

**The identity of *Cardium (Trachycardium) kenyanum* Cox, 1930,  
from Pleistocene deposits in Mombasa, Kenya (Bivalvia, Cardiidae)**

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It is shown that *Acrosterigma fidele* Vidal, 1992, is to be considered synonymous with *Cardium (Trachycardium) kenyanum* Cox, 1930, known from Pleistocene deposits of Kenya.

Key words: Bivalvia, Cardiidae, *Vasticardium*, systematics, synonymy, Pleistocene-Recent, Indo West-Pacific, East Africa, Kenya.

## INTRODUCTION

In 1930 the English malacologist L.R. Cox described several new species based on material collected by Ms. M. McKinnon Wood from raised reefs and other post-Pliocene deposits of the island of Mombasa and neighbouring localities on the African mainland. Among these is *Cardium (Trachycardium) kenyanum* Cox, 1930, originating from Pleistocene deposits from a railway cutting of the Schimanzi Branch Line, Mombasa, Kenya (locality 6b).

The original diagnosis (Cox, 1930: 159), based on only one right valve, is very accurate, revealing important diagnostic features, and is here fully reproduced: "Shell large-medium, ovate, considerably higher than long, pronouncedly asymmetrical and inequilateral, moderately gibbose. Umbo anterior to median, about halfway to the ventral margin. Posterior dorsal margin straight, apparently making a well defined, obtuse angle (broken away in the holotype) with the feebly convex posterior margin. Ventral margin symmetrically curved, forming almost a semicircle. Anterior margin forming a very obtuse, scarcely defined angle with the anterior dorsal margin, which is not visible in the lateral aspect of the valve, owing to the gibbosity of the central region of the shell. Sculpture consisting of about 32 very prominent ribs, separated by deep, flat-bottomed interspaces of about their own width; the ribs have flat sides, which are striated obliquely, and converge towards the crest; along the crest each rib supports a coping-like capping, which projects over and partly hides the interspace on each side. A few ribs at the posterior end bear short spines, while those at the anterior end have a faint lateral corrugation."

The dimensions of the holotype are: height 65.7 mm, length 52.0 mm, width (single valve) 24.0 mm. It is deposited in the Hunterian Museum, University of Glasgow (reg. no. S4193). Dr Neil Clark, curator of Palaeontology, kindly made a cast of the holotype available for study (fig. 1a), which is deposited in the collection of the Zoölogisch Museum Amsterdam (reg. no. 138643).

Vidal (1992) described *Acrosterigma fidele* (fig. 1b) based on Recent Indo-Pacific material. He did not mention the existence of the closely related *Cardium kenyanum*. The purpose of this paper is to elucidate the relationship between these taxa.

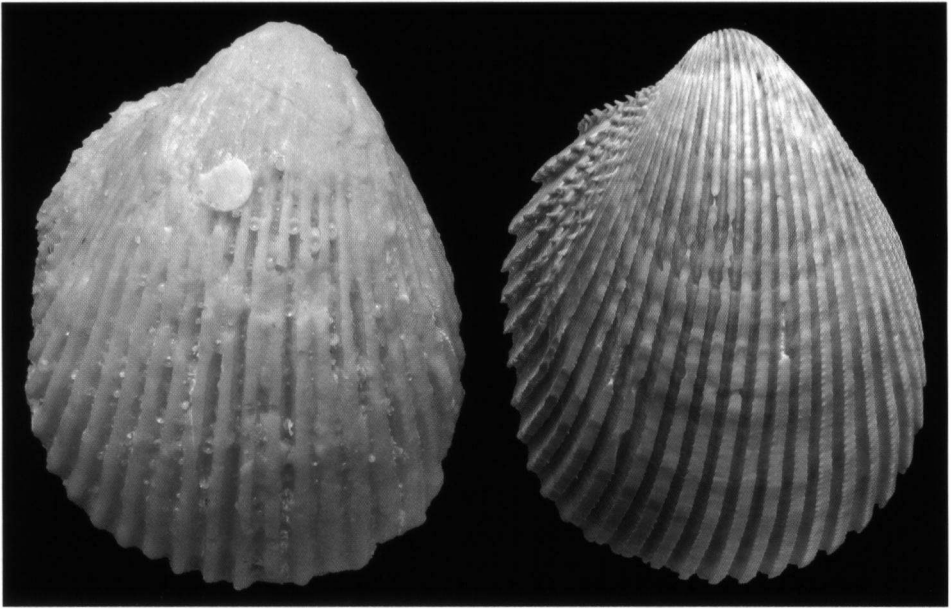


Fig. 1. *Vasticardium kenyanum* (Cox, 1930). 1a, cast of holotype; Kenya, Mombasa, railway cutting Schimanzi Branch Line, Pleistocene deposits (ZMA 138643); height 65.7 mm. 1b, India, SE part, Cuddalore, Recent (coll. author, nr. 972), height 62.7 mm. Photographs by J.J. ter Poorten.

## DISCUSSION

After having studied the original descriptions and the cast of the holotype of *Cardium* (*Trachycardium*) *kenyanum*, it became obvious that *Acrosterigma fidele* Vidal, 1992, and *C. (T.) kenyanum* Cox, 1930, are synonyms. The extremely high ribs with their characteristic cross-section, rail-like in profile, in combination with the typical, steeply downward directed antero-dorsal margin, does not occur in any of the related taxa. Besides, size and number of the ribs (29-33 in Recent specimens) are in agreement.

As the epithet *fidele* has not been used extensively (ICZN, Article 23.9.1.2), the principle of priority should apply. In his revision of the subfamily Trachycardiinae, Vidal (1999) placed this taxon in *Vasticardium* Iredale, 1927. This assignment is followed here, so that the species has to be called *Vasticardium kenyanum* (Cox, 1930).

Distribution. — According to Vidal (1992), the type-series of *A. fidele* 'possibly' originates from Japan, Okinawa Isl. Although Higo et al. (1999) mention Okinawa, for this taxon they do not provide more detailed information. Therefore, this locality needs confirmation. The species is widely distributed in the Indo-West Pacific with records from South Africa, N. Zululand (Vidal, 1999), Mozambique (colln Brink), Madagascar and Kenya (Vidal, 1992), India (colln of the author; Vidal, 1992, 1999), Sri Lanka (ZMA; Vidal, 1999), Myanmar and Malaysia (Vidal, 1992), Thailand (colln of the author; Vidal, 1999);

Swennen et al., 2001), Singapore (Vidal, 1999), Vietnam (colln Kaptein), Philippines (colln of the author; Springsteen & Leobrera, 1986 *Trachycardium (Vasticardium) elongatum*; Vidal, 1999) and Wallis and Futuna Islands (Vidal, 1999). The largest specimen known to me originates from Vietnam, Phan Rang (colln Kaptein), with a height of 96 mm.

Stratigraphical distribution. — At present, no additional data about the fossil distribution are known.

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