important monograph of the fossils in the Magnesian limestone was published in 1850 by W. King.

Whereas in the above-mentioned districts the Permian system appears to be composed of two well-defined members with distinctive lithological characteristics and faunas, Karpinsky made the observation in 1874, in the Ural mountains, that the Upper Carboniferous Fusulina limestones were conformably succeeded by a sandy and marly coal-bearing group of strata containing a rich marine fauna, transitional between the Carboniferous and Permian system. There were fossil types identical with Carboniferous species, others identical with Permian species, and still others that had not been previously found and were apparently peculiar to this group. Karpinsky therefore viewed this "Artinsk Étage" as a transitional group of strata between Carboniferous and Permian deposits. Russian geologists have proved its extension almost from the Arctic Ocean to the Caspian Sea, and frequently distinguish it as Permo-Carboniferous.

The marine fauna of the "Artinsk" group has also been identified in the Timan district of Petschora land, near Djulfa in Armenia, in Nebraska, and in the Salt Range of the Punjab district in India, where it occurs in the Lower and Middle Productus Limestone, and is succeeded by a young Permian fauna (Upper Productus Limestone). The fauna of the Indian Productus Limestones has been made the subject of an admirable work by Waagen, published in the *Palæontologica Indica* (1879-88).

In 1882, Fusulina limestone of Permian Age with a richly diversified fauna was found in the Sofio Valley in Sicily. The fauna has been described by Gemmellaro, and appears to correspond in age with that of the "Artinsk" group. Frech referred the Fusulina limestones of the Carinthian Alps to Upper Carboniferous age; whereas Schellwien showed that the pale Fusulina limestones of Carniola contain a Permo-Carboniferous fauna.

In the Alps, the reddish Gröden Sandstones and Verrucano Conglomerates were demonstrated by Suess (1868), upon the evidence of fossil plant-remains, to be the equivalent of the Lower Dyas or Red Underlyer series. In the Venetian Alps and near Neumarkt, the Gröden Sandstones are succeeded by a series of interbedded dolomite, rauchwacke, and gypsiferous shales, which, according to Gümbel, are of the age of the