

Systematics of nonmarine bivalve mollusks from the Indian Gondwana Coal Measures (Damuda Group, Permian, India)

Silantiev V., Chandra S., Urazaeva M.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2015, Pleiades Publishing, Ltd. Nonmarine bivalves from the Permian of the Indian Gondwana Coal Measures are described for the first time. Six new bivalve genera, *Gondwanaiadites*, *Bakulia*, *Gangamya*, *Raniganjelia*, *Gondwanadontella*, and *Indonellina*, and 13 new species of four families from the Raniganj Formation of the Raniganj, Jharia, and North Karanpura basins of the Damodar valley are established. Morphological characters used in the descriptions of the Indian fauna only represented by external molds and imprints of shells are reviewed. The position of the Indian fauna of nonmarine bivalves in the modern system of Bivalves is considered. The stratigraphic distribution of nonmarine bivalves and use for correlation of coal beds are analyzed. All of new genera closely resemble the genera from the Kuznetsk Coalfield, where the stratigraphic scale for Angaraland is established. Three stratigraphic intervals of the Raniganj Formation are recognized based on the species composition of bivalves. They are found useful for interbasin correlation, despite a low morphological and taxonomic diversity. The lower interval is characterized by *Gondwanaiadites olgae* sp. nov. and *Bakulia damodarensis* sp. nov. The middle interval has an interesting assemblage of *Raniganjelia*, *Gondwanadontella*, and *Indonellina*. The upper interval is characterized by *Gangamya jhariaensis* and *Gangamya elongata*. The assemblage under study is dated Kazanian-Urzhumian. The bivalve fauna from the "water body facies" of Indian Gondwana was presumably more saltwater than that of the Kuznetsk Basin.

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Keywords

Indian Gondwana Coal Measures, nonmarine bivalves, paleontology, Permian, systematics