

Shell preference of *Pagurus longicarpus* (Long-clawed hermit crabs) when faced with 3-dimensionally printed shells of differing colors

Hermit crabs must choose a new shell as their body size increases (Hazlett 1981). Shell selection has a range of contributing factors including shell color, shell quality, size (this includes the hermits ability to properly fit in the shell as well as have the strength to carry it without exerting too much extra energy), and the color of the substrate environment around them (Hazlett 1981). The purpose of this study was to examine *Pagurus longicarpus* and determine whether this species had a preference for a specific color shell when placed on a distinct substrate color. Hermit crabs were found to have a significant preference for black shells when deposited on a white substrate and a blue substrate. This demonstration could indicate shell selection may not be based as heavily on shell color/substrate color as previously thought, other factors such as predation threat could be contributing more.

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