

## New Late Jurassic symmetrical hermit crabs from the southern Polish Uplands and early paguroid diversification

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On the basis of carapaces, three new genera and species of symmetrical paguroid anomurans are described. *Diogenicheles theodora*, *Masticacheles longirostris*, and *Pilgrimcheles karolinae* constitute the oldest known members of the family Parapylochelidae. As noted previously, assemblages from sponge–reefal strata of Oxfordian (Late Jurassic) age in the southern Polish Uplands document an important radiation event amongst paguroids. Compared to the present day, the Parapylochelidae were more diverse during the mid–Mesozoic; they appear to have withdrawn from shallow, reefal waters to deep–water settings from the Late Jurassic onwards. Paguroid faunas from the Oxfordian of Europe already are highly diverse, both morphologically and phylogenetically, and comprise early members of the families Diogenidae, Pylochelidae, and Parapylochelidae. This suggests that the evolutionary history of paguroids started much earlier (i.e., in pre–Jurassic times) than previously assumed. New terms for several typical paguroid carapace regions are introduced and on the basis of carapace morphology and ecological shifts hypotheses on the early speciation of hermit crabs are put forward.

**Key words:** Anomura, Paguroidea, Parapylochelidae, carapace morphology, evolution, Oxfordian, Jurassic, Poland.

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