Taxonomy, nomenclature, and evolution of the early schubertellid fusulinids

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The types of the species belonging to the fusulinid genera *Schubertella* and *Eoschubertella* were examined from publications and type collections. *Eoschubertella* in general possesses all the features of *Schubertella* and therefore is a junior synonym of the latter. However, the concept of *Eoschubertella* best describes the genus *Schubertina* with its type species *Schubertina curculi*. *Schubertina* is closely related to the newly established genus *Grovesella* the concept of which is emended in this paper. Besides *Schubertella, Schubertina,* and *Grovesella* , the genera *Mesoschubertella, Biwaella* are reviewed and three new species, *Grovesella nevadensis, Biwaella zhikalyaki,* and *Biwaella poletaevi*, are described. The phylogenetic relationships of all Pennsylvanian–Cisuralian schubertellids are also proposed. Barrel–shaped *Grovesella* suggested being the very first schubertellid that appears sometimes in the middle–late Bashkirian time. In late Bashkirian it is then developed into ovoid to fusiform *Schubertina*. The latter genus gave rise into *Schubertella* in early Moscovian. First *Fusiella* derived from *Schubertella* in late Moscovian, *Biwaella*—in early Gzhelian and *Boultonia*—in late Gzhelian time. Genus *Mesoschubertella* also developed from *Schubertella* at least in Artinskian, but may be in late Sakmarian.

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