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Translocation success for dibblers (*Parantechinus apicalis*) in Western Australia is explained by invertebrate abundance.

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The dibbler is a 40-120g Australian dasyurid marsupial with a high dietary dependence on surface-active invertebrates. Its distribution declined greatly in the last 150 years largely due to predation by introduced foxes and cats. Although some small populations remain on offshore islands, the stronghold of the species is the 2,972 km² Fitzgerald River National Park (FRNP) on the south coast of Western Australia. Since 2000, three attempts have been made using captive bred animals of FRNP stock to establish new mainland populations in sites where vegetation structure and floristics resemble those at dibbler sites in FRNP and where cats and foxes are controlled. Only one has been successful. This study examined litter invertebrate abundance at all sites as a possible determining factor in translocation success. To compare invertebrate abundance between the four sites, samples of leaf litter on the ground surface at 10 randomly selected points at each dibbler site were collected. All surface litter within a 0.25 m^2 plot was collected and transported directly to the laboratory, where invertebrates were extracted using Berlese-Tullgren funnels. Invertebrates were sorted to order and individuals over 2 mm in body length were counted. The abundance of invertebrates over 2 mm in length increased progressively from Stirling Range (failed site) to Waychinicup (failed) to Peniup (successful) to FRNP (source). Abundance at each of the failed translocation sites was significantly different to the source site. It is recommended that measurement of invertebrate abundance becomes an essential element of site assessment for future dibbler translocations.

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ABSTRACT BOOK