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Terebellidae (Annelida, Terebelliformia) from Lizard Island, Great Barrier Reef, Australia

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Abstract

In a survey of the polychaetes of the Lizard Island region, sixteen new species of terebellids, plus one previously described species, were found from material collected during the two week long Lizard Island Taxonomic Workshop in 2013, along with material collected from previous projects carried out at Lizard Island. This included the CReefs Project (http://www.aims.gov.au/creefs/field-program.html), of which Lizard was one of the nodes. Those species are distributed as follows: one species of each of the following genera *Eupolymnia* Verrill, 1900, *Lanice* Malmgren, 1866; *Lanicides* Hessle, 1917, *Lanicola* Hartmann-Schröder, 1986, *Pistella* Hartmann-Schröder, 1996, *Reteterebella* Hartman, 1963, and *Terebella* Linnaeus, 1767; two species of *Nicolea* Malmgren, 1866; three species of *Pista* Malmgren, 1866 and four of *Loimia* Malmgren, 1866, together with another new species, belonging to the new genus *Lizardia* n. gen. Keys for identification of these genera and species are provided, together with generic diagnoses and full descriptions for all species; for each new species, comparisons with the morphologically most similar congeners are provided. A redescription of *Reteterebella queenslandia* Hartman, 1963 is also included.

Key words: Polychaeta, taxonomy, morphology, new species, Queensland, Western Pacific Ocean

Introduction

In August 2013 the Australian Museum hosted the 11th International Polychaete Conference and, immediately after the meeting, a group of researchers attended a workshop funded by the Lizard Island Reef Research Foundation, held at the Lizard Island Research Station, a facility of the Australian Museum. The purpose of the workshop was to document some of the polychaete fauna of Lizard Island, on the northern Great Barrier Reef.

Prior to this study, Hutchings & Glasby (1986, 1987, 1988) had described eleven species of Terebellidae *sensu latu* from Lizard Island, but in this paper we describe 16 new species belonging to 11 genera, including one new genus, within the family Terebellidae Grube, 1850, as recently redefined by Nogueira *et al*. (2013). The species belonging to the other families of Terebellidae *sensu latu* are described in two other papers in this volume (Hutchings *et al.* 2015; Nogueira *et al.* 2015a), and also in another paper (Nogueira *et al.* 2015b).

While polychaetes are abundant around Lizard Island and on the Great Barrier Reef, they have been poorly documented and no comprehensive surveys have been carried out in this region (Hutchings 2008). They occur within coral substrates, but also are abundant in the soft sediments between reefs. Some of our new species are described from a single specimen each and hopefully future studies will provide information on intraspecific variation within these species.

The details of the morphology of Terebellidae *sensu latu* were thoroughly discussed by Nogueira *et al*. (2010), and the internal relationships within this group were recently studied by Nogueira *et al*. (2013) and Fitzhugh *et al.* (2015), among others.

Material and methods

During the workshop (12–23 August, 2013), collections were made daily by snorkelling and SCUBA diving, from the intertidal zone to ~30 m deep, covering most types of habitats found in the Lizard Island and surrounding areas, including coral reefs, mangroves and sandy beaches, with sandy and coral rubble bottoms (see Ribas & Hutchings, 2015, *Zootaxa* 4019, for location of sampling sites and their co-ordinates). Coral rubble and coral pieces were broken up by using a hammer, polychaetes were sorted alive under a stereomicroscope, relaxed in magnesium chloride solution and selected specimens of some species were photographed alive by Alexander Semenov; those photos are included in Figs 1–3. We provide herein photos of the holotypes of several of our new species alive and after preservation, under stereomicroscope. This allowed us to include colour notes for many species, which have not been included in previously described terebellid species from Australia.