

MIDDLE CARBONIFEROUS FORAMINIFERS FROM THE LOWER PERMIAN NOVOGAFAROVO AND KONDUROVSKY SECTIONS: BIOSTRATIGRAPHIC IMPLICATIONS AND AGE CONSTRAINTS FOR THE UNROOFING OF THE SOUTHERN URALS

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The Lower Permian Kondurovsky section in the southern Urals has been proposed as the stratotype for the Sakmarian Stage on the basis of historical precedence, depositional continuity, and its well developed conodont, fusulinacean, and ammonoid faunas. The base of the Sakmarian is placed 75m above the base of the section, coincident with the appearance of *Streptognathodus barskovi* and a new species of *Schwagerina*. Similar biostratigraphic relations are developed at Novogafarovo, a companion section located roughly 15 km to the northwest.

In addition to the in situ faunas, both the Kondurovsky and Novogafarovo sections contain abundant reworked smaller foraminifers. Reworked specimens are preserved in two modes: they occur within abraded limestone clasts and as individual allochems. Those specimens occurring as allochems show little or no evidence of wear, and they would be impossible to recognize as reworked if not for their distinctly older age. The reworked assemblage contains elements from Moscovian and Bashkirian source beds: e.g., *Fusulinella* spp. and *Wedekindellina* spp. from the Moscovian; and *Verella* spp, *Semistaffella variabilis*, *Pseudostaffella antiqua*, *Asteroarchaediscus baschkiricus*, *Ozawainella* spp., *Eoschubertella mosquensis*, *Plectostaffella jakhensis*, and *Globivalvulina bulloides* from the Bashkirian.

The reworked assemblage indicates that by Early Permian time the Ural sub-basin was receiving detrital carbonate sediments from the nearby foreland fold-thrust belt, where rocks as old as early Bashkirian had been breached. Although the presence of reworked faunas does not diminish the suitability of Kondurovsky as a stratotype, biostratigraphers should exercise care to discriminate reworked from in situ microfossils.