



## Revision of the genus *Turris* Batsch, 1789 (Gastropoda: Conoidea: Turridae) with the description of six new species

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### Abstract

The taxonomy of the genus *Turris* Batsch, 1789, type genus of the family Turridae, widespread in shallow-water habitats of tropic Indo-Pacific, is revised. A total of 31 species of *Turris*, are here recognized as valid. New species described: *Turris chaldaea*, *Turris clausifossata*, *Turris guidopopei*, *Turris intercancellata*, *Turris kantori*, *T. kathiewayae*. Homonym renamed: *Turris bipartita* *nom. nov.* for *Pleurotoma variegata* Kiener, 1839 (*non* Philippi, 1836). New synonymies: *Turris ankaramanyensis* Bozzetti, 2006 = *Turris tanyspira* Kilburn, 1975; *Turris imperfecti*, *T. nobilis*, *T. pulchra* and *T. tornatum* Röding, 1798, and *Turris assyria* Olivera, Seronay & Fedosov, 2010 = *T. babylonia*; *Turris dollyae* Olivera, 2000 = *Pleurotoma crispa* Lamarck, 1816; *Turris totiphyllis* Olivera, 2000 = *Turris hidalgoi* Vera-Peláez, Vega-Luz & Lozano-Francisco, 2000; *Turris kilburni* Vera-Peláez, Vega-Luz & Lozano-Francisco, 2000 = *Turris pagasa* Olivera, 2000; *Turris (Annulaturreis) munizi* Vera-Peláez, Vega-Luz & Lozano-Francisco, 2000 = *Gemmula lululimi* Olivera, 2000. Revised status: *Turris intricata* Powell, 1964, *Pleurotoma variegata* Kiener, 1839 (*non* Philippi, 1836) and *Pleurotoma yeddoensis* Jousseaume, 1883, are regarded as full species (not subspecies of *Turris crispa*). Neotype designated: For *Pleurotoma garnonsii* Reeve, 1843, to distinguish it from *Turris garnonsii* of recent authors, type locality emended to Zanzibar. New combination: *Turris orthopleura* Kilburn, 1983, is transferred to genus *Makiyamaia*, family Clavatulidae.

**Key words:** Taxonomy, *Turris*, Indo-West Pacific, new species, new synonymies, new combinations.

### Introduction

The family Turridae *s.l.* comprises one of the largest groups of marine gastropods and a major component of the Indo-Pacific molluscan fauna. According to the highly conservative estimate of Tucker (2004), the Turridae *s.l.* (excluding the Coninae) consists of about 2990 species, quantitatively prominent in species lists of many local faunas. Wide distributions and species richness in Turridae are accompanied by high morphological heterogeneity that makes the family extremely problematic for taxonomists. Originally described by exclusion, Turridae in traditional understanding obviously comprises a combined group of separate, independently evolved clades, and cannot be considered as a monophyletic taxon (Bouchet, et al, 2011; Puillandre, et al, 2011). Another practical problem in turrid taxonomy is that the last, and probably the only, comprehensive revision of generic-level taxa was undertaken by Powell in 1966, and since that time many genera have been extended to incorporate subsequently described species. As a result, many—if not most—of turrid genera, require revision, with redefinition of their boundaries and ordering of the synonymy.

The genus *Turris* Batsch, 1789, type genus of the family Turridae, is one of the most easily recognized of Indo-Pacific turrid genera. The type species of the genus, *Turris babylonia*, was described by Linnaeus in 1758 under the original combination *Murex babylonius*. The only recent monograph was written by Powell (1964), which summarized data on the distribution of previously-known *Turris* species and included some information on type specimens. Powell recognised 9 species-level taxa (proposing for one of them four distinct forms treated as subspecies). Subsequently, in 1966 Powell established the distinct subgenus *Annulaturreis* (type species *Pleurotoma amicta* Smith, 1877) within the genus *Turris*, with two species included. Some later authors considered