American slipper limpet *Crepidula fornicata* (L.) limited by winter mortality in the northern Wadden Sea

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In Europe, the introduced slipper-limpet (*Crepidula fornicata* (L.) ranges from the Mediterranean to southern Norway. In the central part of its distributional range (France, GB, Netherlands) it may become superabundant with up to several thousand ind/m^2. In the northern Wadden Sea mean abundance remains below 100 ind/m^2. To test what limits the abundance of *Crepidula* there, four factors known to influence the population dynamics of marine benthic invertebrates were investigated: 1) predation, 2) parasitism, 3) low water temperatures (restrictions of specific stages in the life cycle) and 4) severe winters (winter mortality). The study was conducted in 2000 and 2001 near the island of Sylt in the northern Wadden Sea and included an experimental and observational approach. Predation, parasitism and life cycle restrictions had no or little limiting effect on *Crepidula* in the basin, while high winter mortality of up to 90% is supposed to account for the lower abundance of *Crepidula* in the study area compared to populations in central Europe as well as for the northern limit of the species' distributional range. In the future, milder winters as a corollary of climate change are expected to increase abundance in northern populations combined with a northward shift of the species' distributional range. Correspondingly, the wide array of ecological and economical effects already known especially from French coats may also affect the northern Wadden Sea.

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