

## Taxonomic Revision of the Family Psammobiidae (Bivalvia: Tellinoidea) in the Australian and New Zealand Region

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ABSTRACT. Thirty-seven species of Psammobiidae are recognised in a conchologically-based revision of taxa in the Australian and New Zealand region. Four genera are represented: *Asaphis* Modeer, 1793; *Heteroglypta* Martens, 1880; *Gari* Schumacher, 1817; *Soletellina* Blainville, 1824. The largest genus, *Gari*, is divided into nine subgenera: *Gari sensu stricto*; *Psammobia* Lamarck, 1818; *Gobraeus* Brown, 1844; *Dysmea* Dall, Bartsch & Rehder, 1936; *Kermadysmea* Powell, 1958; *Psammotaena* Dall, 1900; *Crassulobia* n.subgen.; *Psammobella* Gray, 1851; *Psammodonax* Cossmann, 1877. Subgenera are not recognised for any of the other three genera. One new species, *Gari (Gobraeus) eos*, from the Chesterfield-Bellona Plateau in the Coral Sea is described. *Asaphis nana* Powell, 1958, *Psammobia flexuosa* A. Adams & Reeve, 1850, *Psammobia brazieri* Tate, 1886 and the genus *Ascitellina* Marwick, 1928 are excluded from the Psammobiidae as presently defined and transferred to the Tellinidae because all possess lateral teeth in at least one valve. *Asaphis nana* is possibly a species of *Agnomyax* Stewart, 1930. *Psammobia flexuosa* is a junior synonym of *Cymatoica undulata* (Hanley, 1844). *Psammobia brazieri* is probably a species of *Tellina* Linné. *Ascitellina* may be synonymous with *Elliptotellina* Cossmann, 1887. *Psammobia vitrea* Quoy & Gaimard, 1835 is transferred to the Galeommatidae, probably to the genus *Scintilla* Deshayes, 1856. The region possess the highest species diversity known anywhere for the family. Biogeographically, two faunas are discernible – a considerably larger one towards the north essentially of widespread tropical Indo-west Pacific taxa (24 species), and a much smaller temperate one consisting of taxa endemic to southern Australia (5 species), and to New Zealand (5 species). Only three northern Australian species have limited distribution ranges: *Gari eos* n.sp.; *G. rasilis* (Melville & Standen, 1899); *G. gracilentia* (E.A. Smith, 1884). The wealth of taxa enabled some preliminary phylogenetic consideration of the family. No autapomorphy emerged amongst the approximately 40 shell characters described for each species. Lack of a posterior flexure is considered symplesiomorphic. Lack of lateral teeth and fusion of the lower limb of the pallial sinus with the pallial line are synapomorphies that have apparently evolved independently several times (ie, homeoplaseous characters) in the Tellinoidea. The few anatomical studies available are