NOTES ON THE SYNONYMY OF FOUR AUSTRALIAN TELLINIDS (MOLLUSCA: BIVALVIA)

W. F. PONDER

Australian Museum, Sydney

Plates 9-10

SUMMARY

The common, temperate Australian estuarine tellinid bivalve *Tellina (Macomona) deltoidalis* Lamarck is currently recognised under 4 different names. These are all shown to be one species. Two species names included in the synonymy of *Tellina (Macomona) mariae* T. Woods are shown not to be conspecific. One of these, *Tellina modestina* Tate, is shown to be a senior subjective synonym of *Abranda rex* Iredale, the type species of *Abranda* Iredale. The synonymy of *T. (Macomona) imbellis* Hanley is also discussed and 3 species names currently in use are reduced to synonyms of th's species.

INTRODUCTION

The Tellinidae is one of the most neglected families of the Bivalvia. In most instances even the basic taxonomy has not been satisfactorily worked out with the result that several names are still in use for particular species and no two writers can agree on what genera to use. These notes are an attempt to sort out the nomenclature of four Australian species of tellinids.

TAXONOMY

Tellina Linnaeus, 1758

Subgenus *Macomona* Finlay, 1927

Type species: *Tellina liliana* Irelale, 1915. Original designation.

Most early workers have included the species of *Tellina (Macomona)* in *Macoma* Leach, 1819, but the hinge characters of *Tellina* and *Macoma* differ markedly, the latter lacking any trace of lateral teeth.

Macpherson & Gabriel (1962) placed *T. (M.) deltoidalis* in *Homalina* Stoliczka, 1870 (type species *Tellina triangularis* (Chemnitz) Röding, 1798 (= *Tellina trilatera* Gmelin, 1791) by original designation). Boss (1969) has discussed and described this genus and its South African type species in detail. It differs from the type species of *Macomona* in the much stronger cardinal teeth, fine radial sulci on the posterior slope of the right valve and in the right and left anterior lateral teeth being placed further anteriorly so that they are not immediately adjacent to their respective anterior cardinal teeth. In most other features the two subgenera seem to be very similar.

The question of the genus-level classification of the Tellinidae is a difficult and controversial one and beyond the scope of this note. There does, however, on the basis of gross shell morphology, appear to be justification in using *Macomona* for the Australasian species grouped around *liliana* and *deltoidalis*.

The species of *Macomona* have considerable (apparently superficial) similarity to some species of *Macoma* in shape as well as (in the case of the type species and of *deltoidalis*) in their sometimes rather chalky appearance, although differing in hinge features as noted above.

Tellina (Macomona) deltoidalis Lamarck, 1818

Pl. 9, fig. 1-11

Tellina deltoidalis Lamarck, 1818: 532; Delessert, 1841: no. 49, pl. 6, fig. 7a, b.
Tellina triangularis. Bertin, 1878: 285 (in part, not of Chemnitz, 1782).
Tellina diemenensis Deshayes, 1854: 361; Sowerby, 1869: pl. 56, fig. 333.
Tellina tristis Deshayes, 1854: 361; Sowerby, 1846: pl. 64, fig. 229.
Tellina semifossilis Sowerby, 1867: pl. 41, fig. 237.

(Pritchard and Gatliff (1903: 115) give a detailed list of early references for *deltoidalis*.)

This species is recognised under two names in Victoria by Macpherson & Gabriel (1962) (*deltoidalis* Lamarck and *diemenensis* Deshayes) and by an additional two in New South Wales (Iredale & McMichael, 1962) (*semifossilis* Sowerby and *tristis* Deshayes). During a visit to the British Museum and various European museums the opportunity was taken to examine the type specimens on which all of these species names are based. A careful examination of these types and of a very large series of specimens from throughout the entire range of the species, has shown that only one somewhat variable species can be recognised. It can be readily distinguished from other temperate Australian tellinids by its smooth but rather dull or even chalky exterior, broadly ovate form, laterally compressed valves and whitish or whitish-yellow colouration. In addition, the anterior end is slightly longer than the posterior end, an unusual feature in the Tellinidae. The dorso-anterior margin is generally almost flat and slopes ventrally rather acutely.

Type Material:

Tellina deltoidalis Lamarck. Probably syntypes. New Hollande, M. M. Peron et Lesueur, 1801. 4 specimens (7 valves). Figured specimen length 27.3 mm, width 22.45 mm. Muséum National d'Histoire Naturelle, Paris.

Tellina diemenensis Deshayes. Holotype. Van Diemen's Land. (Length 31.8 mm, width 27.1 mm, 1 complete specimen. British Museum (Nat. Hist.) (reg. no. 197545).

Tellina tristis Deshayes. Syntypes. Van Diemen's Land. Dr. Sinclair. 3 specimens. Length 30.1, 26.1, 20.45 mm, width 24.8, 20.1, 16.6 mm. British Museum (Nat. Hist.) (reg. no. 181/42.11.2).

Tellina semifossilis Deshayes. Syntypes. Port Jackson, G. F. Angas. 2 complete specimens. Length 18.9, 17.0 mm, width 13.45, 12.1 mm. British Museum (Nat. Hist.) (reg. no. 70.10.26.19).

This species is extremely abundant in estuarine conditions where it lives in mud and muddy sand in the middle to lower littoral zone. The range of the species is from Hervey Bay, southern Queensland southwards throughout New South Wales and Tasmania, Victoria and South Australia and northwards in Western Australia as far as the Swan River Estuary.

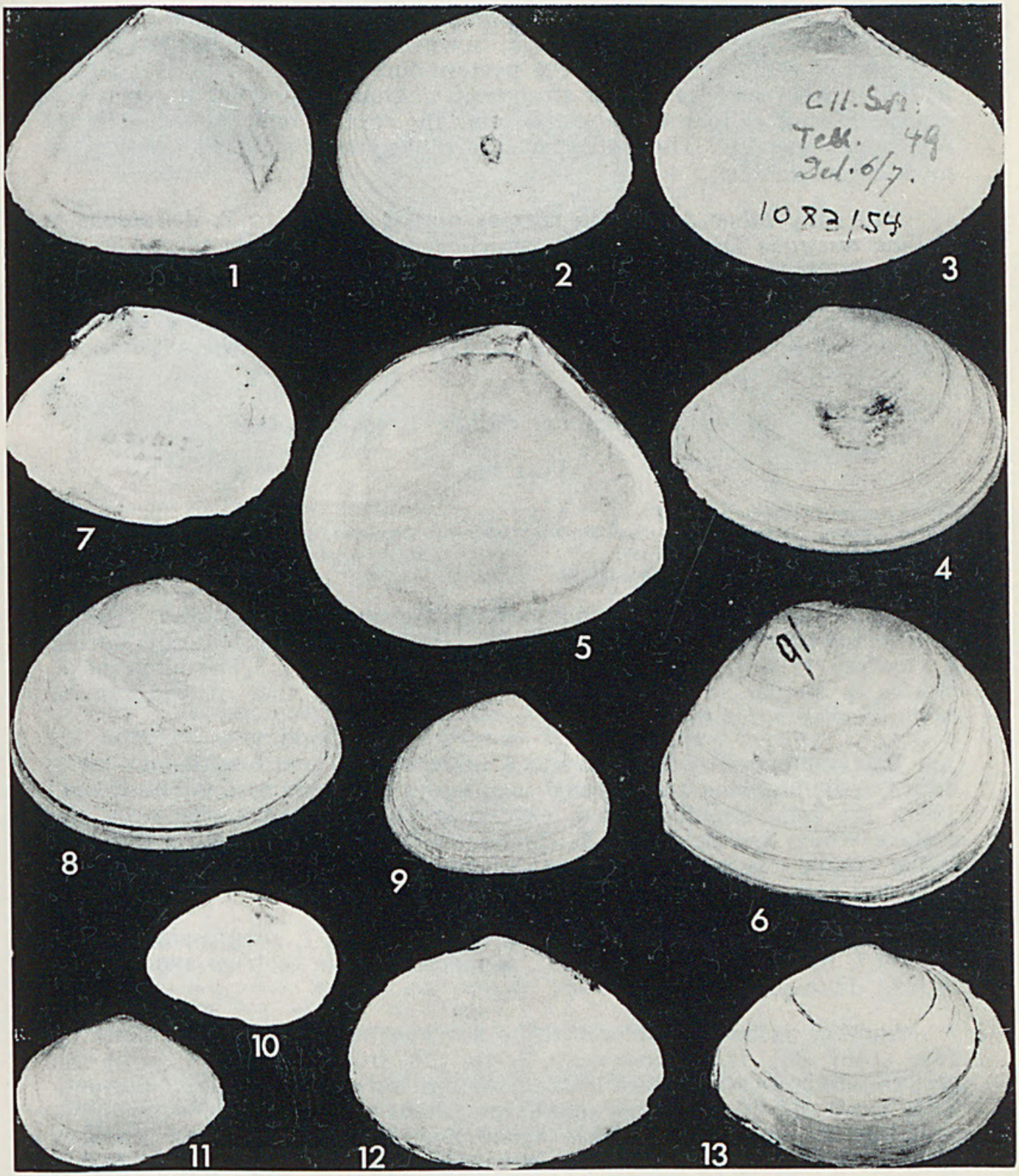


PLATE 9.

Tellina (Macomona) deltoidalis (Lamarck).

1- 2. Syntype.

3- 4. Specimen figured by Delessert, 1841, pl. 6, figs 7a, b. (Muséum d'Histoire Naturelle, Geneva (reg. no. 1083/54)).

5- 6. *Tellina diemenensis* Deshayes. Holotype.

7- 9. *Tellina tristis* Deshayes. Syntypes.

10-11. *Tellina semifossilis* Sowerby. Syntypes.

12-13. *Macoma rudis* Bertin. Holotype. Length 27.9 mm, width 20.5 mm.

The Australian species is very similar to the New Zealand *T. (Macomona) liliana* (Iredale, 1915) which, however, attains a much larger size and thicker shell. In addition the postero-dorsal slope is sightly concave in *liliana* whereas it is almost straight in *deltoidalis*, and the anterior end is usually shorter than the posterior end, the reverse being the case in the Australian species. The two species are extremely similar, however, in most other details.

The only other Australian species that is similar to *T. deltoidalis* is *Tellina australis* Deshayes, 1854, which can be tentatively placed in the subgenus *Macomona*. This species differs from *T. (M.) deltoidalis* in its smaller size, more translucent shell, and in having the posterior end slightly longer than the anterior end. It ranges from Hervey Bay, southern Queensland to at least the vicinity of Darwin in the Northern Territory.

Tellina (Macomona) mariae T. Woods, 1876

Text fig. 2

Tellina mariae T. Woods, 1876: 162.
Tellina modesta. Tate, 1889: 68 (non Sowerby, 1883, non Carpenter, 1865).
Tellina modestina auct., non Tate, 1891.
Tellina australiensis Thiele, 1930: 594, fig 78.

This species has been included in *Macomona* by Cotton (1961), in *Homalina* by Macpherson & Gabriel (1962) and in *Macoma* by Cotton & Godfrey (1938) and Macpherson & Chapple (1951). The hinge of *T. mariae* is similar to that of *T. (M.) deltoidalis* so that *mariae* can be tentatively retained in *Macomona*.

This southern Australian species differs from *T. (M.) deltoidalis* in its more equilateral and evenly oval shape and in its more inflated valves. There are thin, slightly raised, extremely delicate, sharp, rugae on the surface which are lacking in *T. (M.) deltoidalis* and the shell is thin and rather fragile. It ranges from south-west Australia, through South Australia and Tasmania to Port Albert, eastern Victoria.

This species was considered to be a synonym of *T. semifossilis* Sowerby, 1867, by Hedley (1918: M26), a species shown to be a synonym of *T. (M.) deltoidalis* above.

Another species considered to be a synonym of *mariae*, originally by Tate (1887: 89), is *Macoma rudis* Bertin (1878: 335, pl. 9, figs 2a, b) the type of which was examined in the Muséum National d'Histoire Naturelle, Paris (Pl. 1, fig. 12, 13). This species was described from Melbourne and is a slightly distorted, rather thick-shelled specimen of a species of *Macoma* which is definitely not of Australian origin. Dr. E. Coan has indicated (pers. com.) that it probably belongs with *M. inquinata* Deshayes, 1855, from W. North America or its Asian analogue *M. contabulata* Deshayes, 1855.

Cotton (1961) gives the dimensions and registered number of a "neotype" (a specimen of *T. (M.) mariae*) of *Tellina modestina* Tate, which he regards as a synonym of *T. (M.) mariae*, but as Tate's name was intended as a replacement name for *T. modesta* Sowerby, 1883, it must have the same type as *modesta*, a species discussed below.

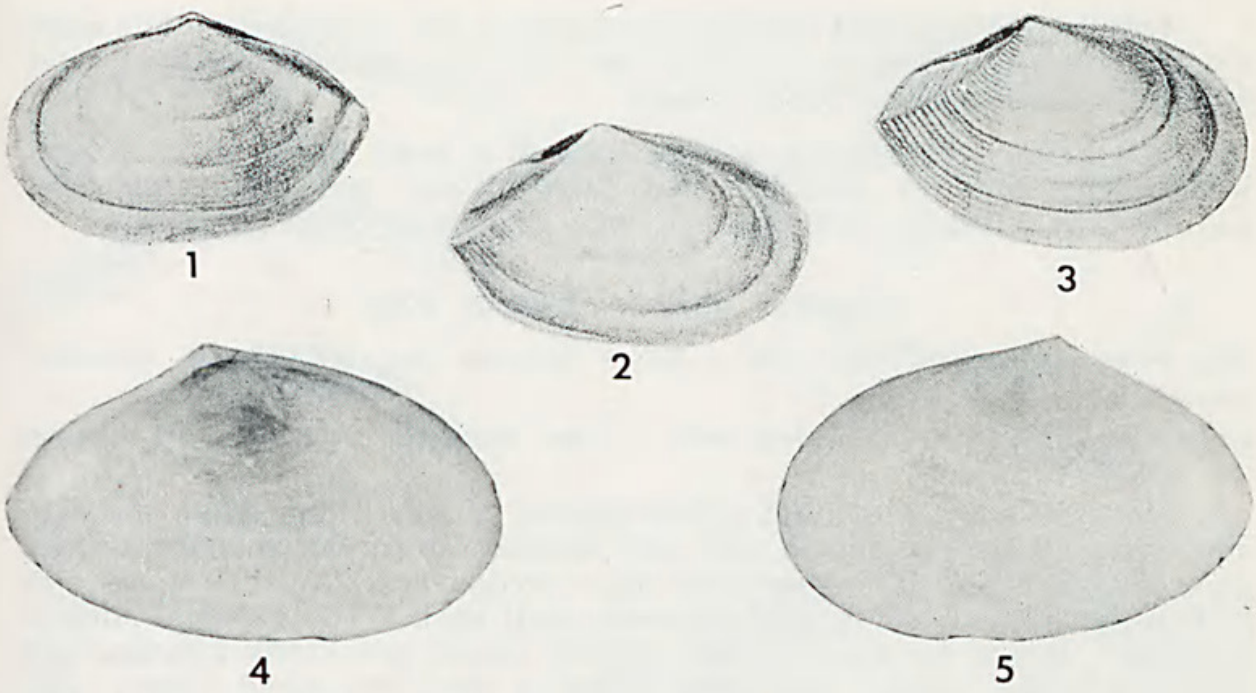


PLATE 10.

Tellina (Macomona) imbellis Hanley.

1- 2. *Tellina beryllina* Iredale. Figures of the type of *T. inequivalvis* Sowerby (from Sowerby, 1867: pl. 26, fig. 139).

3. *Tellina imbellis Hanley*. Figure of the type (from Sowerby 1867, pl. 37, fig. 209).

4- 5. *Tellina semiplana* Sowerby. Left valve of holotype. British Museum (Nat. Hist.) cat. no. 70.10.26.18. Length 23.7 mm, width 15.5 mm.

The species described as *Tellina australiensis* Thiele (1930: 594, fig. 78) appears to be another synonym of *T. (M.) mariae*, the type of which is in the Museum für Naturkunde, E. Berlin, and although this has not been examined by the writer, topotypes agree exactly with Thiele's figure and description.

Tellina (Macomona) imbellis Hanley, 1844

Pl. 10, fig. 1-5

Tellina imbellis Hanley, 1844: 143; Hanley, 1846: 276, pl. 40, fig. 155; Sowerby, 1867: pl. 37, fig. 209.
Tellina semiplana Sowerby, 1867: pl. 39, fig. 222.
Tellina denticulata. Tryon, 1868: 104 (non Deshayes, 1854, in part).
Tellina aldingensis Tate, 1887: 66, pl. 5, fig. 2.
Tellina beryllina Iredale, 1924: 211 (nom. nov. pro *Tellina inequivalvis* Sowerby, 1867: pl. 26, fig 139, non Linnaeus, 1758).

This species is listed under two separate names, *Pharaonella beryllina* (Iredale, 1924) and *Macomona semiplana* (Sowerby, 1867), by Iredale & McMichael (1962) and what appears to be the same species has been recorded from South Australia as *Tellinota aldingensis* (Tate, 1887) (Cotton, 1961: 269, fig. 293).

Examination of the original descriptions and figures has suggested the above synonymy although only the types of *Tellina semiplana* have been examined (see pl. 10, fig. 1-5).

Tellina aldingensis Tate, although described from South Australia, appears to be identical to eastern Australian specimens and can be regarded as the same species, although the zoogeographical implications of this discontinuous distribution are puzzling.

This species is readily distinguished from *T. (M.) deltoidalis* by its more elongate shape and in the presence of a distinct, oblique, internal ridge on the posterior part of both valves.

The known distribution of this species is from Bohle River mouth, north Queensland to southern New South Wales and South Australia. Cotton (1961) states that this is a rare species in South Australia.

Subgenus *Abranda* Iredale, 1924

Type species: *Abranda rex* Iredale, 1924 = *Tellina modestina* Tate, 1891. Original designation.

Synonym: *Punipagia* Iredale, 1930.

Type species *Tellina subelliptica* Sowerby, 1867 = *Tellina hypelliptica* Salisbury, 1934. Original designation.

The type species of both of the generic names listed above show an extremely close relationship with one another as far as shell characters are concerned, but differ markedly from *Arcopagia* s.s. in their small size and in the thinner, often more inflated adult shell. The external surface is smooth except for very narrow, slightly raised concentric lamellae and very fine radial striae. The hinge features, however, agree closely with *Arcopagia*, indicating a probable relationship (see Boss, 1969). The cardinal ligament is conspicuous in *Abranda* and in some species of *Arcopagia*.

Tellina (Pinguitellina) robusta Hanley, 1844, the type species of the subgenus *Pinguitellina* Iredale (1927: 76) is similar to *Abranda* species in having a rather small shell with similar raised concentric lamellae, but lacks the fine radial sculpture and a cardinal ligament. The cardinal ligament is such a conspicuous feature of *Abranda* that these two groups are tentatively considered to be separable. Boss (1969: 102) has included *Pinguitellina* in the synonymy of *Tellina (Arcopagia)* Brown, 1827 (type species *Tellina crassa* Pennant, 1776) but he admits that it " may constitute a natural group ". Keen (1969) allows *Pinguitellina* as a distinct subgenus of *Tellina*.

The type species of *Abranda, Punipagia* and *Pinguitellina* are illustrated (Text fig. 3, 1, 4) to show their close similarity. Although it is difficult to define any clear cut differences between *Pinguitellina, Arcopagia* and *Abranda*, apart from size and sculpture, the three groups can be usefully employed until such time as a thorough generic revision clarifies the situation.

Abranda is placed in the Semelidae by Iredale & McMichael (1962) and they include *Punipagia* in the Tellinidae. All three names, however, are reduced to subgenera of *Tellina* by Keen (1969).

Tellina (Abranda) modestina Tate, 1891

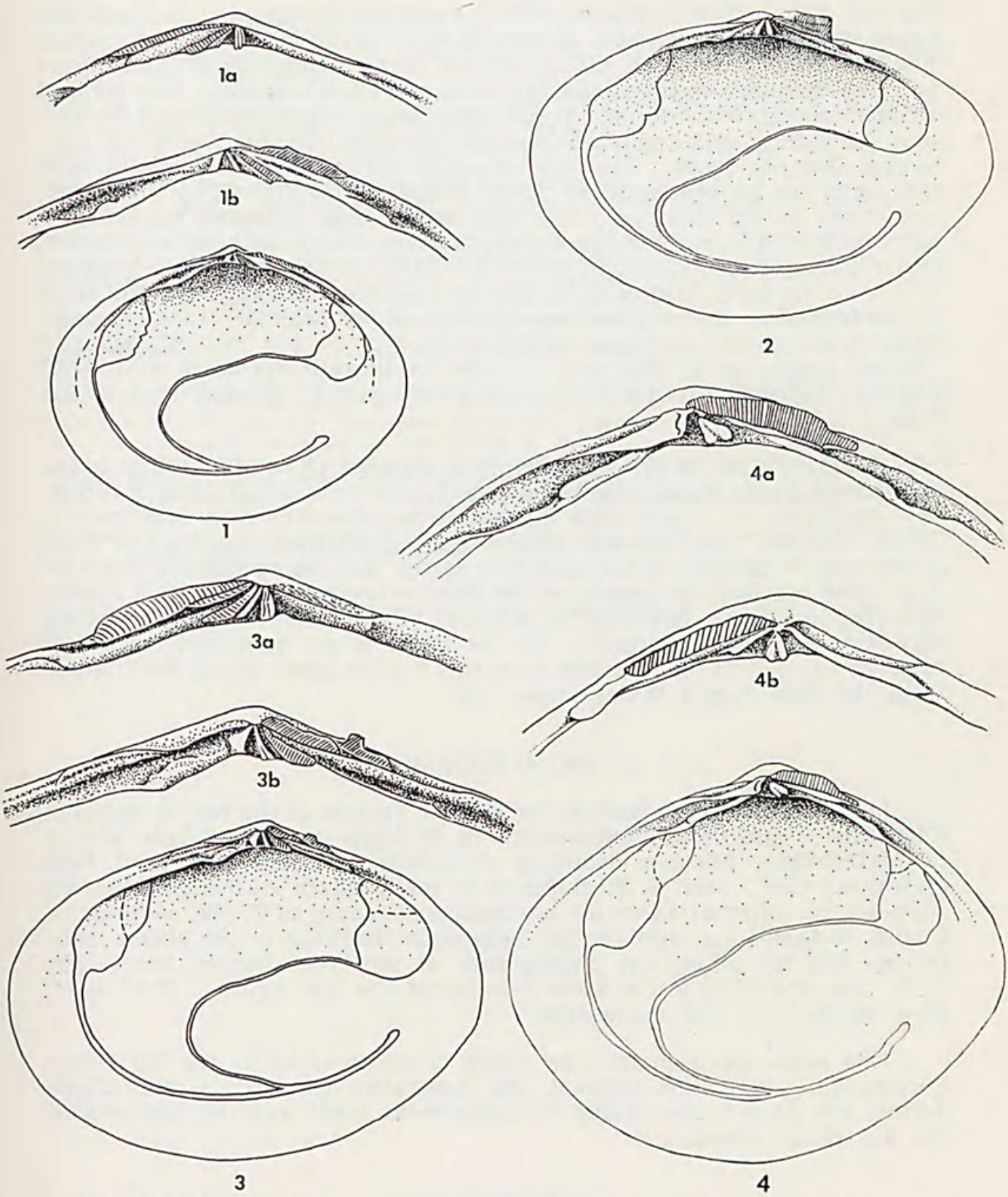
Text fig. 3 a, b

Tellina modestina Tate, 1891: 266 (nom. nov. pro *Tellina modesta* Sowerby, 1883: 31, pl. 7, fig. 1, non Carpenter, 1865).

Abranla rex Iredale, 1924: 212 (nom. nov. pro *Tellina elliptica* Sowerby, 1867 non Brocchi, 1814, non Lamarck, 1818).

Syndesmya elliptica. Smith, 1884: 99., pl. 7 fig. c, c'.

This species has been considerably confused in the literature. Tate renamed *T. modesta* Sowerby, a name he had previously used for the



TEXT FIGURES 1-4.

1a-b. *Tellina (Abranda) hypelliptica* Salisbury. North Harbour, Port Jackson, Sydney, N.S.W. (C. 15912*). Length 9.83 mm, height 7.54 mm. Right valve and hinge of left (a) and right (b) valves.

2. *Tellina (Macomona) mariae* T. Woods. Upper Spencer Gulf, South Australia (C. 99218). Length 12.85 mm, height 8.46 mm. Right valve of juvenile.

3a-b. *Tellina (Abranda) modestina* Tate. Port Jackson, Sydney, New South Wales (C. 28145). Length 13.35 mm, height 9.51 mm. Right valve and hinge of left (a) and right (b) valves.

4a-b. *Tellina (Pinguitellina) robusta* Hanley. Heron Island, Queensland (C. 99217). Length 12.16 mm, height 9.95 mm. Right valve and hinge of right (a) and left (b) valves.

* Australian Museum registered number.

juvenile form of *T. (M.) mariae* which he mistakenly regarded as a separate species from the adult form. Cotton & Godfrey (1938) state that *modestina* is a South Australian species related to the Tasmanian species *mariae* and the Peronian *semifossilis*, but Cotton (1961) finally synonymised *modestina* auct. with *mariae*. It has been completely overlooked, however, that *T. modesta* was described from Port Jackson (Sydney) where *T. (M.) mariae* does not occur. The type was collected by J. Brazier and although this could not be located in the British Museum (Nat. Hist.) by the writer, specimens in the Australian Museum (some also collected by Brazier) agree well with Sowerby's figure, dimensions and with the brief description. Other material identical with these specimens in the Australian Museum was identified by C. Hedley as *T. elliptica* Sowerby. Hedley's identification is confirmed by the original description and by Smith's (1884) supplementary description and good figures of the type so that both *modesta* and *elliptica* appear to be the same species. A juvenile specimen of *T. (M.) mariae* is figured (Text fig. 2) for comparison with *T. (Abranda) modestina* Tate.

Hedley (1918: M.27) includes *Abra simplex* (Sowerby, 1867) in the list of New South Wales species presumably on the basis of Smith's (1884: 99) discussion on *Syndesmya elliptica* where he mentions this species. *Tellina simplex*, however, was described from unknown locality and there is nothing in Smith's discussion that states that he recognises it as an Australian species. He merely states that the two species require a similar (generic) location. Iredale & McMichael (1962) follow Hedley in listing this species (under *Abranda*) but as there is no published record or material to confirm this identification, this species name should be dropped from the New South Wales faunal list.

ACKNOWLEDGEMENTS

I am grateful to the staff of the Mollusc Section of the British Museum (Nat. Hist.), and of the Laboratoire de Biologie des Invertébrés Marins et Malacologie, Muséum National d'Histoire Naturelle, for their help during my visit. Mrs. S. Slack-Smith of the Western Australian Museum supplied the information on the northernmost record of *T. (M.) deltoidalis*. I wish to thank my wife for her help while working in the above institutions and for taking the photographs of the types figured here. Mr. E. K. Yoo and Miss B. Duckworth prepared the text figures. Prof. K. J. Boss kindly read the manuscript.

This work was supported by travel funds provided by the Ian Potter Foundation, the British Council, the Australian Research Grants Committee, the Science and Industry Endowment Fund and the Trustees of the Australian Museum.

REFERENCES

BERTIN, V., 1878. Révision des Tellinides. *Nouv. Archs Mus. Hist. nat., Paris*, (2.), 1: 201-361.

BOSS, K. J., 1969. The subfamily Tellininae in South African waters (Bivalvia, Mollusca). *Bull. Mus. comp. Zool. Harv.*, 138 (4): 81-162.

COTTON, B. C. 1961. *South Australian Mollusca. Pelecypoda.* Govt. Printer, Adelaide. 363 pp.

COTTON, B. C. & F. K. GODFREY, 1938. *The molluscs of South Australia. Part 1. The Pelecypoda.* Govt. Printer, Adelaide. 314 pp.

DELESSERT, B., 1841. *Recueil de coquilles décrites par Lamarck dans son Histoire naturelle des animaux sans vertèbres, et non encore figurées.* Paris.

DESHAYES, M. P. G., 1854. Descriptions of new shells from the collections of Hugh Cuming Esq. *Proc. zool. Soc. Lond.*, 1854: 317-371.

HANLEY, S., 1844. On new species of the genus *Tellina*, chiefly collected by Hugh Cuming, Esq. in the Philippine Islands and Central America. *Proc. zool. Soc. Lond.*, 1844: 59-64, 68-72, 140-144, 146-149, 164-166.

———, 1846. A monograph of the genus *Tellina*. *Thesaurus Conchyliorum*, 1: 221-336.

HEDLEY, C., 1918. A checklist of the marine fauna of New South Wales. Part 1. Mollusca. *J. Proc. R. Soc. N.S.W.*, 51 (supplement): M1-M120.

IREDALE, T., 1924. Results from Roy Bell's molluscan collections. *Proc. Linn. Soc. N.S.W.*, 49: 179-278.

———, 1927. New molluscs from Vanikoro. *Rec. Aust. Mus.*, 16: 73-78.

IREDALE, T. & D. F. McMICHAEL, 1962. A reference list of the marine Mollusca of New South Wales. *Mem. Aust. Mus.*, 11: 1-109.

KEEN, M., 1969. Tellinacea (In) *Treatise on Invertebrate Paleontology*. Part N (2): 491-952.

LAMARCK, J. B., 1818. *Histoire naturelle des animaux sans vertèbres*. Paris, 5: 519-555.

MACPHERSON, J. H. & E. H. CHAPPLE, 1951. A systematic list of the marine and estuarine Mollusca of Victoria. *Mem. natn. Mus. Vict.*, 18: 107-185.

MACPHERSON, J. H. & C. J. GABRIEL, 1962. *Marine molluscs of Victoria*. Melbourne Univ. Press. 475 pp.

PRITCHARD, G. B. & J. H. GATLIFF, 1903. Catalogue of the marine shells of Victoria. Part 7. *Proc. R. Soc. Vict.*, 16 (1): 96-139.

SMITH, E. A., 1884. Mollusca. (In) *Report on the zoological collections made in the Indo-Pacific Ocean during the voyage of the 'Alert', 1881-82*: 34-508. British Museum (Nat. Hist.).

SOWERBY, G. B., 1866-1869. Monograph of the genus *Tellina*. *Conchologia Iconica*, 17: 58 pls.

———, 1883. Descriptions of five new species of shells. *Proc. zool. Soc. Lond.*, 1883: 30-32.

TATE, R., 1887. A revision of the Recent lamellibranch and palliobranch Mollusca from South Australia. *Trans. Proc. R. Soc. S. Aust.*, 9: 76-111.

———, 1889. A supplement to a list of the lamellibranch and palliobranch Mollusca from South Australia. *Trans. Proc. R. Soc. S. Aust.*, 11: 67-69.

———, 1891. A second supplement to a list of the lamellibranch and palliobranch Mollusca of South Australia. *Trans. Proc. R. Soc. S. Aust.*, 14: 265-269.

THIELE, J., 1930. Gastropoda und Bivalvia. *Die Fauna Südwest-Australiens*, 5 (8): 561-596.

TRYON, G. W., 1868. Catalogue of the family Tellinidae. *Amer. J. Conch.*, 4 (5): 72-126.

WOODS, J. E. TENISON, 1876. Description of new Tasmanian shells. *Pap. Proc. R. Soc., Tasm.*, 1875: 134-162.