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TITLE: Bait-attending fauna of the Kermadec Trench, SW Pacific Ocean: Evidence for an ecotone across the abyssal?hadal transition zone

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ABSTRACT:

The bait-attending fauna of the abyssal?hadal transition zone of the Kermadec Trench, SW Pacific Ocean (4329?7966 m), was investigated using a baited camera and a trap lander. The abyssal stations (4329?6007 m) revealed a typical scavenging fish community comprising macrourids and synphobranchid eels, as well as natantian decapods. At the hadal depths of 7199 and 7561 m, the endemic liparid *Notoliparis kermadecensis* was observed aggregating at the bait reaching surprisingly high numbers of 5 and 13, respectively. A total of 3183 invertebrate samples were collected (mean deployment time=16 h) of which 97.8% were of the order Amphipoda (nine families, 16 species). Ten of the amphipod species represent new distributional records for the Kermadec Trench and the New Zealand Exclusive Economic Zone; this includes the shallowest known record of the endemic hadal amphipod *Hirondellea dubia* (6000, 6007 m). Using amphipods to statistically examine the compositional change across the abyssal?hadal boundary, an ecotone between depths <6007 and >6890 m was found, indicating that there is an ecologically distinct bait-attending fauna in this trench.

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