

Living position of *Buchia volgensis* (Lahusen) (Mesozoic Bivalvia)

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Прижизненное положение *Buchia volgensis* (Lahusen) (мезозойские Bivalvia)

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The living position of *Buchia* is of interest for a number of paleontologists who have studied this genus of Bivalvia. Remains of different species of *Buchia* are frequently abounded in Upper Jurassic and Lower Cretaceous (Neocomian) deposits of Boreal and Arctic provinces of Northern Europe, Northern Asia and North America. Because most of them are orthostratigraphic, they are well studied, but up to the present there were no data on their actual living positions on the sea floor.

The problem is that there were no fossil findings of *Buchia* in living position. It is explained by almost immediate destruction of byssal and ligament structures after the mollusk death, because these structures in *Buchia* were flimsy. As a rule the shells of *Buchia* separated into individual valves almost at the same time when the organism died. If these valves are flat they are commonly located parallel to bedding (in Later Jurassic and Berriasian species), or chaotic if the valves are bulbous (in Early Cretaceous species). Even when two-valve specimens are found, they are often considered by paleontologists as an evidence of locally buried *Buchia* shells, without any significant displacement [Paraketzov, Paraketzova, 1989]. Previously, features of shells were used to interpret *Buchia* living position. *Buchia* was also compared with Recent Bivalvia which have shells and living position that are supposedly similar.

The general opinion of paleontologists is that *Buchia* was fastened with byssus to the substrate of marine beds. The first description of possible living position of *Buchia* was given by Pompeckj [1901]. He supposed that *Buchia* shell lay on front

parts of valves. His conclusion was based on the presence of the polished front part of valves near the umbo and rare small holes perforating the left valve in the same place. Zakharov [1981] has studied a lot of *Buchia* from Northern Siberia (Russia) and, based on his own observations, made almost the same suggestion. Sokolov [1928], Jeletzky [1965], and Zakharov [1981] considered that mode of life of *Buchia* was most similar to that of *Mytilus*, the Recent genus of Bivalvia frequently found in northern marine basins.

These suggestions are now confirmed and specified due to the discovery of fossil *Buchia* buried in living position. This unique sample was found and sent to the author by A. S. Bochkarev, a geologist who was mapping the left bank of middle stream of the Anadyr river (Chukotka, Russia). He picked up this sample from Berriasian volcano-sedimentary rocks.

The sediment sample is a plate-like fossil and measures approximately 16 × 12 × 5 cm. Its lower (basal) part is rather thin (5-10 mm) interbed of light tuff-siltstone, the top of which is sharp and slightly undulating bedding surface. The bulk of the sample is represented by dark gray clay-siltstone rocks with irregular laminations and several interbeds enriched with sandy material. Above the tuff-siltstone material other beds are not clearly defined and sometimes intergrade. An external cast of a two-valve shell of *Buchia volgensis* (Lahusen, 1888) is in the lower part of the plate. Its maximum length is 48 mm, and the shell valves are tightly closed for a distance about 25 mm near the umbo and slightly open in other parts. The maximum