

## **ON THE NATURE OF THE PHOSPHATE VENDIAN CONCRETIONS OF PODOLIA, THE UKRAINE.**

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The phosphate concretions of the Dniestr River Basin (Podolia, Ukraine) occurred in situ position within the Vendian deposits of the south-western edge of the Ukrainian crystalline shield of the Russian Platform are known for more than 150 years. In re-accumulated state they also occur in the Upper Cretaceous rocks of the region. No one of the phosphorites type but the Podolian ones has such a specific appearance – due to the specific radial structure, which is not typical for rather numerous and wide geographically and stratigraphically spreaded common phosphorite nodes. The concretions are concentrated in the upper part of the Nagorjany Formation, in Koljuss Beds, which are formed by dark gray, yellowish-grey argillites with rare intercalation of siltstones and limestones. The rocks contain various fossils, including stripe-like algae, laminarite films and cyanobacteria. The phosphate concretions are spherical or slightly flattened, 2—10 cm in diameter. The argillites layers envelope them, forming eyed structure. This fact indicates that lithification of the phosphate structures have taken place inside still soft mud before its contraction. The samples of concretions were studied using scanning electron microscope (SEM) and optical microscope. It was found out, that the internal structure of concretion resembles the structure of the stromatolites, which are composed of phosphate laminae. The SEM study revealed the data on the internal structure of the phosphate laminae. They are composed of combination of threads-like, mostly non-hollow slightly curving very long forms. The forms lack any signs of transversal septation or visible pinching or bulge. The high magnification shows, that the surface of the filaments is not smooth and ornamented by assemblage of often hollow fine-study or coccoid, almost spherical probably bacterial forms up to the 10  $\mu\text{m}$  in diameter. The obtained data gave evidence for biological origin of the Vendian phosphorites of Podolia, which, probably, had undergone postmortal phosphatization.