

**CRIBRARULA CRIBRARIA OCCIDENTALIS OF WEST AUSTRALIA,  
A SYNONYM OF *C. CRIBRARIA FALLAX***

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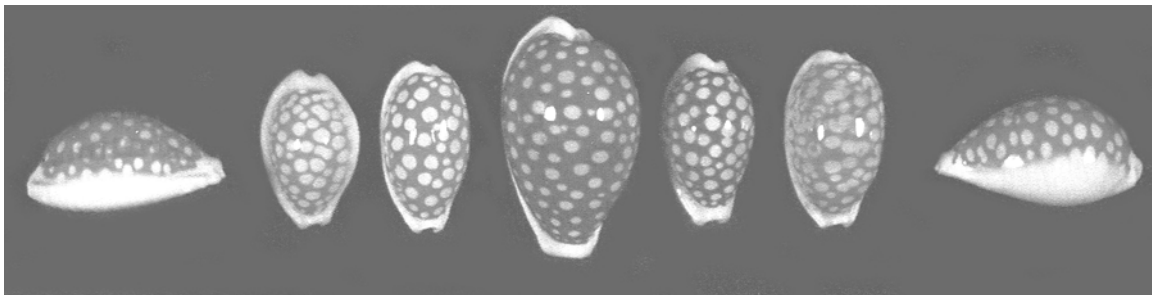
**Abstract:** Raybaudi introduced the name *Cribrarula cribraria occidentalis* in order to replace another subspecific name, which he considered erroneous: *C. cribraria fallax* given in the Prodrôme to designate populations of *C. cribraria* of West Australia. But the latter is a recycled available old name and there is no nomenclatural need to change it. Worrying only about the name, Raybaudi did not present new scientific information about shell characteristics of *cribraria* populations of West Australia. *Cribrarula cribraria occidentalis* is a synonym of *C. cribraria fallax*. West Australian populations of *C. cribraria* bear the valid name; shell characteristics of this subspecies should be studied again by a conchological method just to learn whether they represent properly populations of *C. cribraria* of West Australia.

**Key words:** Mollusca, Gastropoda, Cypraeidae, *Cribrarula cribraria*, *C. cribraria fallax*, West Australia, intraspecific variation, nomenclature.

*Cribrarula cribraria* (Linnaeus, 1758) is a variable species distributed in the Indo-Pacific region. A conchological study of intraspecific variation in this species in Heiman (2006) confirmed that three subspecies can be currently separated: *C. cribraria comma* (Perry, 1811) of the Western Indian Ocean, *C. cribraria esontropia* (Duclos, 1833) from Mauritius and Reunion Islands, and *C. cribraria orientalis* Schilder & Schilder (1940) of the Western Pacific Ocean. Such a study regarding other areas of distribution of the species was postponed until large batches of shells, needed for a statistical study, would become available. It is evident that *C. cribraria* inhabits the waters bordering West Australia and in the Prodrôme the Schilders described these populations as *Cribrarula cribraria fallax* (V-S formula 30.60.17.17), shells of which are “more pyriform, with the hind top of the inner lip distinctly bent to the left, the anterior columellar teeth more thickened, the fossula less concave, and the dorsal lacunae more distant.” The name of this subspecies is based on the recycled old name *Cypraea fallax* E.A. Smith, 1881. Several new taxa of the genus *Cribrarula* are described from West Australia during the last 45 years and it may be interesting to analyze the relevant malacological literature. This is done below in connection with *Cribrarula cribraria occidentalis* Raybaudi, 1986-Fig. 1.

Cate (1964) mentioned populations of the species from West Australia as *C. cribraria fallax* (following the Prodrôme). He examined 21 shells and considered that the taxon is fairly common within the range from Dirk Hartog Island to Gantheaume Point. Cate did not accept an opinion of other authors that a form ‘exmouthensis’ described by Melvill (1888) is also a subspecies from this area and mentioned that the *cribraria* “seems to thrive in either shallow or deep water.” In Cate (1968) 13 localities are reported and the approach is the same; f. *exmouthensis* is not mentioned.

Wilson & Gillett (1982) and Wells & Bryce (1988) also treated West Australian populations as *C. cribraria fallax* (apparently following the Prodrôme).



1. Shells representing *C. cribraria occidentalis*—after Raybaudi (1987a)

A work by Lorenz & Biraghi (1986) is dedicated mostly to the question: is *C. fallax* a valid species and *Cypraea haddnighiae* Trenberth, 1973 is its synonym. An idea that both these taxa may be synonyms of *C. cribraria* was not even discussed and the authors concluded that *C. fallax* is a valid species. No scientific evidence confirming such an approach was given in the latter work.

Raybaudi (1986a) presented an interesting, informative story about his numerous trips during five years around West Australian coasts 12,500 km long. He started from the border between Western Australia and Northern Territories and continued southward. He collected 222 specimens of *cribraria* from 35 different localities. In that article he pictured 91 of these shells, which illustrated a great variability of the species: the shell shape may be elliptical, oval or pyriform; the dorsum may be completely white, without lacunae, or dark brown, and a number of lacunae and their form vary considerably. Raybaudi singled out four main forms of *C. cribraria* in that area and mentioned their localities.

Raybaudi (1986b) considering *C. fallax* a valid species and, based on his previous work (1986a), concluded that the name *C. cribraria fallax* is not suitable to populations of *Cribrarula* from West Australia. He did not know then that the name

*C. cribraria fallax* is a recycled available old name used by the Schilders in the Prodrôme for the W. Australian subspecies of *C. cribraria*. The Schilders apparently preferred to choose this name and not 'exmouthensis' Melville, 1888 (they mentioned *fallax* Smith 1881=*exmouthensis* Melville, 1888) as an older one. This means that the both names are suitable for recycling. One can read more on the Schilders practice of recycling old cowry names in Heiman (2008a, 2008b).

A new subspecies *Cribrarula cribraria occidentalis* is described in Raybaudi (1987a). This article is limited to pages 41-42 of the latter publication, but a diagnosis of a new taxon is given on p. 43. Raybaudi wrote: "it is not a *subspecies nova*, but a new name proposed for an old subspecies of *cribraria* wrongly called '*fallax*' for 105 years because of misinterpretation of E.A. Smith's description." In fact, the problem is different: Raybaudi did not know at that moment that the name *C. cribraria fallax* is only a recycled one, that there is nothing in common between this name, the original description of *fallax*, and the real W. Australian subspecies; that the essence is not in their names but in structure and characteristics of the populations discussed; that the true taxonomic identity of cowry populations can be determined by their statistical shell characteristics, and that the Schilders presented such characteristics in the Prodrôme.

In Raybaudi (1987a) the author is convinced that it is not necessary to describe a new subspecies because, in his opinion, "All cypraelogists have always recognized, a lot of Australian men of science included (Iredale, Cotton, Allan and so on as well as also recently (Barry Wilson, 1971)) that this type of *cribraria* deserves a subspecific degree."

Indeed, it was not necessary to describe a new subspecies because it was already described in the Prodrôme and named *C. cribraria fallax* and its diagnostic shell characteristics are given there. Besides, the true taxonomic identity of a mollusc population should be determined by the scientific evidence and not by voting.

Anyway, there is no description of a new taxon in Raybaudi (1987a), no comparison of diagnostic characters, no statistical characteristics but only a reference to a previous work Raybaudi (1986a) mentioned above. And it follows from the latter work that populations of *C. cribraria* from W. Australia do not deserve apparently a subspecific rank at all. Indeed, as far as can be seen in 91 pictures in Raybaudi (1986a), in 6 shells the dorsum is completely white; in 5 shells the dorsum is white with a fulvous color partly present; in 37 shells the dorsal color is as in the typical *cribraria*; in 15 shells the dorsum seems to be substantially darker than usual, and in the remaining 28 shells the dorsal color is darker than in the typical ones. The shell shape also varies considerably from almost subcylindrical to oval-pyriform. In summary, there is no diagnostic shell characteristic until today, which represents real populations of *C. cribraria* of West Australian as a whole. Formally, the description of *C. cribraria occidentalis* does not conform to the existing norms to such a work, which is explained in detail in Winston (1999). All the necessary elements of the scientific description are absent in the latter work, including deposition of the holotype and paratypes in a museum or institute etc.

But the problem is not only a formal one. Raybaudi was anxious with names of cowry populations but the names as such are not the main aim, when students of cowries study the taxonomic identity of populations. The essence is in shell characteristics, which may shed some light on the process of speciation.

### Conclusion

*C. cribraria occidentalis* is a synonym of *C. cribraria fallax*.

### Acknowledgements

I would like to thank Mr. Henk K. Mienis for reading and correcting the first draft of this article.

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