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A comparison of two ostreid species from widely separated localities in the Indo-West Pacific (Bivalvia, Ostreidae, Lophinae)

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Comparison of material of both the Recent species *Lopha poppei*, described from Australia, Queensland, and the Pliocene fossil species *Ostrea tridacnaeformis*, described from Tanzania, Zanzibar, revealed a close similarity. It is here proposed that these names are synonyms, and Recent material from Oman is reported additionally. The generic placement is discussed shortly, no definite generic placement can be given.

Key words: Bivalvia, Ostreidae, Pliocene, Recent, Australia, Egypt, Oman, synonymy.

INTRODUCTION

The Ostreidae and Gryphaeidae are commonly called oysters. They are not popular among collectors, as oysters are often encrusted and easily damaged. Their identification has always been very difficult, since oysters are sessile animals which adapt partly to the shape of the substrate on which they grow (xenomorphic sculpture), making the form of the shell a quite unreliable character for determination. In the species discussed here, the shell form and sculpture are very characteristic, which makes confusion with any other known species unlikely.

Bozzetti (1996) described *Lopha poppei* as a new species from Australia, Queensland, off Broadhurst. Apparently a number of specimens came on the international shell market around 1995. At the moment this species is not offered by shell dealers (no specimens on the internet, May 2004). Being interested in Red Sea shells I already knew the publication by Cox (1929) on the Pliocene to Recent Ostreidae and Pectinidae from the Red Sea. He figured a specimen of *Ostrea tridacnaeformis* Cox, 1927 from the Pliocene of Egypt, which species he originally described from specimens found in the Pliocene of Zanzibar. The figure of *O. tridacnaeformis* is very close to specimens of *L. poppei* Bozzetti, 1996. In February 2004, Mr Fred de Ceuninck van Capelle and I made a trip to the United Arab Emirates and Oman and also visited my good friends Dr Donald and Eloise Bosch near Muscat. Donald Bosch just received some fresh shell grit, which was dredged by the Omani fisherman Khamees near the Damaniyat Islands (off shore from Muscat). This sample contained to my surprise a valve of *O. tridacnaeformis*. After this trip Mary Lyn Villaume, living in Egypt, Cairo, visited me for discussions on the identity of shells found by her in the Red Sea. She brought me a fossil specimen of *O. tridacnaeformis* from Egypt. Now combining all information from literature and the specimens available, I must conclude that *Lopha poppei* is a junior synonym of *Ostrea tridacnaeformis*.

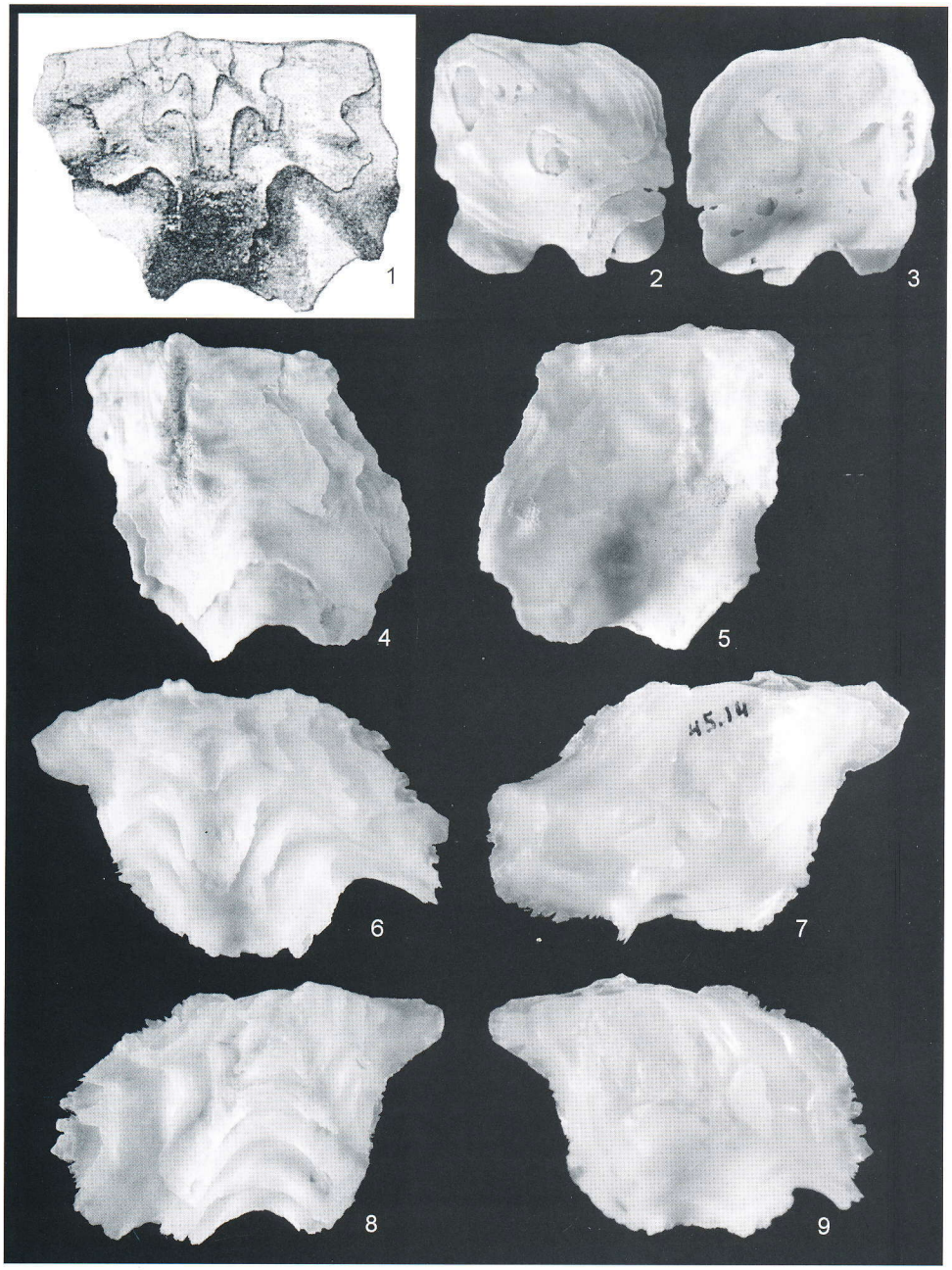
SYSTEMATIC PART

Family Ostreidae
Subfamily Lophinae Vyalov, 1936
Genus *Lopha* Röding, 1798

Lopha tridacnaeformis (L.R. Cox, 1927) (figs 1-9)

Alectryonia, allied to *crista-galli*, Linnaeus; Newton, 1900: 549, pl. 22 figs 5-6.
Ostrea tridacnaeformis Cox, 1927: 71, pl. 15 figs 1a-d; Cox, 1929: 181, pl. 11 fig. 5; Cox, 1930: 128, pl. 14 fig. 25.
Lopha sp.; Anonymous, 1984: 10, fig.
Lopha poppei Bozzetti, 1996: 65-66.

Description.— A thin shelled oyster. Both valves are similar, with characteristic foliaceous concentric sculpture. Four radial folds can be distinguished giving the margin an undulated appearance. The hinge line is rather straight. Attachment area small. Chomata (small knobs near hinge or margin) are totally absent. Color of live collected specimens white, with a few purplish scattered spots in the radial rib intervals.
Generic placement.— Both valves have a similar look, and posses a few radial folds. Bozzetti regarded this species as belonging to *Lopha* Röding, 1798, but the type species *Lopha cristagalli* (Linnaeus, 1758) possesses an outer surface covered with small pustules, and has the inner margin bordered with many chomata. It is therefor unlikely that the present species belongs to this genus. More plausible seem the genera *Dendostrea* Swainson, 1835 or *Nicaisolopha* Vyalov, 1936 (see Stenzel, 1971), but only future research by molecular methods may show the real affinities of this and other species of oysters. The shell features indicate that *Lopha tridacnaeformis* belongs to the subfamily Lophinae, and the genus *Lopha* is used here for the time being.
Distribution.— Known of the Pliocene-Pleistocene from Zanzibar (Cox, 1927); Egypt (Newton, 1900; Cox, 1929); Kenya (Cox, 1930); Iran-Pakistan, Mecran coast (Cox, 1929). It is known now from Recent specimens from Oman (this article); Australia, Queensland (Bozzetti, 1996) and New Caledonia (Anonymous, 1984).
Habitat.— The area of attachment is very small, it could well be that this species lives free when adult, or it might be attached to gorgonians. The known depth range is 13.5 m (Anonymous), 50 m (Bozzetti) and 15-30 m (specimen from Oman).
Discussion.— It is not the first time that a species known as fossil from the Red Sea area is found living elsewhere in the Indo-West Pacific. An example is *Rhinoclavis vertagus* (Linnaeus, 1758) which is found as fossil in the uplifted coral reefs along Egyptian shorelines (pers. obs.) and from Djibouti (Jousseaume, 1930), but presently not living in the Red Sea. This species still survives in the Eastern Indian Ocean (Sri Lanka) towards the Western Pacific; the records from the Western Indian Ocean should be confirmed (Houbrick, 1978).



Figs **1-9**. *Ostrea tridacnaeformis* (L.R. Cox, 1927). **1**, reproduced after Cox, 1929, pl. 11 fig. 5; **2-3**, Egypt, Gulf of Suez, Ras Sudr, Pleistocene, leg. M.L. Villaume, 1996. (HD 14072). Max. length 44 mm; **4-5**, Oman, Gulf of Oman, off Damaniyat Islands, leg. Khamees, February 2004, don. D. Bosch. (HD 13364). Max. height 24 mm; **6-9**, Australia, Queensland, off Townsville, 1995. (HD 14073). Max. width 50 mm, max. height 36 mm. Specimens in colln of author.

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