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Taxonomic notes on chitons. 1. *Trochodochiton* de Rochebrune, 1884 – a genus which was fallen into oblivion

(Mollusca, Polyplacophora, Mopaliidae)

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The taxonomic position of de Rochebrune's genus *Trochodochiton* is discussed. The genus is characterized by the presence of precephalic tentacles. Investigations of the syntypes of *Chiton coronatus* Fischer MS, Locard, 1898 have shown that this species refers to de Rochebrune's description and, therefore, the species herein is designated as the type species of the genus *Trochodochiton*. As *C. coronatus* is a junior synonym of *Placiphorella atlantica* (Verrill & S. I. Smith, 1882), *Trochodochiton* falls into the synonymy of *Placiphorella* Carpenter MS, Dall, 1879. A lectotype and paralectotype were selected from the syntypes of *Chiton coronatus*.

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Introduction

The taxonomy of de Rochebrune's genus *Trochodochiton* is doubtful, as its description was not related to a certain species. The material on which the description of the new genus was based, was collected during the *Talisman* – expedition from off West Sudan and is still available in the Muséum National d'Histoire Naturelle in Paris (MNHN).

An investigation of the syntypes shows, that *Chiton coronatus* Fischer MS, Locard, 1898 in all respects agrees with de Rochebrune's description, and it is herein designated to be the type species of *Trochodochiton*.

Because the description of the new taxon is available in the sense of the International Code of Zoological Nomenclature and a type species is now known for it, the genus should no longer be ignored by recent authors.

Abbreviations used in text

nom. null. – misspelling of a taxon
OD – original designation
SD – subsequent designation
M – designation by monotypy
MS – manuscript name

Systematic part

Polyplacophora Gray, 1821
Mopaliidae Dall, 1889

Trochodochiton de Rochebrune, 1884

Trochodochiton, Van Belle 1983: 115 (marked with a “?” in synonym of *Placophoropsis* Pilsbry, 1893)
Trochochiton, Kaas & Van Belle 1994: 318 [nom. null.]

De Rochebrune (1884: 754) has described his new genus as follows:

“Le *Talisman* a recueilli quelques espèces de ce groupe très rare dans les grandes profondeurs; quelques échantillons d'un type remarquable méritent d'attirer l'attention; par leur aspect général on les prendrait à première vue pour des spécimens de *Lepidopleurus* de taille ordinaire, mais ce qu'ils distinguent tout particulièrement, c'est la présence autour de la région céphalique d'appendices quadrangulaires régulièrement espacés et donnant à la partie qu'ils occupent la forme d'une roue dentelée; ce caractère spécial et que l'on ne retrouve chez aucune autre espèce de cette classe suffit pour autoriser la création d'un genre, qui dès lors devrait être inscrit sous le nom de *Trochodochiton* (de Rochebrune).”

[The *Talisman* has collected some species of this group which are very seldom in great depths. Several specimens of a remarkable type deserve special attention. From their general appearance one would rather associate them with the species of *Lepidopleurus*. But what makes them especially different are rectangular appendages of regular intervals in the cephalic region which gives the part they occupy the shape of a toothed wheel; this feature and the fact that it is unknown from other species of this class brings about the necessity to relate them to a new genus which from now on should be termed as *Trochodochiton* (de Rochebrune).]

[Die *Talisman* hat einige Arten dieser Gruppe gesammelt, die in großen Tiefen sehr selten sind; einige Proben eines bemerkenswerten Typus verdienen besondere Aufmerksamkeit; von ihrem Äußeren würde man sie auf den ersten Blick als Arten von *Lepidopleurus* von gewöhnlicher Größe halten, was sie aber ganz speziell unterscheidet, sind viereckige Anhängsel von regelmäßigem Abstand im Kopfbereich, was der von ihnen besetzten Partie die Form eines gezähnten Rades gibt; dieses spezielle Merkmal und die Tatsache, daß man es bei keiner anderen Art dieser Klasse findet, ist Anlaß genug, sie einer neuen Gattung zuzuordnen, die von nun an mit dem Namen *Trochodochiton* (de Rochebrune) bezeichnet werden soll.]

The species of Polyplacophora collected during the *Talisman* – expedition (Locard 1898) are *Chiton coronatus* Fischer MS, Locard, 1898 and *Acanthochites* [= *Acanthochitona*] *fascicularis* (Linnaeus, 1767). The latter species can be excluded, as it doesn't show the features described by de Rochebrune: it lacks the appendages in the head area and the valve surface is in no way *Lepidopleurus* – like, and the tegmentum is strongly granulated, divided into pleural and jugal areas, which is not the case in *Lepidopleurus*. Beside this features the girdle in *Acanthochitona* bears usually 18 hair tufts, whereas in *Lepidopleurus* the girdle is clothed with scales interspaced with hyaline spicules.

The syntypes of *Chiton coronatus* (collected at stations 78 & 71 in a depth of 640–698 m from off West Sudan) fits in all respects with de Rochebrune's description, i.e. regarding the presence of precephalic tentacles (Fig. 1A). Therefore *Chiton coronatus* is here designated to be the type species of *Trochodochiton*.

From the type material (MNHN), the author designates herewith the complete specimen (by Locard 1898 as fig. 25 on plate IV) as lectotype (Figs 1B–1C) and the other partly disarticulated specimen (it lacks the first three plates) as paralectotype (figured as 23 & 26, by Locard).

The lectotype measures ca. 11.4 × 7 mm and bears 9 gills on the right and 8 gills on the left side of the foot. The paralectotype (ca. 16.9 × 9.8 mm) has 14 gills on the right and 16 on the left side of the foot. Both specimens are strongly curled and the girdle is bent inwards. It appears that due to contraction of the specimens Locard just estimated the sizes (21 × 16 mm by Locard); the external features figured by Locard (Figs 23–26) agree with the material examined herein.

Thiele (1909: 9, 31) has correctly shown, that *Chiton coronatus* is identical with *Placiphorella atlantica* (Verrill & S. I. Smith, 1882), which makes *Trochodochiton* a junior subjective synonym of *Placiphorella* Carpenter MS, Dall, 1879.

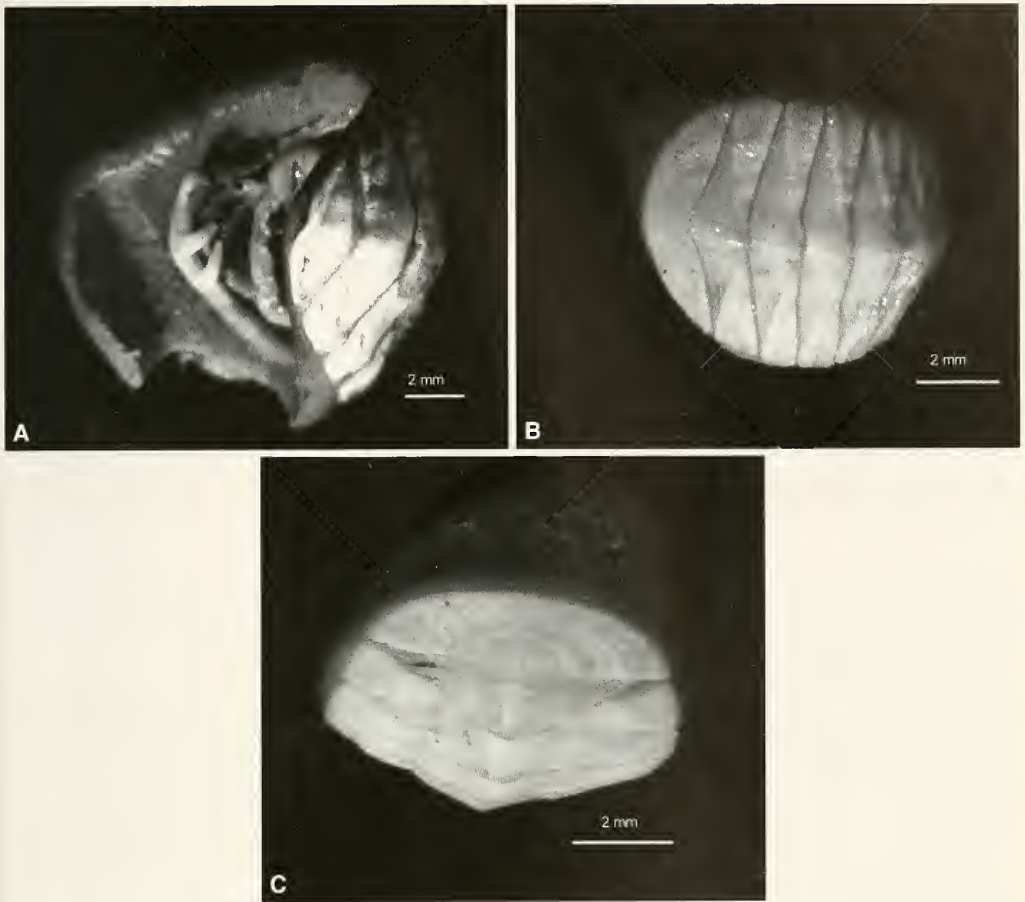


Fig. 1. *Chiton coronatus* Fischer MS, Locard, 1898. **A.** Paralectotype in ventral view, showing the precephalic tentacles. **B.** Lectotype, whole animal in dorsal view. **C.** Lectotype, detail anterior part, showing the girdle expansion.

Based on the preceding recognitions the synonymy of *Placiphorella* should read as follows:

Placiphorella Carpenter MS, Dall, 1879 (pp. 298, 303) (*Placiphorella velata* Carpenter MS, Dall, 1879), OD
Euplacophora Verrill & S. I. Smith, 1882 (p. 365 [footnote]) (*Placophora* (*Euplacophora*) *atlantica* Verrill & S. I. Smith, 1882), M

Trochodochiton de Rochebrune, 1884 (p. 754) (*Chiton coronatus* Fischer MS, Locard, 1898), SD, herein
Placiphorella Fischer, 1885 [nom. null.] (p. 882)

Placophoropsis Pilsbry, 1893 (p. 313) (*Placophora* (*Euplacophora*) *atlantica* Verrill & S. I. Smith, 1882), M
Plaxiphorella Pelseener, 1898 [nom. null.] (p. 14)*

Langfordiella Dall, 1925 (p. 96) (*Langfordiella japonica* Dall, 1925), OD

Euplacophora Kaas & Van Belle, 1994 [nom. null.] (p. 318) non Carpenter in Dall, 1879 (= nom. null. *pro*
Euplaxiphora Shuttleworth, 1853 = *Plaxiphora* Gray, 1847)

Trochochiton Kaas & Van Belle, 1994 [nom. null.] (p. 318)

Praciphorella Matsukuma & Tsubaki, 1995 [nom. null.] (p. 92)

* only *Plaxiphorella tentaculifera* Pelseener was listed, without a description of this species.

Zusammenfassung

Die Gattung *Trochodochiton*, von de Rochebrune für eine Tiefwasserart von W-Sudan aufgestellt, die während der *Talisman* – Expedition gesammelt wurde, ist charakterisiert durch das Vorhandensein von Tentakeln im Kopfbereich.

Da das *Talisman* – Material im Pariser Nationalmuseum archiviert ist, war eine Untersuchung der Art möglich, die der Beschreibung von de Rochebrunes neuer Gattung zugrunde lag. Es handelt sich um *Chiton coronatus* Fischer MS, Locard, 1898, eine Art die tatsächlich Tentakeln im Kopfbereich aufweist und deshalb hiermit als Typart für *Trochodochiton* festgelegt wird. Da aber *C. coronatus* ein jüngeres Synonym von *Placiphorella atlantica* (Verrill & S. I. Smith, 1882) ist, kann de Rochebrunes Gattung nicht als valides Taxon benutzt werden, sondern muß in die Synonymie von *Placiphorella* Carpenter MS, Dall, 1879 transferiert werden.

Für die Syntypen von *C. coronatus* werden der Lectotyp und der Paralectotyp festgelegt.

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