Technical Reports of the Australian Museum, Online (2017) No. 26, pp. 9–18. ISSN 1835-4211 (online)
https://doi.org/10.3853/j.1835-4211.26.2017.1707
Amanda L. Reid orcid.org/0000-0001-5765-1363
Shane T. Ahyong orcid.org/0000-0002-2820-4158
Stephen J. Keable orcid.org/0000-0003-0072-2604
Elena Kupriyanova orcid.org/0000-0003-0336-4718
Kara Layton orcid.org/0000-0002-4302-3048
Alison C. Miller orcid.org/0000-0001-6631-4019

The Australian Museum Lord Howe Island Expedition 2017—Marine Invertebrates

Amanda L. Reid*, Shane T. Ahyong, Stephen J. Keable,
Elena Kupriyanova, Kara Layton[1], and Alison C. Miller

Australian Museum Research Institute,
Australian Museum, 1 William Street, Sydney NSW 2010, Australia

[1] Centre for Evolutionary Biology, University of Western Australia,
35 Stirling Highway, Crawley, WA 6009 and
Aquatic Zoology/Molecular Systematics Unit, Western Australian Museum,
49 Kew Street, Welshpool, WA 6106, Australia

Abstract. Despite less than perfect oceanic conditions generated by tropical cyclone *Debbie* in 2017, a field team from the Australian Museum Research Institute sampled marine invertebrates from multiple habitat types around Lord Howe Island. Collections were made during two weeks in March–April 2017 from intertidal sand-flats and reefs, and from subtidal habitats using SCUBA. Hand collecting was supplemented with limited use of traps. Protocols emphasized fixation and preservation methods that favour molecular approaches to systematics. One hundred and thirteen samples were collected from 16 sites. The samples contain multiple phyla, with the predominant taxa targeted being Mollusca, Crustacea and Polychaeta. Many samples still need to be sorted and analysed in detail. Lysiosquilloid mantis shrimps and axiidean ghost shrimps, the isopod taxa *Cirolana*, Joeropsididae and Stenetriidae, polychaete species of *Hydroides, Serpula*, and *Vermiliopsis*, and the blanket octopus *Tremoctopus gracilis* (Eydoux & Souleyet, 1852) are recorded for the first time from Lord Howe Island.

Keywords. Mollusca; Crustacea; Polychaeta; biogeography

Reid, Amanda L., Shane T. Ahyong, Stephen J. Keable, Elena Kupriyanova, Kara Layton, and Alison C. Miller. 2017. The Australian Museum Lord Howe Island Expedition 2017—marine invertebrates. *Technical Reports of the Australian Museum, Online* 26: 9–18. https://doi.org/10.3853/j.1835-4211.26.2017.1707

From 26 March to 6 April 2017, a field team from the Australian Museum Research Institute sampled invertebrates from a range of marine habitats around Lord Howe Island (Fig. 1) by hand collecting intertidally and also using scuba to depths of 18 m (Figs 2–4). Within the limited time available the sampling attempted to cover a diverse cross-section of previously recognized habitats and substrates (Marine Parks Authority, 2010). These included the inner lagoon, outer fringing reefs, beaches, rock platforms, seagrass, coral rubble, sediment, and algal turf. To supplement the main collection methods, attempts were also made to collect specimens using baited traps (Keable, 1995) and octopus pots, but unfortunately there was little opportunity to deploy these successfully due to unfavourable weather.

The Lord Howe Island Group (including the adjacent Balls Pyramid) are the only emergent features on the Lord Howe Rise in the Tasman Sea between Australia and New Zealand. Lord Howe Island includes the southernmost coral reef, but given its isolated southerly position, also supports a mixture of tropical and temperate species, many of them endemic.

* author for correspondence: Mandy.Reid@austmus.gov.au