

## Early ontogeny and palaeoecology of the Mid-Miocene rissoid gastropods of the Central Paratethys

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Twenty-six species of Rissoidae (Caenogastropoda: Littorinimorpha: Rissooidea) are described from the Badenian and Early Sarmatian of 14 localities in Austria and the Czech Republic (Molasse Basin, Styrian Basin, Vienna Basin) and from the Badenian of Coștei (Romania). For the first time, the early ontogenetic skeletal characters of these gastropods are described. Based on these features an indirect larval development with a planktotrophic veliger could be reconstructed for all investigated Mid-Miocene species. The status of Mohrensteriinae as a subfamily of the Rissoidae is confirmed by the morphology of the low conical protoconch, consisting of a fine spirally sculptured embryonic shell and a larval shell which is smooth except for growth lines. Transitions from embryonic shells to larval shells and from larval shells to teleoconchs are slightly thickened and indistinct. Whilst representatives of the subfamily Rissoinae characterise the marine Badenian assemblages, Mohrensteriinae predominate the Early Sarmatian faunas. We hypothesize that this take-over by the Mohrensteriinae was triggered by changes in the water chemistry towards polyhaline conditions. Consequently, the shift towards hypersaline conditions in the Late Sarmatian is mirrored by the abrupt decline of the subfamily. Four new species *Rissoa costeiensis* (Rissoinae) from the Badenian and *Mohrensternia hollabrunnensis*, *Mohrensternia pfaffstaettensis*, and *Mohrensternia waldhofensis* (Mohrensteriinae) from the Early Sarmatian are introduced.

**Key words:** Gastropoda, Rissoidae, Littorinimorpha, protoconch–morphology, Miocene, Badenian, Sarmatian, Paratethys.

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