

Accepted Manuscript

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PII: S1055-7903(16)30436-5

DOI: <http://dx.doi.org/10.1016/j.ympev.2017.05.013>

Reference: YMPEV 5826

To appear in: *Molecular Phylogenetics and Evolution*

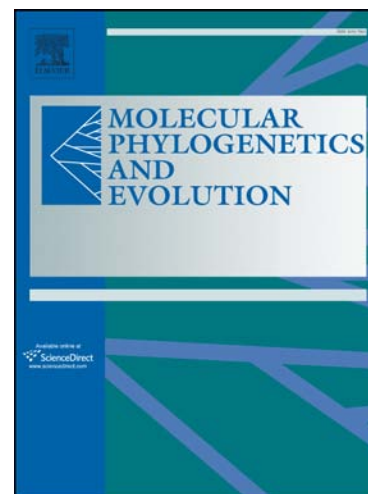
Received Date: 10 January 2017

Revised Date: 12 May 2017

Accepted Date: 14 May 2017

Please cite this article as: Verheye, M.L., Backeljau, T., d'Udekem d'Acoz, C., Locked in the icehouse: evolution of an endemic *Epimeria* (Amphipoda, Crustacea) species flock on the Antarctic shelf, *Molecular Phylogenetics and Evolution* (2017), doi: <http://dx.doi.org/10.1016/j.ympev.2017.05.013>

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Locked in the icehouse: evolution of an endemic *Epimeria* (Amphipoda, Crustacea) species flock on the Antarctic shelf

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Abstract

The Antarctic shelf's marine biodiversity has been greatly influenced by the climatic and glacial history of the region. Extreme temperature changes led to the extinction of some lineages, while others adapted and flourished. The amphipod genus *Epimeria* is an example of the latter, being particularly diverse in the Antarctic region. By reconstructing a time-calibrated phylogeny based on mitochondrial (COI) and nuclear (28S and H3) markers and including *Epimeria* species from all oceans, this study provides a temporal and geographical framework for the evolution of Antarctic *Epimeria*. The monophyly of this genus is not supported by Bayesian Inference, as Antarctic and non-Antarctic *Epimeria* form two distinct well-supported clades, with Antarctic *Epimeria* being a sister clade to two stilipedid species. The monophyly of Antarctic *Epimeria* suggests that this clade evolved in isolation since its origin. While the precise timing of this origin remains unclear, it is inferred that the Antarctic lineage arose from a late Gondwanan ancestor and hence did not colonize the Antarctic region

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