

# *Lioconcha lamprelli* spec. nov. (Bivalvia: Veneridae) from Australia

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Zool. Med. Leiden (50), 31.xii.2008: 627-630, fig 1. — ISSN 0024-0672.

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Key words: Bivalvia; Veneridae; new species; *Lioconcha*; Australia; Queensland; Great Barrier Reef.

A new venerid species of the genus *Lioconcha* is described from the coastal waters of eastern Queensland, Australia.

## Introduction

Due to the high level of intra-specific variability and the relatively few useful morphological characters within the tropical venerid genus *Lioconcha* Mörch, 1853, the delimitation of the species is problematic (Lamprell & Healy, 2002). Diagnostic characters often used within venerid systematics, such as the external colour patterning and the nature of the pallial sinus, are difficult to apply within the genus *Lioconcha*, due to the extreme degree of variation (e.g. among colour patterns) or their poorly developed nature (e.g. development of the pallial sinus). Lamprell & Healy (2002) revised the genus *Lioconcha*, and documented 19 species.

Within the genus *Lioconcha* there are at least two groups of species that have many shell characters in common. For this reason we have subdivided *Lioconcha* into informal species groups: a *Lioconcha ornata* (Dillwyn, 1817) and a *Lioconcha castrensis* (Linnaeus, 1758) species group. We are currently preparing a revision of the *L. castrensis* species group.

This publication describes a new species belonging to the *L. ornata* species group. The neotype of *L. ornata* originates from the island of Mauritius, Indian Ocean (Lamprell & Kilburn, 1999). As indicated by Lamprell & Healy (2002), the commonly accepted *L. ornata* may represent more than one species, subspecies or set of geographic variants, or could simply be an extremely variable species. However, one group of shells from the outer section of Australia's Great Barrier Reef is so distinctive in that region, that we consider it to constitute a new species, which we describe below (fig. 1).

## Abbreviations

ZMA - Zoological Museum Amsterdam.

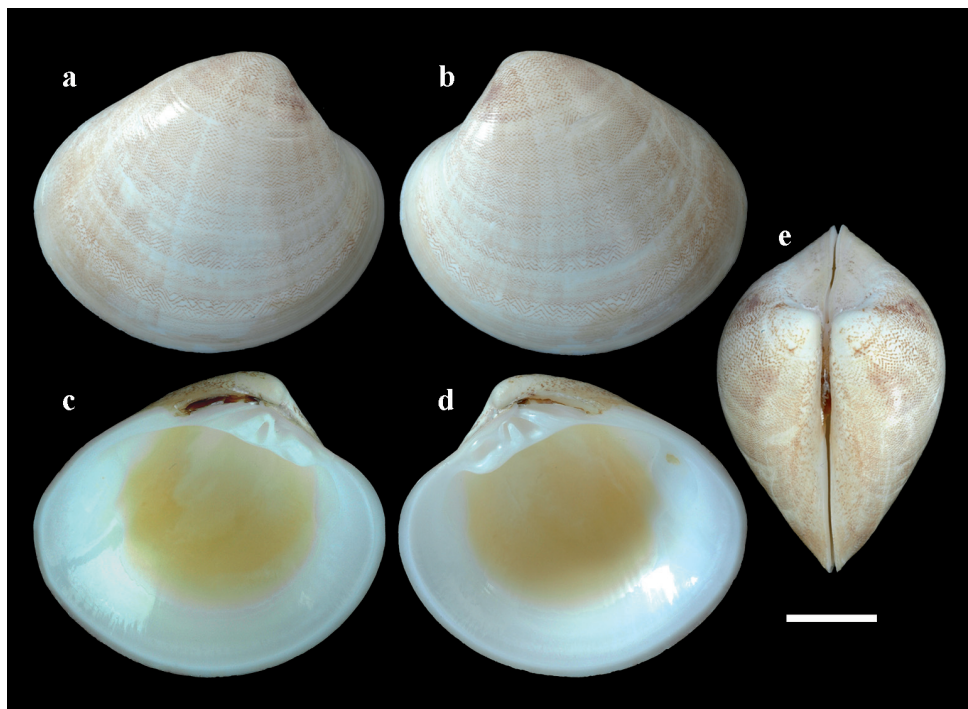


Fig 1, a-e. *Lioconcha lamprelli* spec. nov., holotype (ZMA Moll. 4.07.019); a-e, length 39.6 mm, height 35.2 mm, width 25.3 mm. Scale bar 10 mm.

### Systematic part

#### Class Bivalvia

#### Family Veneridae Rafinesque, 1815

#### Subfamily Pitariinae Stewart, 1930

#### Genus *Lioconcha* Mörch, 1853.

Type species. — *Venus castrensis* Linnaeus, 1758 (subsequent designation by Stoliczka, 1870).

#### *Lioconcha lamprelli* spec. nov.

*Lioconcha* (*Lioconcha*) *ornata*; Lamprell & Whitehead, 1992: fig. 554.

*Lioconcha ornata*; Lamprell & Healy, 2002: fig. 7, g-i.

Type material. — holotype (ZMA Moll. 4.07.019), Australia, Queensland, Slasher's Reef, 18°31.1'S 147°07.7'E, 10 m, leg. K. Lamprell, ex coll. P.L. van Pel (no. 3667). — paratypes (ZMA Moll. 4.07.020), 4 specimens from type locality, ranging in length from 33.3 to 42.5 mm.

Non-type material. — (ZMA Moll. 0.07.182) Australia, Queensland, Great Barrier Reef; Trunk Reef, 6 m, November 1995, leg. P. Spoor/2; (ZMA Moll. 1.59.589) Little Trunk Reef, December 1995, leg. K. Lamprell/1; (ZMA Moll. 1.59.587) Off Innisfail, 9 m 1974, leg. G. Pini/1; (ZMA Moll. 0.14.731) Kelso Reef,

September 1984, leg. K. Lamprell/2, all ex coll. P.L. van Pel; Swains Reefs, 5-10 m, November 2006, leg. D.T. Thorn, coll. H. Dekker/6; Little Trunk Reef, 10 m, coll. H. Dekker/2; Illusive Reef, 4-10 m, 2002, coll. H. Dekker/2.

**Diagnosis.**— Equivalve, medium-sized, comparatively inflated and round *Lioconcha* species; overall shell colour predominantly beige, lacking conspicuous reddish, orange and darker brown colours; colour pattern consisting exclusively of delicate lines and spots; internal surface within the pallial line yellow.

**Description.**— Shell equivalve, ovate-trigonal, thick, solid, inflated and rather glossy. Umbones low and slightly prosogyrate. Escutcheon indistinct, ligament sunken. Lunule heart-shaped, slightly sunken, and delineated by a thin ridge. Sculpture smooth and with growth striae, which are more prominent as raised ridges at the posterior extremity and less pronounced at the anterior extremity. Colour white to beige-yellow with numerous fine brown concentric and zigzag lines, which may be lines of single minuscule brown spots. From umbo to ventral margin some indistinct radial brownish or white colour rays occur. Umbones and lunule white, the latter with hardly visible minute brown spots. Periostracum a thin light-brown layer, which may be at least partly covered by a thicker, white layer. Shell internally yellow, with the peripheral areas and hinge white. Hinge heterodont. Left valve with strong anterior lateral denticle, which fits into the large lateral socket in the right valve. Three cardinal teeth in both valves. Pallial line entire, with a small sinus.

**Dimensions.**— Holotype: length 39.6 mm, height 35.2 mm, width 25.3 mm.

**Distribution.**— Australia, Queensland, coastal waters off the east coast. All material was collected at depths between 6-10 meters.

**Remarks.**— Although taxonomic problems concerning the *L. ornata* species group are still far from being solved, the known specimens of *L. lamprelli* exhibit little variation in colour pattern and no overlap with specimens of *L. ornata* from Mauritius. A specimen from New Ireland, Papua New Guinea, in the collections of the ZMA may belong to this new species. It agrees in most characters with samples from Queensland. However, its lunule has a large, dark brown blotch just below the umbos and an area of minor brown spots on the posterior side of the valves.

**Etymology.**— This species is named after the late Mr Kevin Lamprell, in honour of his work on Indo-Pacific bivalves and, in particular, on the genus *Lioconcha*.

### Acknowledgements

Kevin Lamprell visited the ZMA in 1989, donated interesting samples to the museum and to his friend and colleague Mr Peter L. van Pel, who later kindly donated his collection to the ZMA. Bram van der Bijl and Marien Faber critically read the manuscript. Frank Wesselingh assisted with photographing the holotype.

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Received: 14.iv.2008

Accepted: 27.x.2008

Edited: A.J. de Winter