



Larval conchs of the Mesozoic gastropods

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The most widely used classification of fossil gastropods, those of Wenz (1938-1944, 1959/1960) and Knight *et al.* (1960) have been based almost exclusively on the teleoconch morphology. The works by Robertson (1971), Babio & Thiriou-Quievreux (1974), and Bandel (1975, 1982, 1987) show that the veliger shells, especially those of planktotrophic larvae provide a lot of information about evolutionary relationships. The reviewed monograph of Michael Schröder is an important contribution to the knowledge of protoconchs and early teleoconchs of the Mesozoic gastropods. This is a modified version of the author's doctoral dissertation done at Hamburg University, and supervised by Klaus Bandel, a well-known expert in fossil and Recent gastropods.

The material has been washed out of samples of early and middle Jurassic and early Cretaceous clays, collected from several localities in Northern Germany and Poland by the author or from museum collections. The Polish specimens come from the famous Callovian clay blocks of Łuków transported, as a drift from the Baltic area and from the Valanginian clays exploited by the brickpit in Wąwał near Tomaszów Mazowiecki in Central Poland. More than 350 excellent SEM pictures illustrate protoconchs of 61 species, 22 of which are new. Five new genera and one new family are also recognised by the author. Among those gastropods 27 are from Wąwał and 6 from Łuków.

The most interesting are comments on classification of gastropod taxa of higher ranks, excerpts from several unpublished works by Klaus Bandel. Facts are very clearly separated from interpretations. There are two main, general, conclusions from the research: (a) The Bandel & Hemleben (1987) and Bandel (1988) thesis that Wenz and Knight *et al.* systematics contains many polyphyletic (heterogenic) groups is confirmed. (b) The gastropod evolution was not disturbed by global events in the boreal realm until the late Cretaceous. The geological boundaries at which extinction of many groups of gastropods allegedly took place have to be carefully restudied. Many more 'living fossils' are represented among Recent gastropods than was thought in the past. Mesozoic species of *Procerithium*, *Bittium*, *Ebola*, *Mathilda*, *Wonwalica*, *Acteon* and *Cylindrobullina*, show proto- and teleoconch morphologies closely corresponding to those of living descendants.

There are some faults in the text, especially regarding references to literature and geographic nomenclature. The names of Polish localities are from some reason modified to accommodate to German pronunciation: Tomaszów Masowietski instead of Tomaszów Mazowiecki or Wonwal instead of Wąwał. The area was a part of Germany for a few years, 1795-1806, 1914-1918, and 1939-1944 but it seems impractical to use names spelled in this way, as they can not be found on generally available maps. The new Latin name, *Mathilda tomaszina* derived from Tomaszów Mazowiecki, to be grammatically correct, should be rather tomaszoviensis.

A reader of this work may develop the impression that the sampling has been done in a pristine terrain as no reference to the rich paleontological literature on Wąwał is given. No doubt Michael Schröder's work will be the main source of data on the morphology of the Jurassic and Cretaceous gastropods and any future discussions of gastropod phylogeny must refer to his results. It shows also perspectives of potentially very profitable scientific research that I hope to see continued on more extensive materials.