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Species diversity and population structure in worm-snails of the *Dendropoma* genus in Palau

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ABSTRACT

This report is a preliminary analysis of the mitochondrial genetic diversity of worm-snails (Gastropods, Vermetidae) in Palau. Worm-snails are suspension-feeding gastropods that have tubular uncoiled shells attached to the substrate. Some aggregate to form reefs of their own, forming mats along the water's edge. There are here used as a model to understand connectivity of populations across Palau.

Samples were collected at 12 different areas with a total of 199 samples overall. Samples were dissected to extract DNA and a fragment of the COI mtDNA gene was then amplified by PCR and sequenced. Pairwise genetic distances were calculated with the software Mega v5.2.2 and used to build a histogram and a distance tree.

Results showed that there were a total of 5 groups of species across Palau. Four out of the five species had limited ranges but the last one was widely distributed. The results highlight a strong spatial genetic structure among populations that suggest long-term isolation coupled or not with selective processes.

Key Words: Worm-Snails, *Dendropoma*, Vermetidae

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