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**Title:** *Mobile hard substrate – additional biodiversity source in Arctic shallow subtidal system*

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Rapid changes in the Arctic caused by global warming have a huge impact on this marine ecosystem. New invading species are already appearing while truly Arctic ones are predicted to vanish. Yet we still know very little about processes that control Arctic marine biodiversity. In this study we demonstrate the importance of a hard mobile substrata (hermit crab shells) for local biodiversity. We hypothesized that this niche will support higher biodiversity than it might be predicted from similar immobile substrates. Additionally we test whether the hermit crab epifauna is specific to that substrate providing unique biodiversity components to the local community. From four study sites in Isfjorden (78°N), West Spitsbergen and two study sites in Northern Norway (69° N) we collected ~50 hermit crabs, gastropods and rocks, each of visually similar surface area using SCUBA diving. Hermit crab shells were colonized by a larger number of species than gastropods and rocks of even larger size. Among 87 taxa found on all the three substrates 22 occurred only on hermit crab shells. Except for two study sites hermit crab shells also supported more individuals. This study shows that hermit crabs are more important for sub-Arctic and Arctic shallow subtidal diversity than might be predicted by their surface area and that hermit crabs modify, maintain and create a unique habitat. This is the result of number of factors interacting positively on the presence of epifauna including shell surface heterogeneity and complex influence of the crab host.