

New Species of Scarabaeoid Beetles from the Family Glaresidae (Coleoptera: Scarabaeoidea) from the Cretaceous of Transbaikalia

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Abstract—A new species from the family Glaresidae, *Cretoglaresis ovalis*, sp. nov., is described from the Lower Cretaceous site Baisa in Transbaikalia. Improved diagnosis of the genus *Cretoglaresis* Nikolajev, 2007 is given.

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INTRODUCTION

The earliest known species undoubtedly belonging to the family Glaresidae are found in the Early Cretaceous. Members of three genera of this family have been found at the fossil site Baisa, Transbaikalia: *Glaresis cretacea* Nikolajev, 2007, *Cretoglaresis nana* Nikolajev, 2007, and *Lithoglaresis ponomarenkoi* Nikolajev, 2007 (Nikolajev, 2007). Studying more impressions of scarabaeoid beetles from this site allowed describing another fossil specimen as a new species from the family Glaresidae. Considering this species a member of Glaresidae is justified by the following characters: short mandibles, not covered by clypeus; peculiar shape of the eye lobe and extent to which it divides the eye; and abdomen with five visible sternites (Fig. 1). The size of the new species is especially close to that of the type species of the genus *Cretoglaresis*; therefore, the new species most probably also belongs to this genus. The preserved parts of its legs also confirm this hypothesis. Unfortunately, all the Glaresidae fossils are incomplete (Figs. 1), which complicates comparing the species with each other in every detail. It should be noted that in *G. cretacea* metatibiae are strongly triangularly dilated distally, and in *L. ponomarenkoi* mesofemora are considerable more dilated. Diagnosis of the genus *Cretoglaresis*, improved by including characters of head and pronotum structure, and the description of a new species of this genus are given below.

MATERIAL

All the studied material is from the Lower Cretaceous Zaza Formation of the Transbaikalian fossil site Baisa, layer 31 (Martinson, 1961; Zherikhin et al., 1999). It is stored in the collection of Borissiak Paleontological Institute of the Russian Academy of Sciences (PIN).

SYSTEMATIC PALEONTOLOGY

Family Glaresidae Kolbe, 1905

Genus *Cretoglaresis* Nikolajev, 2007

Type species. *Cretoglaresis nana* Nikolajev, 2007; Lower Cretaceous, Buryatiya.

Diagnosis. Oblong oval beetles with strongly convex dorsum and flat venter. Mandibles small, relatively narrow, well visible in dorsal view. Eye large, partly divided by protruding lobe of gena. Pronotum with coriaceous edging on anterior margin. Pygidium completely covered with elytra. Coxae of every pair of legs contiguous. Mesocoxae broad, positioned at right angle. Metatibiae relatively narrow, probably with weak longitudinal carina along exterior margin. Each elytron with ten rows of punctures. Abdomen with five visible sternites.

Species composition. Type species and new species, both from the Lower Cretaceous of Transbaikalia.

Cretoglaresis ovalis Nikolajev, sp. nov.

Etymology. From the Latin *ovalis* (oval).

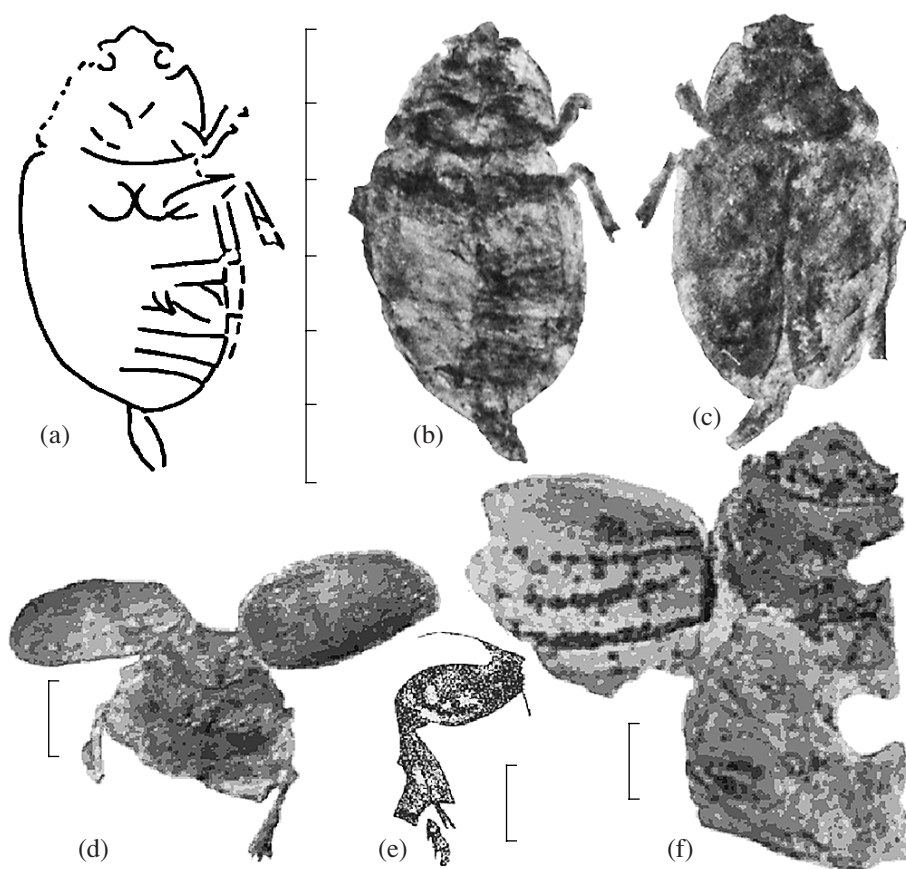


Fig. 1. Members of Glaresidae from the Lower Cretaceous Zaza Formation of the Transbaikalian fossil site Baisa. (a–c) *Cretoglaresis ovalis*, sp. nov, holotype: PIN, no. 3064/7168: (a) details of structure, (b, c) impression from below and from above; (d) *Cretoglaresis nana* Nikolajev, holotype: PIN, no. 4210/5462; (e) *Glaresis cretacea* Nikolajev, holotype: PIN, no. 3064/7174; (f) *Lithoglaresis ponomarenkoi* Nikolajev, holotype: PIN, no. 3064/7171. Scale: 1 mm. (d–f) according to Nikolajev (2007).

Holotype. PIN, no. 3064/7168, direct and counter impressions of the male with partially preserved legs and genital sclerites, possibly extruded from the abdomen by the pressure of gas in a dead beetle; Russia, Buryatiya, Eravninskii District, left bank of the Vitim River below the Baisa River mouth, Baisa site; Lower Cretaceous, Zaza Formation, layer 31.

Description (Figs. 1a–1c). Eye large, partly divided by lobe of gena; lobe of gena broadly protruding laterally, its anterior margin weakly convex. Pronotum with narrow coriaceous edging along anterior margin. Front angles of pronotum sharp, hind angles broadly rounded. Sides of pronotum convex, arcuate. Elytra with only small fragments of puncture rows very indistinctly perceptible. (The beetle probably had very broad profemora, but this can hardly be stated with certainty.) Protibia no more than with four teeth along exterior margin; apex of protibia straight. Posterior

margins of abdominal sternites with narrow coriaceous edging.

Measurements, mm. Length of impression from apices of mandibles to apices of elytra 4.9, width at shoulders 2.6; head width (between exterior margins of lobes of genae) 1.0, distance between interior margins of eyes 0.5; length of pronotum medially 1.05; length of elytron 3.3, maximum length of elytron 1.5; length of protibia 0.75; maximum width of mesocoxa 0.55; length of mesotibia 0.9, its width at apex 0.2; length of apical spur of mesotibia 0.25, length of metasternum medially 0.65; maximum width of metacoxa 0.3; length of abdominal sternites 1–5 medially: 0.25, 0.2, 0.3, 0.3, 0.3; length of genitalia 0.8.

Comparison. The new species differs from the type species in the larger size and the proportions of elytron: width-to-length ratio of elytron is 2.2 (in *C. nana*, 1.5).

Material. Holotype.

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