disc with moderate and sparse punctures, diameter of punctures same as those of vertex; with finer punctures densely interspersed (Fig. 5H); laterally with much sparser punctures.

Scutellum: Sub-triangular, smooth, impunctate.

Elytra: Length 2.5 mm, width at middle 2.25 mm; convex; abbreviated scutellar stria plus 10 complete striae composed of deep, dense and very large punctures, 3 times as large as those of pronotum, ninth stria with very sparse punctures; interspace surface with dense and fine punctures.

Hind wings: Absent.

Underside: Lateral margins of prosternal process with punctures, pubescent, apically rounded, slightly broadened, central area with a longitudinal ridge; metaventrite with large and sparse punctures, similar to those of the elytra, anterior margin emarginate; abdominal sternites with small, shallow, sparse punctures and sparse pubescence.

Aedeagus: In dorsal view broadened basally, tapered and slightly pointed apically; in lateral view bent at right angles (Figs. 15D, 15E).

Spermatheca: Falciform, with long convoluted duct, without bulbiform structure (Fig. 15F).

Differential diagnosis

The species is similar to *O. maculicollis*, but it can be distinguished by the following characters: body small, 3.50–3.75 mm in length; central disc of pronotum with coarse, dense punctures; interspace of elytra with fine, very dense punctures.

Distribution

China: Sichuan.

Host plant

Only *Potentilla* sp. is known as host plant.

Odontoedon rufulus Ge & Daccordi n. sp.

(Figs. 1F, 16)

Holotype (♂): "CH. W Yunnan SW Liuku, 25 43 13N / 98 45 49E, H 3375 m, 18.05.2006, BELOUSOV & KABAK leg." (ZIN).

Paratypes: 1 ♀, 1 ♀, same data as holotype (1 ♀ ZIN, 1 ♀ IZAS). – 1 ♂, 1 ♀, "China: Yunnan [CH07-26], Nujiang Lisu Aut. Pref., Gaoligong Shan, pass 24 km NW Liuku or 7 km E Pianma, 25°58'22"N; 98°41'00"E, 3150 m, bamboo with shrubs, litter sifted, 9.VI.2007, leg. A. PÜTZ" (MDC). – 1 ♀, same data as before (APC).

Etymology

From Latin, rufus = red; *rufulus* means the reddish brown body colour of the new species.

Description

Measurements: Body length 3.15–3.90 mm, body width 2.0–2.5 mm.

Habitus: Body sub-spherical, convex dorsally (Fig. 1F).

Coloration: Head dark, underside of body, femora, tarsi, antennomeres III–XI dark brown, pronotum, scutellum and elytra reddish brown.

Head: Frons slightly depressed, with sparse, small punctures; vertex shagreened, with moderate, dense, con-

fused punctures; eyes elliptical. – Antennae: Slender, extending well beyond base of elytra, segments 7–11 with dense pubescence; ratio of antennal segments of ♂ and ♀ see Figs. 16A, 16B.

Pronotum: Average length at middle 0.9 mm, average width at middle 1.6 mm; lateral margins evenly, slightly narrower at anterior angles, with a line of punctures along lateral margins; anterior margin widely emarginate with projecting anterior angles; posterior angles obtuse; anterior, lateral and posterior margins with raised bead; disc with moderate, sparse punctures, diameter of punctures same as those of vertex; with finer punctures densely interspersed; laterally with much sparser punctures.

Scutellum: Sub-triangular, smooth, impunctate.

Elytra: Length 2.4 mm, width at middle 2.25 mm; convex; abbreviated scutellar stria plus 10 complete striae composed of deep, dense and large punctures, larger than those of pronotum, ninth stria with very sparse punctures; interspace surface with fine, sparse punctures (Fig. 16C).

Hind wings: Absent.

Underside: Lateral margins of prosternal process with punctures and pubescence; metaventrite with large, sparse punctures, similar to those of the elytra; abdominal sternites with small, shallow, sparse punctures and sparse pubescence.

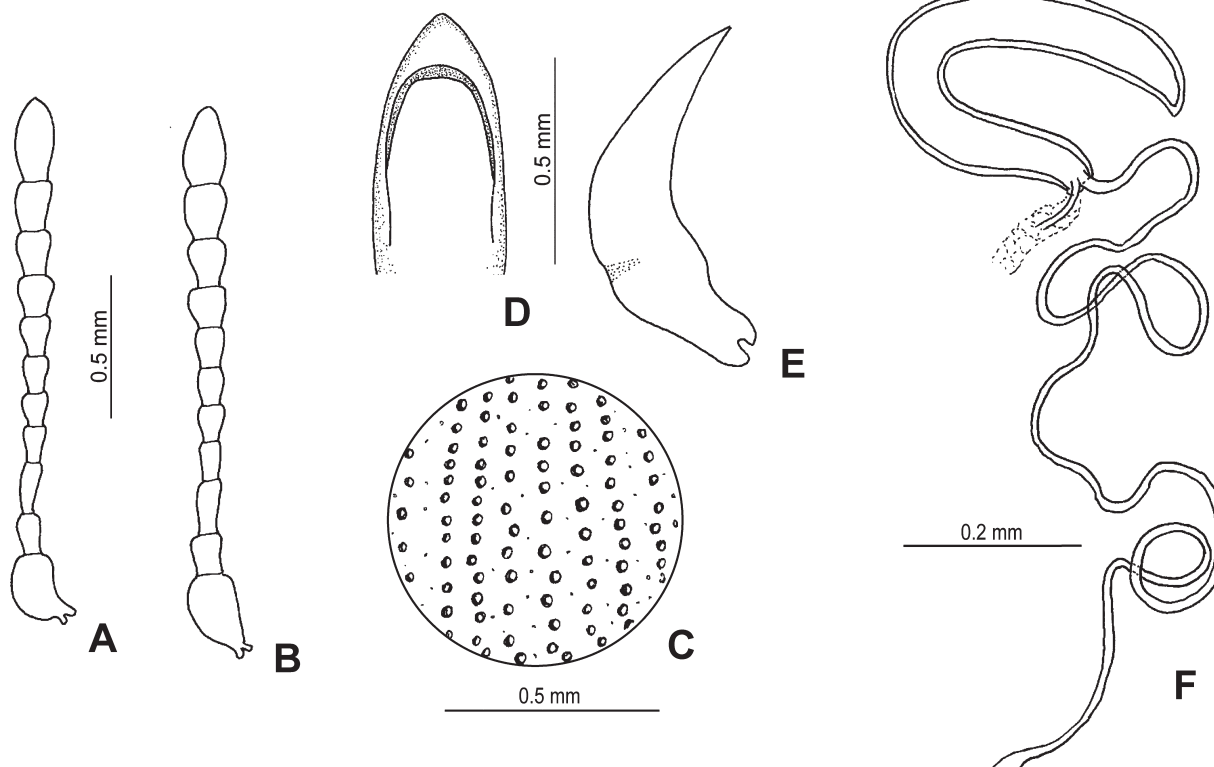


Fig. 16. *Odontoedon rufulus* n. sp. – A. Antenna, ♂. B. Antenna, ♀. C. Elytral punctures (schematic). D. Aedeagus, dorsal view. E. Aedeagus, lateral view. F. Spermatheca.

Aedeagus: In dorsal view broadened basally, tapered and slightly pointed apically; in lateral view bent at right angles (Figs. 16D, 16E).

Spermatheca: Falciform, with long convoluted duct, without bulbiform structure (Fig. 16F).

Differential diagnosis

The new species is similar to *Odontoedon fulvescens*, but it can be distinguished by the relatively small body, the black head, and the spermatheca without bulbiform structure.

Remark

We use the name which was proposed by LOPATIN in 2007 (in litt.) for the three specimens from W Yunnan (SW Liuku).

Distribution

China: Sichuan.

Odontoedon sericeus Daccordi & Ge, n. sp.
(Figs. 1G, 5I, 5J, 17)

Holotype (♂): “China (Sichuan) n. Kangding: see Mu-ge-cuo, 3500–3900 m, 22.VII.1994, Heinz leg.” (IZAS).

Paratypes: 1 ♀, 2 ♀♀, same data as holotype (1 ♀ MDC, 2 ♀♀ HKC). – 1 ♂, 3 ♀♀, “China, Sichuan prov., Daxueshan Mts., Gongga Shan Mt. Env. 15 km, S. Kangding, 3200–3500 m, 5.–10.VII.2007, A. PLUTENKO leg.” (1 ♂, 1 ♀ MDC, 2 ♀♀ APC). – 1 ♂, 1 ♀, “China, W. Sichuan Ganzi Tibetan Auton. Pref. Daxue Shan, Mugecuo 15 km NW Kangding, upper lake 3008 18N, 101 51 18E, 3700 m, 27.VI.1999, leg. A. PÜTZ” (APC). – 1 ♂, 1 ♀, “China, W. Sichuan Ganzi Tibetan Auton. Pref. Daxue Shan, 10 km S Kangding, 3150 m, 29.59 N, 101.55 E, 30.VI.1999, leg. A. PÜTZ” (MDC). – 1 ♂, 1 ♀, “China, W. Sichuan (Ganzi Tibet Aut. Pref., Kangding Co.), Daxue Shan, river valley, 10 km S. Kangding, 3150 m, 29.59N/101.55E, 26.–30.VI.1999, D. W. WRASE” (NMEG). – 1 ♂, “China, Sichuan pr. Kangding distr., 16.[–]19.7.1992, Mugezo lake 4500 m, R. DUNDA, lgt.” (MDC).

Etymology

From Latin, *sericeus* = silk like shining, means the silk like shining on the pronotum of the new species.

Description

Measurements: Body length 3.20–3.65 mm; body width 2.05–2.45 mm.

Habitus: Body sub-spherical, convex dorsally (Fig. 1G).

Coloration: Head, antennomeres III–XI, and femora dark; pronotum, elytra, and underside of body reddish brown; prosternum, mesoventrite, metaventrite and first abdominal segment darker.

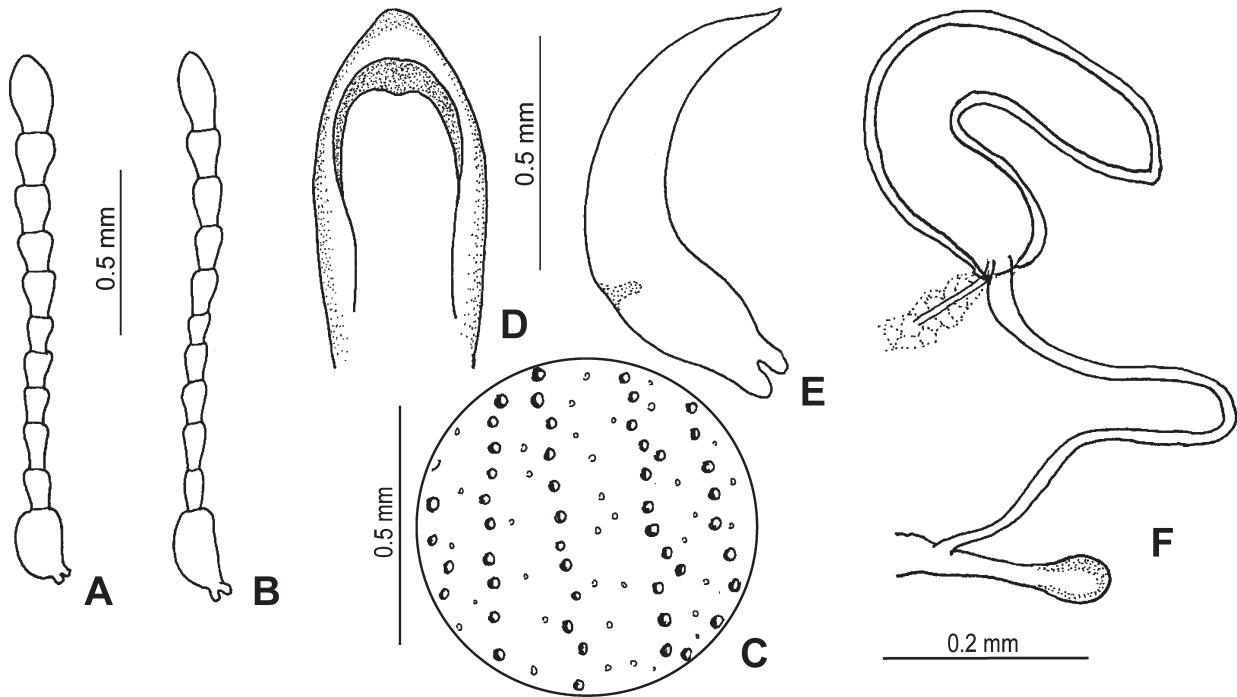


Fig. 17. *Odontoedon sericeus* n. sp. – A. Antenna, ♂. B. Antenna, ♀. C. Elytral punctures (schematic). D. Aedeagus, dorsal view. E. Aedeagus, lateral view. F. Spermatheca.

Head: Frons slightly depressed, with dense, moderate punctures; vertex with moderate confused punctures, close to eyes with larger punctures; eyes elliptical. – Antennae: Slender, extending well beyond base of elytra, segments 7–11 with dense pubescence; ratio of antennal segments of ♂ and ♀ see Figs. 17A, 17B.

Pronotum: Average length at middle 0.65 mm, average width at middle 1.65 mm; disc with moderate and dense punctures, diameter of punctures same as those of frons; with finer punctures interspersed (Fig. 5J); laterally with much sparser punctures; posterior margin with denser, larger punctures.

Scutellum: Sub-triangular, smooth, impunctate.

Elytra: Length 2.55 mm, width at middle 2.5 mm; convex; abbreviated scutellar stria plus 10 complete striae composed of deep, large punctures, twice as large as those of pronotum, ninth stria with very sparse punctures; interspace surface with small, dense punctures (Fig. 17C).

Hind wings: Absent.

Underside: Prosternal process very wide, flat, with a longitudinal ridge, lateral margins subparallel, with punctures and pubescence, apically truncated; with sparse punctures and pubescence; metaventricle with large, sparse punctures, larger than those of the elytra, anterior margin emarginate; abdominal sternites with small, shallow,

sparse punctures and sparse pubescence.

Aedeagus: In dorsal view broadened basally, tapered to apex, slightly pointed apically; in lateral view bent at right angles (Figs. 17D, 17E).

Spermatheca: C-shaped, duct long with bulbiform structure (Fig. 17F).

Differential diagnosis

This species is quite different from other species of the new genus *Odontoedon* by the following characters: head and pronotum glazed; prosternal process short, wide and without longitudinal carina medially.

Distribution

China: Sichuan.

Odontoedon sichuanus Daccordi & Ge, n. sp.
(Fig. 18)

Holotype (♂): “China: Sichuan, Bijshan, 12-07-00, KA-BAK” (ZIN).

Etymology

Named after the type locality of the specimen.

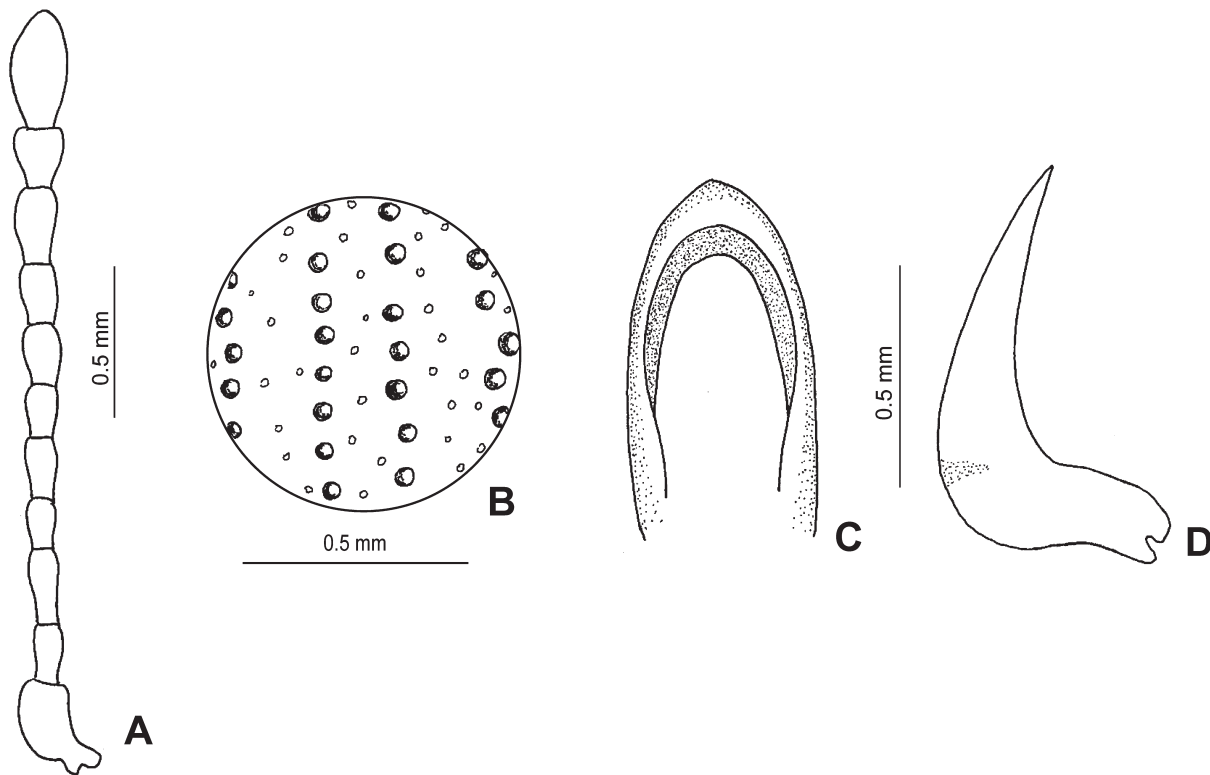


Fig. 18. *Odontoedon sichuanus* n. sp. – A. Antenna, ♂. B. Elytral punctures (schematic). C. Aedeagus, dorsal view. D. Aedeagus, lateral view.

Description

Measurements: Body length 4.3 mm, body width 3.0 mm.

Habitus: Body sub-spherical, strongly convex.

Coloration: Head, antennae, elytra, and underside of body dark sepia brown; pronotum warm sepia brown with nuances of walnut brown.

Head: Frons with dense, moderate punctures; vertex with moderate confused punctures; eyes elliptical; metopic suture absent, fronto-clypeal suture very thin. – Antennae: Slender, extending well beyond base of elytra, segments 7–11 with dense pubescence; ratio of antennal segments see Fig. 18A.

Pronotum: Average length at middle 2.4 mm, average width at middle 1.2 mm; disc with moderate, dense punctures, diameter of punctures same as those of frons; laterally with much sparser punctures; posterior margin with denser, elongate punctures at sides, in the middle with a few fine punctures only.

Scutellum: Sub-triangular, smooth, impunctate.

Elytra: Length 3.4 mm, width at middle 1.9 mm; convex; abbreviated scutellar stria plus 10 complete striae composed of deep, large punctures, larger than those of pronotum, ninth stria with very sparse punctures; interspace surface with small, dense punctures (Fig. 18B); an-

terior margin of elytra in lateral view very gently curved, apical area strongly impressed and sharpened on apex.

Hind wings: Absent.

Underside: Lateral margins of prosternal process with punctures and pubescence; mesoventrite with sparse punctures and pubescence; metaventrite with large, sparse punctures, larger than those of the elytra, anterior margin emarginate; abdominal sternites with small, shallow, sparse punctures and sparse pubescence.

Aedeagus: In dorsal view broadened basally, tapered to apex, slightly pointed apically; in lateral view bent at right angles (Figs. 18C, 18D).

Spermatheca: Unknown.

Differential diagnosis

This new species is similar to *O. chinensis* (Gressitt & Kimoto) but differs in the punctation of the elytra (elytral interspaces of *O. sichuanus* narrower than in *O. chinensis*), the punctures of the striae (more deeply impressed in *O. sichuanus*), and the apical area of the elytra (not impressed and the apex round in *O. sichuanus*). In lateral view the anterior margin of the elytra is gently curved in *O. sichuanus*, deeply rounded in *O. chinensis*.

Distribution

China: Sichuan.

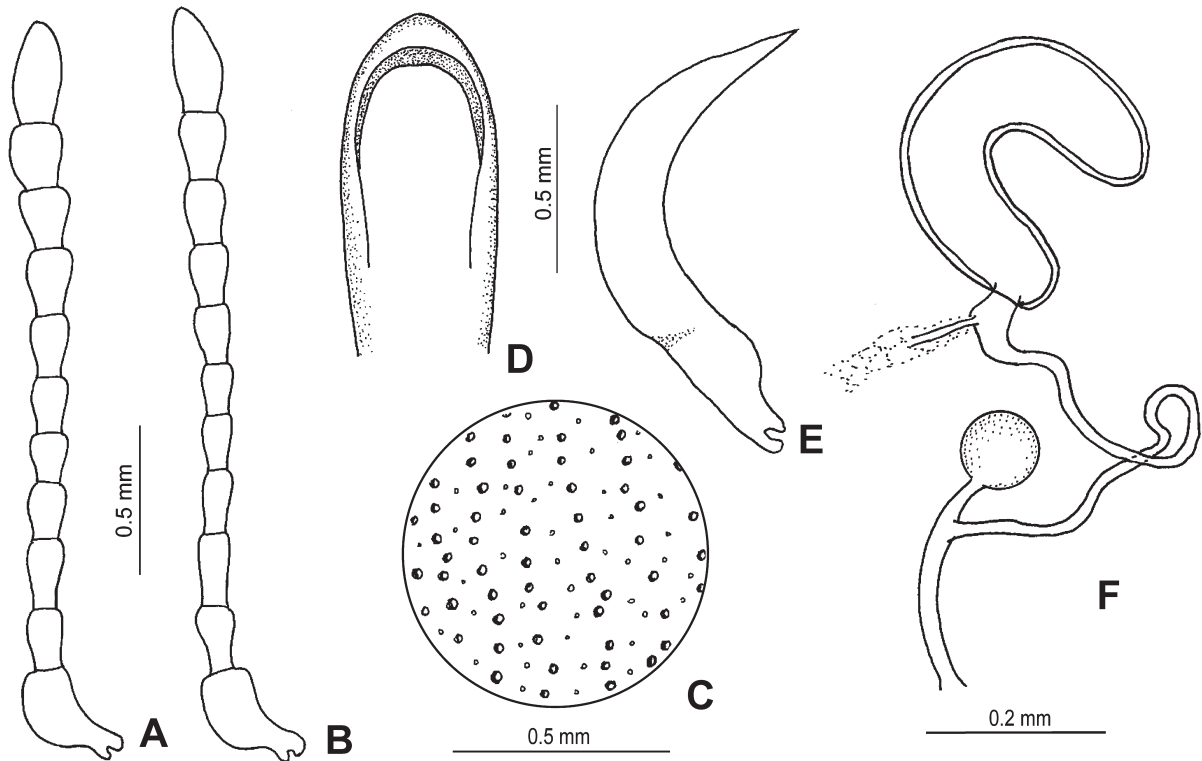


Fig. 19. *Odontoedon taiwanus* n. sp. – A. Antenna, ♂. B. Antenna, ♀. C. Elytral punctures (schematic). D. Aedeagus, dorsal view. E. Aedeagus, lateral view. F. Spermatheca.

Odontoedon taiwanus Ge & Daccordi, **n. sp.**

(Figs. 1H, 19)

Holotype (♂): “Taiwan Taichung Hsien, Hsuehshan, nr. Hsuehshan Tun-Feng 3170 m, 11.V.91., A. SMETANA [T76]” (CNC).

Paratypes: 1 ♂, same data as holotype (MDC). – 2 ♀♀, “Taiwan Taichung Hsien, Hsuehshan, nr. Hsuehshan Tun-Feng 3170 m, 7.V.91., A. SMETANA [T68]” (1 ♀ IZAS, 1 ♀ MDC). – 1 ♀, “Taiwan Nantou Hsien Yushan N.P. W. Slope, blw, Yushan Mn. PK. 3720 m, 15.V.1991., A. SMETANA [T81]” (MDC). – 2 ♂♂, “Taiwan Nantou Hsien Yushan N.P., 1.8 km W Pai-Yun Hut 3375 m, 17.V.91., A. SMETANA [T85]” (MDC). – 1 ♀, “Taiwan Nantou Hsien Yushan N.P. W. Slope, blw, Yushan Mn. PK. 3650 m, 14.V.1991., A. SMETANA [T80]” (IZAS). – 1 ♀, “Taiwan Nantou Hsien Yushan N.P. Pai Yun Hut, 3528 m, 15.V.1991., A. SMETANA [T83]” (MDC).

Etymology

Named after the country where the specimens have been collected.

Description

Measurements: Body length 4.70–4.85 mm, body width 2.70–2.75 mm.

Habitus: Body sub-spherical, convex dorsally (Fig. 1H).

Coloration: There are two differently coloured forms: (A) Head, antennae, mouthparts, scutellum, legs, and underside of body dark; pronotum and lateral margins of elytra yellowish brown; central disc of pronotum near anterior margin with a dark trapezoidal marking (sometimes this marking absent or very small and of triangular shape). – (B) Body black; pronotum reddish brown, central disc with a large dark trapezoidal marking over entire pronotal length (sometimes the marking small or absent).

Head: Frons slightly depressed, flattened along antennal sockets, with dense and moderate punctures; vertex with moderate confused punctures; eyes elliptical. – **Antennae**: Slender, extending well beyond base of elytra, segments 7–11 with dense pubescence; ratio of antennal segments of ♂ and ♀ see Figs. 19A, 19B.

Pronotum: Average length at middle 1.05 mm, average width at middle 2.75 mm; much narrower at base than elytra; rectangular; disc with moderate, dense punctures, diameter of punctures same as those of frons; laterally with much sparser punctures; posterior margin with denser, larger punctures.

Scutellum: Sub-triangular, smooth, impunctate.

Elytra: Length 3.25 mm, width at middle 3.25 mm; convex; abbreviated scutellar stria plus 10 complete striae composed of deep, large punctures, larger than those of pronotum, ninth stria with very sparse punctures; interspace surface with small, dense punctures (Fig. 19C).

Hind wings: Absent.

Underside: Lateral margins of prosternal process with punctures and pubescence, apically rounded, slightly

broadened, central area with a longitudinal ridge; process of mesoventrite with sparse punctures and pubescence; metaventrite with large, sparse punctures, larger than those of the elytra, anterior margin emarginate; abdominal sternites with small, shallow, sparse punctures and sparse pubescence.

Aedeagus: In dorsal view broadened basally, tapered to apex, slightly pointed apically; in lateral view bent at right angles (Figs. 19A, 19B).

Spermatheca: C-shaped, duct long with bulbiform structure (Fig. 19F).

Differential diagnosis

Odontoedon taiwanus n. sp. is similar to *O. fulvescens*, but differs from the latter species in the elytral interspace with sparse, fine punctures and the absence of the hind wings.

Distribution

China: Taiwan.

Odontoedon thibetanus Ge & Yang, **n. sp.**

(Figs. 1I, 5K, 5L, 20)

Holotype (♂): “Tibet (Nyingtri) Serkyni-la (SW. Seite) 3800/3900 m, 27/28.VI.1995, HEINZ leg.” (IZAS).

Paratypes: 2 ♂♂, 4 ♀♀, same data as holotype, (1 ♀ IZAS; 1 ♂, 2 ♀♀ MDC; 1 ♂, 1 ♀ HKC). – 1 ♂, “Tibet, Nyingchi, Schgyla Mountain Pass Under Rocks, 29.61033°N/ 94.65156°E, 4565 m, 2006.9.1 leg. LIANG H B. & BAI M. ex Chin. Ac. Sc.” (MDC).

Etymology

Named after the locality of the specimens.

Description

Measurements: Body length 3.9–4.1 mm, body width 2.25–2.35 mm.

Habitus: Body sub-spherical, convex dorsally (Fig. 1I).

Coloration: Head, underside of body, antennomeres III–XI, apex of femora, base of tibiae, and tarsi dark; pronotum, antennomeres I–II, base and middle of femora, middle and apex of tibiae reddish brown; central disc of pronotum with a large black marking which covers half of the pronotum.

Head: Frons slightly depressed, flattened along antennal sockets, with dense, moderate punctures, rugous; vertex with moderate confused punctures, under eyes with larger, coarser punctures; eyes elliptical. – **Antennae**: Slender, extending well beyond base of elytra, segments 7–11 with dense pubescence; ratio of antennal segments of ♂ and ♀ see Figs. 20A, 20B.

Pronotum: (Fig. 5K): Average length at middle 1.15 mm, average width at middle 1.75 mm; much nar-

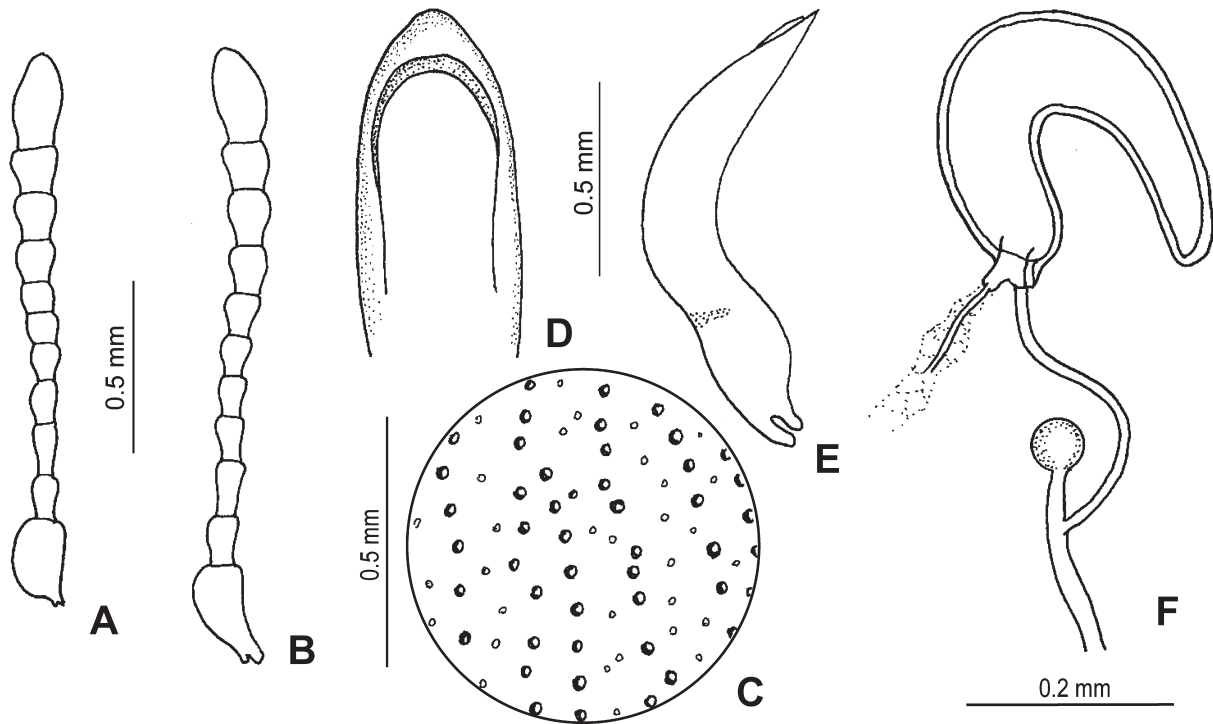


Fig. 20. *Odontoedon thibetanus* n. sp. – A. Antenna, ♂. B. Antenna, ♀. C. Elytra punctures (schematic). D. Aedeagus, dorsal view. E. Aedeagus, lateral view. F. Spermatheca.

rower at base than elytra; rectangular; disc with moderate, dense punctures, diameter of punctures same as those of frons; with finer punctures densely interspersed (Fig. 5L); laterally with much sparser punctures; posterior margin with denser, larger punctures.

Scutellum: Sub-triangular, smooth, impunctate.

Elytra: Length 2.75 mm, width at middle 2.6 mm; convex; abbreviated scutellar stria plus 10 complete striae composed of deep, large punctures, larger than those of pronotum, ninth stria with very sparse punctures; interspace surface with small and dense punctures (Fig. 20C).

Hing wings: Absent.

Underside: Lateral margins of prosternal process with punctures and pubescence, apically rounded, slightly broadened, central area with a longitudinal ridge; process of mesoventrite with sparse punctures and pubescence; metaventrite with large and sparse punctures, similar to those of the elytra, anterior margin emarginate; abdominal sternites with small, shallow, sparse punctures and sparse pubescence.

Aedeagus: In dorsal view broadened basally, tapered to apex, slightly pointed apically; in lateral view bent at right angles (Figs. 20D, 20E).

Spermatheca: Falciform, duct long with bulbiform structure (Fig. 20F).

Differential diagnosis

This new species is similar to *O. taiwanus*. The latter species differs in the following characters: body short ovoid, tibiae black, central disc of pronotum near anterior margin with a little pale black trapezoidal marking (sometimes this marking absent or very small with triangular shape).

Distribution

China: Tibet.

4 Key to the species of *Odontoedon* n. gen.

- 1 Hind wing present.....*fulvescens* Weise
- Hing wing absent..... 2
- 2 Prosternal process short, wide, flat, smooth, anterior part rising..... 3
- Prosternal process long, narrow, with a longitudinal carina in the middle, shining. – Head, thorax and elytra shiny..... 4
- 3 Head, thorax and elytra silk-opaque; red margin on elytra narrow..... *sericeus* n. sp.
- Head, thorax and elytra shiny; red margin on elytra wide..... *limbatus* Lopatin
- 4 Body uniformly coloured in black, cyanine blue or sepia brown..... 5

- Body bicoloured or red coloured in different nuances. **6**
- 5** Punctures in elytral striae deep, seventh and eighth interstriae narrow. Anterior part of elytra, in lateral view, almost straight; apex of elytra impressed and with a sharp corner. *impressus n. sp.*
- Punctures in elytral striae light, seventh and eighth interstriae enlarged as the others are. Anterior part of elytral margin, in lateral view, sinuous; apex of elytra not impressed, rounded. *chinensis* Gressitt & Kimoto
- 6** Elytra and prothorax red in different nuances. **7**
- Elytra black with or without red margin; prothorax entirely red or bicoloured. **8**
- 7** Prothorax and elytra with strong punctures; scutellum red or brown. *rufulus n. sp.*
- Prothorax and elytra with fine punctures; scutellum black. *taiwanus n. sp.*
- 8** Elytra with red margin, bicoloured. **9**
- Elytra without red margin, unicoloured. **10**
- 9** Pronotum completely red or with a dark shade. *kippenbergi n. sp.*
- Pronotum with a large, trapezoidal, black spot in the middle. *lopardini n. sp.*
- 10** Pronotum red, occasionally with a dark shading in the middle. *taiwanus n. sp.*
- Pronotum bicoloured, sides red with a black trapezoidal spot in the middle. **11**
- 11** Body length longer than 5 mm; with very strong and big elytral punctures. *impressus n. sp.*
- Body length shorter than 4.5 mm; with elytral punctures not strong and big. **12**
- 12** Pronotum punctate; elytral strial punctures very coarse, sometimes very close to each other. *potentillae* Wang
- Pronotum punctate; punctures of elytral striae separated by a distance of 2–3 diameters. **13**
- 13** Prothorax transverse; small, body length 2.9 mm. *globosus n. sp.*
- Prothorax trapezoidal; body length longer than 3.8 mm. **14**
- 14** Tibiae red; body ovoid or elyptoid; clypeus with sparse punctures. *thibetanus n. sp.*
- Tibiae black; body shortly ovoid; clypeus with dense punctures. *maculicollis* Chen

5 References

- BEUTEL, R. G. & HAAS, F. (2000): Phylogenetic relationships of the suborders of Coleoptera (Insecta). – *Cladistics* **16**: 103–141.
- CHEN, S.-H. (1974): New Chrysomelid beetles from West China. – *Acta Entomologica Sinica* **17**: 43–48.
- GE, S.-Q., YANG, X.-K. & CUI, J.-Z. (2004): A key to the genus *Phaedon* (Coleoptera: Chrysomelidae: Chrysomelinae) from China and the description of a new species. – *Entomological News* **114**: 75–80.
- GRESSITT, J. L. & KIMOTO, S. (1963): The Chrysomelidae of China and Korea. – *Pacific Insect Monograph* **1A**: 301–026.
- LOPATIN, I. K. (2002): New species of the leaf-beetle subfamily Chrysomelinae (Coleoptera, Chrysomelidae) from China. I. – *Entomologicheskoe Obozrenie* **81**: 111–120.
- LAWRENCE, J. F., BEUTEL, R. G., LESCHEN, R. A. B. & ŚLIPŃSKI A. (2010): 2. Glossary of morphological terms. – In: LESCHEN, R. A. B., BEUTEL, R. G. & LAWRENCE, J. F. (eds.): *Coleoptera, Beetles. Vol 2: Morphology and Systematics.* – *Handbook of Zoology. Vol. IV, Arthropoda, Insecta Part 36*, pp. 9–20; Berlin, New York (Walter de Gruyter).
- WANG, S. Y. (1992a): Coleoptera: Chrysomelidae: Chrysomelinae. – *Insects of the Hengduan Mountains Region* **1**: 628–645.
- WANG, S. Y. (1992b): Two new species of Leaf beetles from Wuling Mountain of China (Coleoptera: Chrysomelidae). – *Sinozoologia* **9**: 175–178.
- WEISE, J. (1922): Chrysomeliden der Indo-Malayischen Region. – *Tijdschrift voor Entomologie* **65**: 39–130.

Authors' addresses:

Dr. SI-QIN GE* (corresponding author), JING REN, JUN-ZHI CUI, WEN-ZHU LI, Prof. Dr. XING-KE YANG** (corresponding author), Key Laboratory of Zoological Systematics and Evolution, Institute of Zoology, Chinese Academy of Sciences, Beijing, 100101, China; e-mail: *gesq@ioz.ac.cn, **yangxk@ioz.ac.cn

Dr. MAURO DACCORDI (corresponding author), Museo Civico di Storia Naturale, 37129 Verona, Italy; e-mail: mauro.daccordi@tiscali.it

Manuscript received: 30.VIII.2012, accepted: 03.XII.2012.