

## New Beetles of the Family Cupedidae from the Mesozoic of Mongolia. Ommatini, Mesocupedini, Priacmini

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**Abstract**—Thirteen new species of cupedid beetles assigned to six genera are described from seven Middle–Upper Jurassic and Lower Cretaceous localities. A new species of *Cionocoleus* based on a nearly complete specimen is described; the genus is redefined and transferred from the Schizocoleidae to the Cupedidae *incertae sedis*.

A previous paper (Ponomarenko, 1994) contained descriptions of cupedid beetles from the Jurassic and Cretaceous of Mongolia, belonging to the tribes Brochocoleini and Notocupedini. The remaining taxa known by quite representative material are described in this paper. Numerous specimens belonging to other species remain undescribed due to inadequate preservation.

The beetles described were collected in the localities listed below; for more detailed data, see Sinitsa (1993).

Bakhar. Mongolia, Bayan-Khongor Aimak, Gobi Altai, 12 km north of Tsetsen-Ula Mt. (Bakhar locality, outcrops 268 and 275); Middle or basal Upper Jurassic, Bakhar Group, Togo-Khuduk sequence.

Khoutiin-Khotgor. Mongolia, Middle Gobi Aimak, 23 km southwest of Bayan-Zhargalan Somon, Khoutiin-Khotgor Depression; uppermost Upper Jurassic, Ulan-Ereg Formation.

Anda-Khuduk. Mongolia, Uver-Khangai Aimak, Ushugiin-Nuru Range, western sources of Shand-Gol Sair near Anda-Khuduk Well; Lower Cretaceous, Hauterivian–Barremian, Anda-Khuduk Formation.

Bon-Tsagan. Mongolia, Bayan-Khongor Aimak, foothills of Dund-Ula, south of Bon-Tsagan-Nur Lake; Lower Cretaceous, ?Aptian; outcrop 23: Dund-Argalant Group, Ulan-Argalant sequence; other outcrops: Bon-Tsagan Group, Khurilt sequence.

Shar-Tologoi. Mongolia, Bayan-Khongor Aimak, southeast of the Ikh-Bogdo Mountain, 33 km north of Bayan-Leg Somon; Lower Cretaceous, ?Aptian, Bon-Tsagan Group, Shar-Tologoi sequence.

Khurilt. Mongolia, Bayan-Khongor Aimak, Gobi Altai, 6 km north of the Tsetsen-Ula Mountain, Khurilt-Ulan-Bulak; Lower Cretaceous, ?Aptian, Bon-Tsagan Group, Khurilt sequence.

Kholbotu. Mongolia, Bayan-Khongor Aimak, Gobi Altai, northwest of the Tsetsen-Ula Mountain, Khol-

botu-Sair; Lower Cretaceous, ?Aptian, Bon-Tsagan Group, Khurilt sequence.

### Subfamily Ommatinae Sharp et Muir, 1912

#### Tribe Ommatini Sharp et Muir, 1912

#### Genus *Tetraphalerus* Waterhouse, 1901

*Tetraphalerus glabratus* Ponomarenko, sp. nov.

Plate 6, figs. 1 and 2

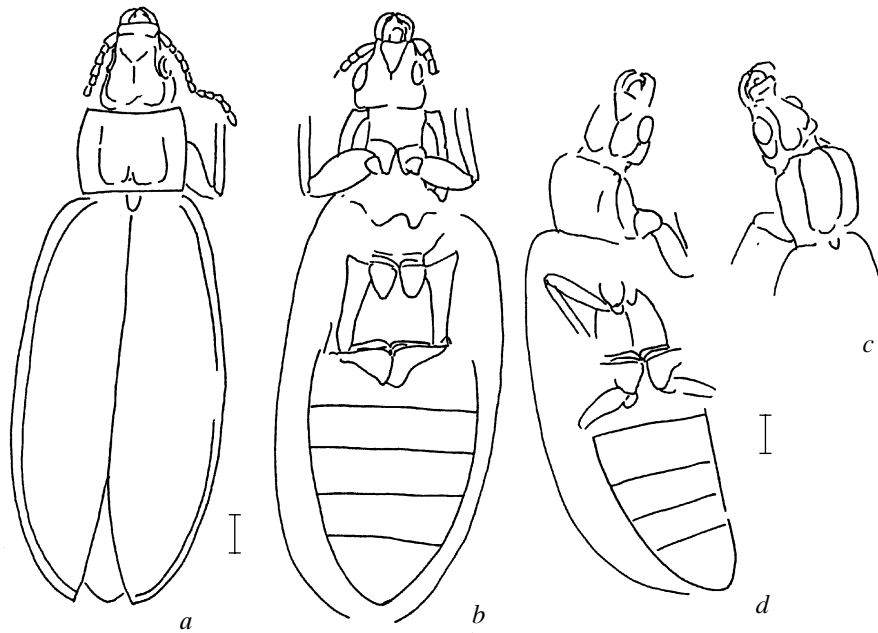
**E t y m o l o g y.** From Latin *glabrus* (smooth).

**H o l o t y p e.** PIN, no. 3791/3379, beetle lacking most legs (part and counterpart); Bakhar, outcrop 268; Middle or Upper Jurassic, Togo-Khuduk sequence.

**D e s c r i p t i o n** (Fig. 1). Quite large, elongate, flattened beetle. Head slightly longer than wide, triangular, broadest at occiput. Genae slightly shorter than eyes, temples longer than eyes, occiput sloped, neck-like constriction not sharp, temples not projecting laterad. Vertex with two oval flat prominences, their posterior part broadened. Antenna setaceous, extending beyond anterior pronotal margin. Pronotum slightly wider than long, very weakly narrowing forwards and backwards, sides flattened. Pronotal disc with weak longitudinal elevation subdivided by two longitudinal depressions. Metasternum transverse, 1.5 times as broad as long. Elytron twice as long as broad, with tip not drawn out tail-like. Epipleura quite narrow. Veins very poorly traceable, almost invisible, cells indistinct. Last abdominal sternum 1.3 times as long as penultimate one. Body quite evenly covered with not very large tubercles.

**M e a s u r e m e n t s** (mm): total length 14–16, width 4.5–5.3, elytron length 10–11.

**C o m p a r i s o n.** Distinct from most species by the elytron almost lacking veins and cells; from *T. aphaleratus* Ponomarenko, 1969 and the beetle described as *Tetraphalerites oligocenicus* Crowson, 1962, both similar in this character, distinguishable by the narrow epipleura and (from the first species) also by shorter head.



**Fig. 1.** *Tetraphalerus glabratus* sp. nov.; holotype PIN, no. 3791/3379: (a) from above, (b) from below; paratype PIN, no. 3791/4700: (c) from above, (d) from below; Bakhar, Middle or Upper Jurassic. Scale unit in all figures 1 mm.

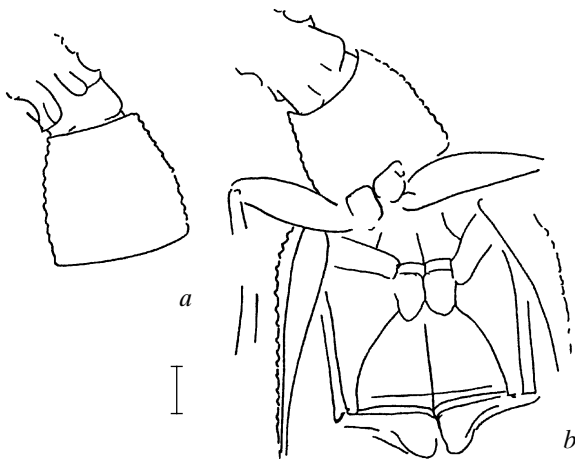
**M a t e r i a l.** Besides the holotype, from same locality (outcrop 275) the paratypes no. 3791/4700 (almost complete beetle) and no. 3791/4248 (abdomen).

*Tetraphalerus collaris* Ponomarenko, sp. nov.

Plate 6, fig. 3

**E t y m o l o g y.** From Latin *collum* (neck).

**H o l o t y p e.** PIN, no. 3559/1629, beetle lacking most of abdomen and legs (part and counterpart); Bon-



**Fig. 2.** *Tetraphalerus collaris* sp. nov.; holotype PIN, no. 3559/1629: (a) from above, (b) from below; Bon-Tsagan, Lower Cretaceous.

Tsagan, outcrop 45, bed 19; Lower Cretaceous, Khurilt sequence.

**D e s c r i p t i o n** (Fig. 2). Quite large, elongate, flattened beetle. Head more than twice longer than broad, subrectangular, extended and somewhat broadened before antennal bases. Genae and temples longer than eyes, occiput truncate, neck-like constriction abrupt, temples protruding laterad. Vertex with two pairs of oblique carinae which are more raised posteriorly. Pronotum arcuately narrowed forwards, 1.5 times as long as broad at anterior margin; sides flattened; anterior margin 1.5 times shorter than posterior one. Pronotal disc with weak longitudinal depressions. Metasternum transverse, 1.5 times as broad as long. Epipleura narrow, broadening anteriorly from the middle of metasternum. Main veins of elytron barely distinguishable from intermediate ones; veins and cells poorly traceable. Fore femora thickened. Body quite evenly covered with large tubercles.

**M e a s u r e m e n t s** (mm): length as preserved 11, estimated total length about 20, width 7.0, elytron length about 12.

**C o m p a r i s o n.** The largest species of the genus. From other large species (*T. grandis* Ponomarenko, 1964 and *T. maximus* Ponomarenko, 1968) distinct by the long and anteriorly strongly narrowed pronotum.

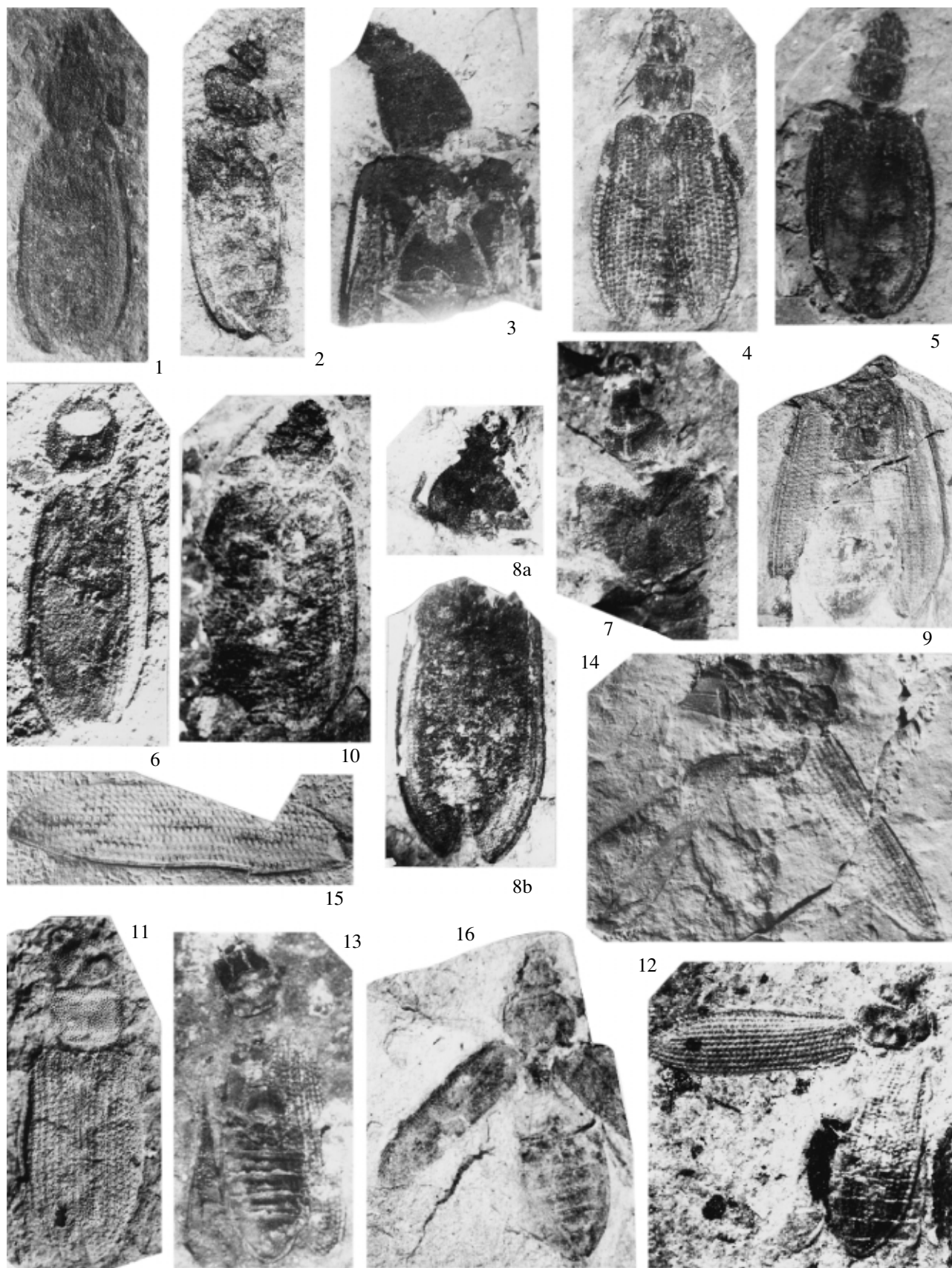
**M a t e r i a l.** Holotype.

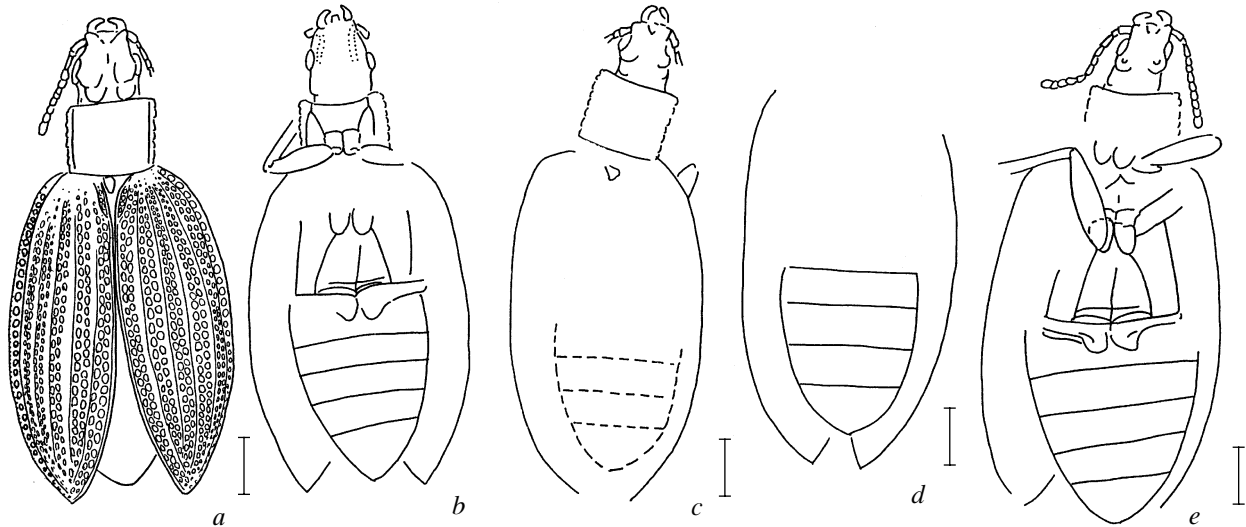
*Tetraphalerus bontsaganensis* Ponomarenko, sp. nov.

Plate 6, figs. 4 and 5

**E t y m o l o g y.** From the Bon-Tsagan locality.

Plate 6





**Fig. 3.** *Tetraphalerus bontsaganensis* sp. nov.; holotype PIN, no. 3559/6051: (a) from above, (b) from below; paratypes: (c) PIN, no. 3559/1635, (d) PIN, no. 3559/1662, Bon-Tsagan, Lower Cretaceous; (e) PIN, no. 3790/278, Khurilt, Lower Cretaceous.

**H o l o t y p e.** PIN, no. 3559/6051, almost complete beetle (part and counterpart); Bon-Tsagan, outcrop 87, bed 8; Lower Cretaceous, Khurilt sequence.

**D e s c r i p t i o n** (Fig. 3). Not large, flattened beetle. Head 1.5 times as long as wide, distinctly narrowed forwards. Genae and temples not longer than eyes; occiput truncate. Neck-like constriction not sharp; temples not projecting laterad. Vertex with two oval flat prominences which are narrowed posteriorly. Antenna weakly moniliform, reaching beyond anterior pronotal margin; its first and third segments much longer than others, apical one swollen. Pronotum nearly as wide as long, weakly broadened forwards; sides of pronotum with a sharp groove. Metasternum transverse, 1.7 times as wide as long. Elytron 2.5 times as long as wide, with

tip not drawn out tail-like. Epipleura with broad rim bearing a row of cells. Main veins of elytron barely distinguishable from intermediate ones, cells distinct. Last sternum 1.3 times longer than penultimate one; abdomen narrowing from the base of third sternum. Body densely, evenly covered with tubercles which are largest on the ventral head surface and metasternum.

**M e a s u r e m e n t s** (mm): total length 8–10, width 3.3–3.6, elytron length 5.0–6.6.

**C o m p a r i s o n.** In proportions of the head and pronotum similar to *T. verrucosus* Ponomarenko, 1966 and *T. ochotensis* Ponomarenko, 1993, being distinct from them in the head less elongate, and pronotum broadened forwards.

#### Explanation of Plate 6

**Figs. 1, 2.** *Tetraphalerus glabratus* sp. nov.: (1) holotype PIN, no. 3791/3379,  $\times 3.8$ , (2) paratype PIN, no. 3791/4700,  $\times 3.6$ ; Bakhar, Middle or Upper Jurassic.

**Fig. 3.** *Tetraphalerus collaris* sp. nov.; holotype PIN, no. 3559/1629,  $\times 5.8$ ; Bon-Tsagan, Lower Cretaceous.

**Figs. 4, 5.** *Tetraphalerus bontsaganensis* sp. nov.: (4) holotype PIN, no. 3559/6051,  $\times 4.6$ , (5) paratype PIN, no. 3559/1635,  $\times 4.3$ ; Bon-Tsagan, Lower Cretaceous.

**Fig. 6.** *Tetraphalerus longicollis* sp. nov.; holotype PIN, no. 3559/1578,  $\times 7.6$ ; Bon-Tsagan, Lower Cretaceous.

**Fig. 7.** *Tetraphalerus notatus* sp. nov.; holotype PIN, no. 3559/6053,  $\times 9.0$ ; Bon-Tsagan, Lower Cretaceous.

**Fig. 8.** *Omma gobiense* sp. nov.; holotype PIN, no. 3688/1173,  $\times 3.0$ : (a) head and prothorax, (b) thorax and abdomen; Khoutiin-Khotgor, Upper Jurassic.

**Fig. 9.** *Omma altajense* sp. nov.; holotype PIN, no. 3791/4716,  $\times 2.8$ ; Bakhar, Middle or Upper Jurassic.

**Fig. 10.** *Omma antennatum* sp. nov.; holotype PIN, no. 3559/6048,  $\times 5.4$ ; Bon-Tsagan, Lower Cretaceous.

**Figs. 11, 12.** *Anaglyphites mongolicus* sp. nov.: (11) holotype PIN, no. 3559/1608,  $\times 10$ , Bon-Tsagan, Lower Cretaceous; (12) paratype PIN, no. 3790/277,  $\times 8$ , Khurilt, Lower Cretaceous.

**Fig. 13.** *Priacmopsis minimus* sp. nov.; holotype PIN, no. 3559/6052,  $\times 7.0$ ; Bon-Tsagan, Lower Cretaceous.

**Fig. 14.** *Priacma oculata* sp. nov.; holotype PIN, no. 4271/182,  $\times 5.0$ ; Shar-Tologoi, Lower Cretaceous.

**Fig. 15.** *Priacma longicapitis* sp. nov.; paratype PIN, no. 4271/175,  $\times 4.0$ ; Shar-Tologoi, Lower Cretaceous.

**Fig. 16.** *Cionocoleus ommamimus* sp. nov.; holotype PIN, no. 467/74,  $\times 2.6$ ; Anda-Khuduk, Lower Cretaceous, Anda-Khuduk Formation.