

A New Beetle Species of the Genus *Taldycupes* (Taldycupedidae, Coleoptera) from the Permian of the Tunguska River Basin

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Abstract—*Taldycupes rosanovi* sp. nov. is described from an isolated elytron from the locality of Ilimpeya, Krasnoyarsk Krai, Tunguska River basin, Limptekon Formation.

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Key words: Coleoptera, Taldycupedidae, Siberia, P/T, new taxon.

INTRODUCTION

Beetle fossils are rare in the Tunguska River basin. However, they are of immense interest, since they can contribute information to the study of the greatest ecological crisis in the history of the Phanerozoic biota, which occurred near the Permian–Triassic boundary. Recently, an opinion about mass effusions of Siberian traprocks as the main cause of that crisis became widespread (Campbell et al., 1992; Looy, 2000; Grard et al., 2005). Whether or not this opinion is correct, any data on fossil remains from intertrappean deposits or deposits coeval with traprocks are of significant interest, since the effusion of Siberian traprock is believed to be almost contemporaneous with the Permo-Triassic crisis (approximately 251 Ma). Insect remains in the Tunguska River basin are not very abundant and, unfortunately, only a small proportion of them has been studied. The proportion of beetles in the local insect assemblages is small, much less than in the Kuznetsk Basin, eastern Kazakhstan, and Mongolia. In this respect, the deposits of the Tunguska River basin are similar to the Tatarian deposits of European Russia, where the abundance of beetle fossils appears to decrease rather than increase towards the end of the Permian. Only 13 fossil beetles, mostly poorly preserved, have been recorded from five localities in the Tunguska River basin; ten of these specimens are from the localities of Anakit and Nizhnyaya Bugarikta (Dvurogii Regional Horizon) and represent beetles of the schizophoroid type with elytra lacking any visible sculpture. One specimen is a poorly preserved body with no visible details; the other specimens are isolated elytra. They are fairly large and of the Permian rather than of Early Triassic type. A fossil specimen of a very small beetle with six visible abdominal ventrites has been found in the locality of Untuun-2, Putoran regional horizon. This specimen strongly resembles a myxophagan beetle. An apical fragment of a peculiar permosinid elytron has been found in the

locality of Lyulyuikta (the precise stratigraphic position of the specimen is unclear: from the Putoran to Lebedevka horizons). Its incomplete state makes meaningful comparisons with other Permian elytra with punctated striae difficult. Finally, an elytron of a beetle of the family Taldycupedidae that has been found in the locality of Ilimpeya is described below.

The family Taldycupedidae Rohdendorf, 1961 was created for cupedoid beetles from the Erunakovo deposits of the Kuznetsk Basin (Rohdendorf, 1961). Later, the diagnosis and the composition of the family were reassessed (Ponomarenko, 1969), and a new species from the Permian of eastern Kazakhstan was described. Representatives of this family turned out to be widely distributed. They are fairly common in the terminal Permian of South Africa (Ponomarenko and Mostovski, 2005), undescribed taldycupedids have been recorded from the Permian of southern Mongolia, Australia, and European Russia. The genus *Taldycupes* is widely distributed. It occurs in all localities from which members of this family have been recorded.

SYSTEMATIC PALEONTOLOGY

Family Taldycupedidae Rohdendorf, 1961

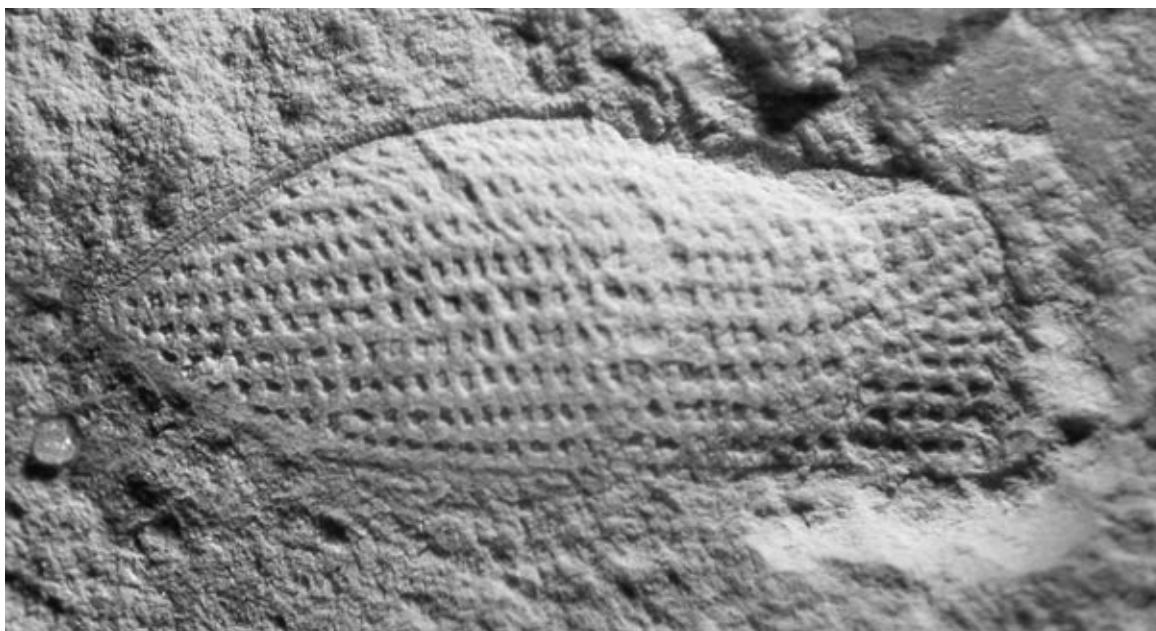
Genus *Taldycupes* Rohdendorf, 1961

Taldycupes rosanovi Ponomarenko, sp. nov.

E t y m o l o g y. In honor of A. Yu. Rozanov and his jubilee.

H o l o t y p e. PIN, no. 2099/3, left elytron; Krasnoyarsk Krai, Tunguska River basin, right bank of the Ilimpeya River 3.3 km downstream of the Ukshunukan River, locality of Ilimpeya; Upper Permian or Lower Triassic, Dvurogii Regional Horizon, Limptekon Formation.

D e s c r i p t i o n (figure). The elytron is wide and flat, probably being secondarily flattened, 2.5 times as long as wide, narrowed beyond its midlength; the apex



Taldycupes rosanovi sp. nov., holotype PIN, no. 2099/3, $\times 21.2$.

is symmetrical, the schizal margin is curved in the upper third, with no border. The epipleural border is absent. Cells are rectangular, approximately equal to veins in their size. The longitudinal veins are slightly wider than crossveins. The intercalary vein behind 2A and 3A forms a blind end, terminating on cells of the previous row; the other veins terminate on the elytron margin. Abridged cell rows in the cubital field are long, with up to seven cells. There are five cells behind 3A.

Measurements in mm. Elytron length, 5.8; elytron width, 2.3.

Comparison. It differs in the longer abridged cell rows in the cubital field and the intercalary vein forming a blind end between 2A and 3A.

Material. Holotype.

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