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THE FOSSIL LARVAL FISH *PRORHODEUS UNIONIS* FRIČ, 1900 FROM THE NONMARINE CENOMANIAN OF BOHEMIA IS INORGANIC.

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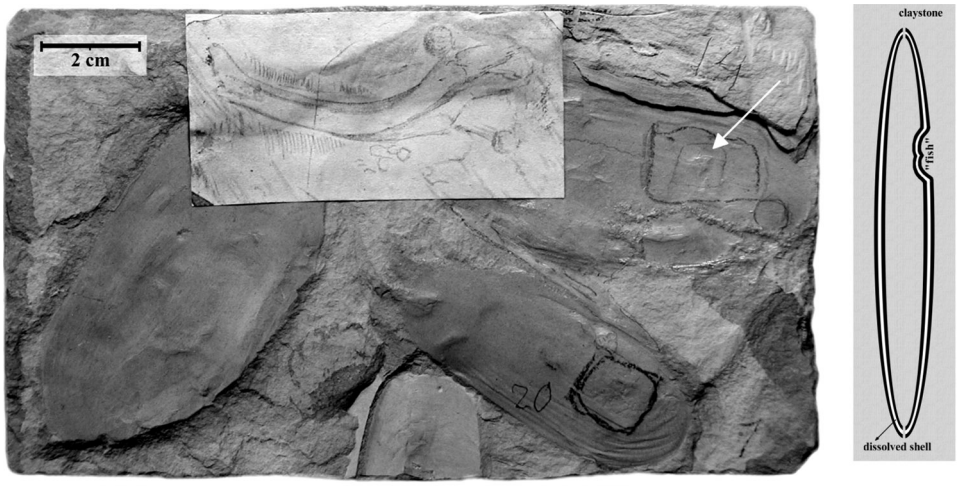
Abstract: Alleged find of a bony fish larval stage *Prorhodeus unionis* FRIČ is reinterpreted as irregular markings on outer shell-surface of an anodont bivalve. The monotypic species is from nonmarine Cenomanian deposits of the Bohemian Cretaceous Basin.

■ **Cretaceous, fishes, systematics, Bohemia.**

Fishes from the Bohemian Cretaceous Basin were described by Antonín Frič and František Bayer (Fritsch 1878, Frič et F. Bayer 1902, Fritsch et Bayer 1905) at the turn of the 19th and 20th century. All specimens come from marine sediments ranging from the Cenomanian to Coniacian age. A single specimen was described from Kounice in the nonmarine Peruc-korycany Formation of Cenomanian age (A. Frič in Frič et Bayer 1900, pp. 163-164, fig. 1; Frič et E. Bayer 1902, pp. 162-163, fig. 1). It was interpreted as an imprint of a larval fish imprinted on a cast of the bivalve *Unio* and analogized with the recent ostracophil genus *Rhodeus.* Females of this recent fish lay eggs in the interior of swan mussels where they develop into larvae. Because of the implied relationship the specimen was described as a new genus and species *Prorhodeus unionis* FRIČ. The oldest fossil *Rhodeus* is known from Miocene of Europe and northeast Asia (Berg 1848-49, Lebedev 1959, Javkolev 1961, Rutte 1962 in Baruš et Oliva 1995, p. 208).

The specimen under discussion (see figs 1, 2) is expressed only as slight irregularities on the shell surface and has been interpreted as a dorsoventrally compressed head. Also, from this roughly triangular shaped area projects a prolongated band, interpreted by Frič (in Frič et Bayer 1900, p. 163; Frič et E. Bayer 1902, p. 162) as a chorda dorsalis. The length of the whole object is 8 mm. Fine details described by Frič (*ibid.*) as muscle imprints, scales, and eye bulbs are not visible on the specimen. What is preserved here is only an external impression on the shell‘s outer surface (see schematic fig. 3), but Frič assumed that what is present is exposed is an internal impression and so the fish is preserved on the shell as an internal cast. Frič apparently supposed that it was an external imprint of a cast after resolution of the fish and consequently of the calcareous shell. But, this mode of fossilization of a very soft and easily soluble organism, deposited in clay, is very improbable. This object regarded as a fish fossil in the literature (see fig. 2) is in fact a convex imprint of a depression on the external surface of the shell. The supposed juvenile fish fossil is therefore most probably a malformation on the shell or a diagenetic deformation.



Figs 1–3. 1 – original specimen (Oc 474, coll. National Museum, Prague), dart shows alleged fish and the overlaid picture is the enlarged and interpretive figure made by Frič (in FRIČ et Bayer 1900); 2 – detail of the alleged fish; 3 – schematic cross-section intersection of the shell with the "fish".

CONCLUSION

The monotypic species of *Prorhodeus unionis* FRIČ is invalid as the specimen is not fossil but is reinterpreted as a concave irregularity on the external surface of an anodont bivalve.

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