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Late Frasnian Atrypida (Brachiopoda) from the South Urals, South Timan and Kuznetsk Basin (Russia)

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Late Frasnian Atrypida (Brachiopoda) from the South Urals, South Timan and Kuznetsk Basin in Russia (east Laurussian and south Siberian shelf domains in Devonian time) reveal significant generic and specific diversity in the broadly defined Frasnian-Famennian (F-F) bio-crisis time. Eighteen species of atrypid brachiopods have been recorded, representing 4 subfamilies and 10 genera. The new genus Gibberosatrypa Markovskii & Rzhonsnitskaya, and the new subgenus Spinatrypa (Plicspinatrypa) Rzhonsnitskaya are proposed. Four new species *Spinatrypina* (*Spinatrypina*) *sosnovkiensis* Yudina, *Spinatrypa* (*Plicspinatrypa*) *rossica* Rzhonsnitskaya, *Iowatrypa nalivkini* Rzhonsnitskaya & Sokiran, and *Carinatina*(?) *biohermica* Yudina are described. The representatives of the Variatrypinae (including especially common *Desquamatia* (*Desquamatia*) *alticoliformis*), Spinatrypinae (*Spinatrypina*) and Atrypinae (*Pseudoatrypa*, ?*Costatrypa*) are widely distributed in the studied regions. The Pseudogruenewaldtiinae are represented by *Iowatrypa* and *Pseudogruenewaldtia*, of which the first is distributed worldwide, whereas the only undoubted species of the second is restricted to South Timan, and probably represents a localized latest Frasnian descendant of Iowatrypa. The decline phase of atrypid development was controlled by a variety of environmental factors tied to the global Kellwasser events, although it was not directly triggered by anoxic conditions. The investigated atrypid brachiopods, which were all confined to lower latitudes, disappeared during the F-F mass extinction, independently of their environmental and biogeographic settings.

Key words: Brachiopoda, Atrypida, biostratigraphy, taxonomy, mass-extinction, Kellwasser Crisis, Frasnian, Famennian, Devonian, Russia.

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