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# Frasnian-Famennian extinction and recovery of rhynchonellid brachiopods from the East European Platform

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In contrast to dramatic losses of the Atrypida and Pentamerida at the Frasnian-Famennian boundary, the Rhynchonellida demonstrated relatively high rate of survival, and recolonized vacated benthic ecospace after the F-F extinction events. The Late Devonian evolution of rhynchonellid faunas from the East European Platform shows three distinctive periods of their mass appearance. High abundance of rhynchonellids is characteristic for early-middle Frasnian (*Palmatolepis transitans-Pa. punctata* zones) and early Famennian (Pa. crepida Zone). Invasion of taxonomically diverse and rich rhynchonellid faunas usually corresponds to the major transgressive episodes, whereas decline coincides with regressive conditions of the basin. Rhynchonellid assemblages were replaced in the late Frasnian (Late *Pa. hassi-Pa. linguiformis* zones) by theodossiid- and cyrtospiriferid- dominated assemblages, which occupied habitats in newly expanding marine environments. The extinction of theodossiids at the end of the Frasnian and the next transgressive episode possibly stimulated an expansion of rhynchonellids. The early Frasnian species Ripidiorhynchus livonicus (Buch, 1834), and the early Famennian *R. huotinus* (Verneuil, 1845) and *R. griasicus* (Nalivkin, 1934) are revised. Early Famennian species *Paromoeopygma koscharica* (Nalivkin, 1934) from the central region is redescribed. *Ripidiorhynchus chencinensis* sp. nov. from the latest Givetian of Poland, as well as *Globulirhynchia minima* sp. nov. from the late Frasnian of the central region of the Russia, are described.

**Key words:** Brachiopoda, Rhynchonellida, sea–level changes, extinction, Frasnian, Famennian, East European Platform, Russia.

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