

Notes on some Conidae from Oman, with description of *Conus stocki* n. sp. (Mollusca; Gastropoda)*

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Abstract

Several *Conus* species of the coast of Oman are revised. *Conus stocki* n. sp. is described from Masīrah Island. For *C. ardisiaceus* Kiener, 1845, a neotype is designated. A lectotype is selected for *C. luctificus* Reeve, 1848. *C. lischkeanus tropicensis* Coomans & Filmer, 1985, has a disjunct range in the Indian Ocean. The recorded distribution of *C. parvatus sharmiensis* Wils, 1986, is enlarged from the Red Sea to the coast of Oman. *C. quasimagnificus* Da Motta, 1982, is provisionally considered a subspecies of *C. pennaceus* Born, 1778.

Résumé

Plusieurs espèces de *Conus* des côtes d'Oman sont revues. *Conus stocki* n. sp. est décrit des côtes de l'île Masīrah. Un néotype est désigné pour *C. ardisiaceus* Kiener, 1845. Un lectotype est choisi pour *C. luctificus* Reeve, 1848. *C. lischkeanus tropicensis* Coomans & Filmer, 1985, a une distribution disjointe dans l'Océan Indien. La distribution de *C. parvatus sharmiensis* Wils, 1986 est plus vaste que celle déjà connue: de la Mer Rouge aux côtes d'Oman. On considère provisoirement *C. quasimagnificus* Da Motta, 1982, comme sous-espèce de *C. pennaceus* Born, 1778.

Introduction

The molluscan fauna of the Arabian Sea near Oman is incompletely known. At the end of the 19th century interest in malacology of this area was stimulated by the collecting activities of Captain Frederick W. Townsend. This resulted in the description of about 600 species new to science, main-

ly by the English conchologists J.C. Melvill and R. Standen between 1893 and 1915.

In 1982 Dr. Donald and Mrs. Eloise Bosch published a book on the seashells of Oman in which mainly the larger species are treated. The species of the family Conidae were identified by the late William E. Old, who recognized 26 species. Dr. and Mrs. Bosch have visited the Zoological Museum in Amsterdam (ZMA) several times to discuss malacological problems concerning the Arabian Sea and the Gulf of Oman. In addition, samples of many species from their extensive collection of Omani shells were kindly donated to our museum. This gave us the opportunity to revise some species of the family Conidae, and to describe a species new to science.

Taxonomy

"*Conus lemniscatus* Reeve, 1849" in Bosch & Bosch, 1982: 127, ill.

Recently collected material of *Conus lemniscatus* has disclosed that the distribution of *C. lemniscatus* is confined to the coast of Brazil (Coomans et al., 1985: 236–237, figs. 478–479). For this reason the name cannot be used for the shells from Oman. Bosch & Bosch (1982: 127) mentioned *C. traversianus* Smith, 1875, as a junior synonym.

* Studies on Conidae (Mollusca, Gastropoda), 15.

Moolenbeek & Coomans (1986) published on the *C. traversianus* complex, based on material collected in the Andaman Sea and the Gulf of Aden, present in the Hebrew University of Jerusalem (Israel). Recently, we could study material from the University of Rostock (D.D.R.) from the Arabian Sea and Gulf of Aden. After comparing all this material we concluded that the specimens from Oman represent a hitherto unnamed species, which is described below.

***Conus stocki* n. sp.**
(Figs. 1–4)

Conus lemniscatus; Bosch & Bosch, 1982: 127, ill. (non Reeve, 1849).

Type material. – Holotype (ZMA Moll. 3.90.001) and 32 paratypes (ZMA Moll. 3.90.002). Paratypes are deposited in the BMNH (London) and the USNM (Washington).

Type locality. – Oman, Masīrah Island, beach, 1988, leg. D. & E. Bosch.

Description of the holotype (Figs. 1–2). – Shell elongate, obconical, thin, glossy. Length 37.0 mm, width 16.3 mm, height of spire 16.2 mm. Body whorl mostly straight in profile view, a little convex near the shoulder, lower part grooved. Aperture narrow. Spire concave, consisting of 9 whorls. Apical angle about 100°.

Protoconch 1½ smooth whorls, diameter abapically 1.1 mm, just before the first postnuclear whorl a few axial growth lines. First postnuclear whorl with about 13 small nodules and two spiral striae. The postnuclear whorls 2–4 have also nodulation and striae, which gradually disappear to the following whorls. Towards the last postnuclear whorl, the spiral striae become less clear. Suture deep. Just below suture there is an irregular formed spiral ridge.

Shoulder edge is carinated. Body whorl with microscopic axial and spiral striae. Lower half of dorsal side sculptured with spiral grooves, in which small axial riblets. Outer lip thin (partly broken posteriorly), translucent near the edge.

Main colour bluish-white with brown blotches and punctuated brown-white spirals. Apical whorls with irregular brown spots above the suture, on the last whorl there are ten dark brown spots. The adapical sutural ridge is irregularly white and brown. Just below the shoulder is a white area followed by about 25 brown and white punctuated spirals, occasionally with fine brown and white spirals in between. More or less irregular axial brown flames over the whole body whorl. The anterior part of the shell is brown.

Variability. – There is little variation in shape of the shells (Figs. 3–4). The colouration is more variable, dark brown as well as light brown specimens occur, and also the pattern is variable. The number of spiral colour lines varies from 20 to 30.

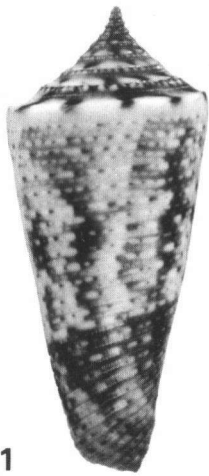
Etymology. – The name *Conus stocki* n. sp. is given to honour Prof. Dr. J.H. Stock, upon his retirement from the Institute of Taxonomic Zoology, University of Amsterdam.

Discussion. – There are three species resembling the species here described. They differ as follows: *C. lemniscatus* is strongly grooved with a flatter spire. *C. milesi* Smith, 1887, has a different colour pattern (lack of spiral colour lines), and it has more postnuclear whorls with a strong coronation (cf. Moolenbeek & Coomans, 1986). *C. traversianus* Smith, 1875, is the closest related taxon. It is more slender, and has spiral grooves on the entire body whorl. Its colour pattern of spiral lines is less dense and it lacks the brown anterior part.

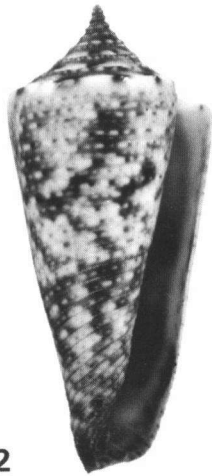
Figs. 1–4. *Conus stocki* n. sp., Masīrah Island: 1–2, holotype, length 37.0 mm; 3–4, paratypes, lengths 33.3 mm and 33.1 mm, respectively.

Figs. 5–8. *C. ardisiaceus* Kiener: 5–6, copy of the original type figure, length 35 mm (after Kiener, 1845); 7–8, neotype, Masīrah Island, length 35.8 mm.

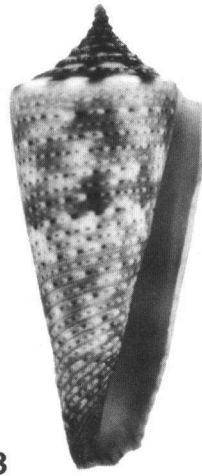
Figs. 9–11. *C. luctificus* Reeve: 9, lectotype, length 39 mm (after Reeve, 1848); 10–11, specimens from Masīrah Island, lengths 59.7 mm and 62.4 mm, respectively.



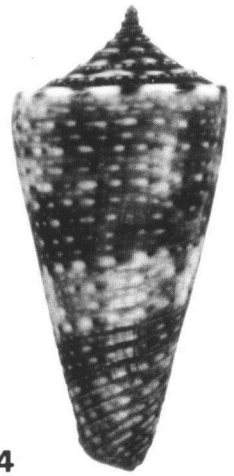
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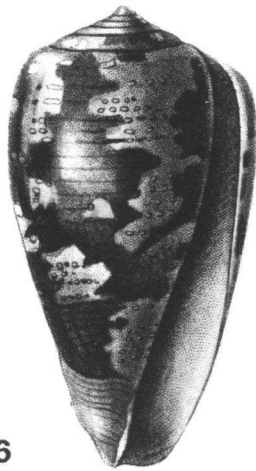
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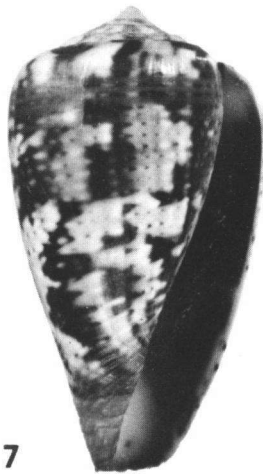
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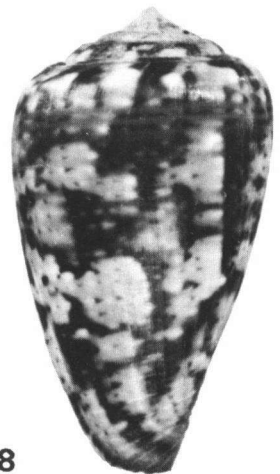
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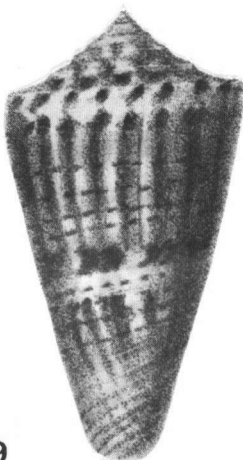
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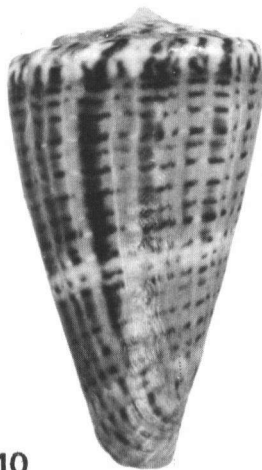
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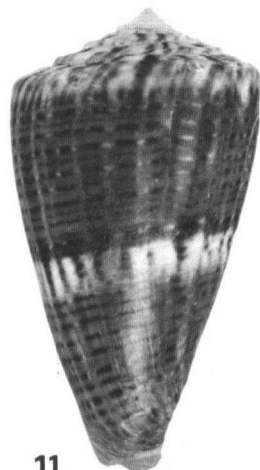
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Conus ardisiaceus Kiener, 1845
(Figs. 5–8)

This species (Figs. 5–6) was described by Kiener (1845: 316–317, pl. 108 fig. 1) from the collection of Mr. Lorois. The whereabouts of the holotype is unknown. Information about the Lorois collection is neither given by Dance (1986: appendix IV, nor by Sherborn (1940). We tried to locate the type specimen in several European, in particular French, natural history museums but all efforts were in vain. From the original description and type figure, some authors (Walls, 1979: 2–3; W.E. Old, in litt., 1980) concluded *C. ardisiaceus* to be a species from the coast of Oman. After studying material from Oman this opinion was confirmed by Coomans et al. (1981: 14). These authors designated Masirah Island to be the type locality. However, without a type specimen, speculation concerning the identity of *C. ardisiaceus* remains possible. For the stability of nomenclature it is necessary to designate a neotype. Dr. Donald Bosch supplied us with specimens from Masirah which fit the type figure and description of *C. ardisiaceus*. From that sample we have selected a neotype (ZMA Moll. 3.90.003) being a live collected specimen with a length of 35.8 mm, and width 20.4 mm (Figs. 7–8).

Type locality. – Oman, Masirah Island, littoral, 1988, leg. D. & E. Bosch.

Remarks. – The neotype shows all the characteristics mentioned by Kiener in his original description which reads as follows:

“Coquille oblongue, turbinée, renflée vers sa partie supérieure. La spire est convexe, obtuse, mucronée au sommet; on y compte six ou sept tours étroits; l’angle spiral du dernier est obtus; ce tour est lisse, excepté vers sa base qui porte quelques sillons obliques. L’ouverture est sinueuse, un peu dilatée vers sa partie inférieure. La coquille est marbrée de grandes maculations noirâtres irrégulières, se détachant sur un fond gris cendré nuageux; en outre, elle est traversée par un grand nombre de lignes ponctuées, comme articulées. L’intérieur de l’ouverture est d’un brun violacé”.

Also the main colour of the neotype is bluish

grey, and the inside of the aperture is violet. Only the colour of the irregular design on the body whorl is brown instead of blackish. However, the collection of ZMA contains specimens of this species with darkbrown to black colour patterns.

Conus lischkeanus tropicensis Coomans & Filmer, 1985

“*Conus kermadecensis* Iredale, 1912”, in Bosch & Bosch, 1982: 128, ill.

Conus kermadecensis was described from the Kermadec Islands in the western Pacific, north of New Zealand. In later years, it was also recorded from Queensland, West Australia, South Japan, Oman, and South-East Africa. The taxonomy and distribution was studied by Coomans & Filmer (1985), who concluded that *Conus lischkeanus* Weinkauff, 1875, is the oldest name in the species complex, used for the population from South Japan. The subspecies *C. lischkeanus kermadecensis* is confined to the area of New Zealand and Queensland. The West Australian population is characterized by a purplish aperture, and was described as *C. lischkeanus tropicensis* Coomans & Filmer, 1985. The shells of the population from Oman are not distinct from those of West Australia, despite of the large distance between the two ranges in the Indian Ocean. Provisionally we have named the Oman shells *C. lischkeanus tropicensis*.

Conus luctificus Reeve, 1848
(Figs. 9–11)

“*Conus namocanus* Hwass, 1792” in Bosch & Bosch, 1982: 129, ill.

Although *C. namocanus* is known from the coast of Oman, the shells figured by Bosch & Bosch (1982) do not belong to this species. Specimens identical to the figured ones are present in ZMA, ex coll. Bosch (Figs. 10–11). We have identified these specimens as *C. luctificus* Reeve, 1848. The name *luctificus* is hardly mentioned in the recent malacological literature, and the identity of the species was a subject to discussion. The type sample in the British Museum

(Natural History) contains two specimens; one of these shells was figured and described by Reeve (1848). This shell is herewith designated lectotype of *Conus luctificus* Reeve, 1848. The measurements are: length 39 mm, width 21 mm (Fig. 9). The original description (op. cit.: suppl. pl. 1) reads:

“The mournful Cone. Shell oblong, smooth, closely grooved at the base, spire rather elevated, concavely excavated; whitish, stained and longitudinaly streaked with reddish brown, leaving a whitish band round the centre and along the upper margin, spire tessellated. Hab. –? Though not distinguished by any striking peculiarity of character, this species is certainly different from any that have preceded it.”

There is no original type locality indicated. The label with the type lot states that *C. luctificus* is a junior synonym of *C. splendidulus* Sowerby, 1833, a species living in the Red Sea. This opinion is confirmed by Tomlin (1937: 270) and Roedel (1984: n° 482). Walls (1979) placed the name in the synonymy of *Conus argillaceus* Perry, 1811, which we considered a nomen dubium (Coomans et al., 1981: 18, fig. 127). *C. luctificus* is distinct from *C. splendidulus*, in being less solid and having grooves on the spire.

We have examined 15 specimens of *C. luctificus* from Oman, with an average size of 60 mm and a maximum of 87 mm.

Conus parvatus sharmiensis Wils, 1986

“*Conus musicus* Hwass, 1792” in Bosch & Bosch, 1982: 125, ill.

The taxa belonging to the species complex of *C. musicus* were mentioned by Coomans et al. (1983: 109–110). In this complex two new taxa were described in recent years.

(1) *C. musicus parvatus* Walls, 1979, was originally described as a subspecies, but now considered a valid species. *C. parvatus* occurs in the Indian Ocean.

(2) *C. parvatus sharmiensis* Wils, 1986 was described from the Red Sea, the holotype is deposited in ZMA (Moll. no. 3.86.014). Comparing this holotype with shells described as *C. musicus* by Bosch & Bosch (1982) from Oman leads to the con-

clusion that the latter also belong to *C. p. sharmiensis*. Thus *C. parvatus sharmiensis* is not restricted to the Red Sea, but its range extends at least to the coast of Oman. The most striking characters of *C. parvatus sharmiensis* are the white band below the shoulder, and the spirally arranged reddish brown spots on the body whorl.

Conus pennaceus quasimagnificus Da Motta, 1982

“*Conus pennaceus* Born, 1780”, in Bosch & Bosch, 1982: 130, ill.

The population of *C. pennaceus* from Oman was described by Da Motta (1982: 3) as a distinct species *C. quasimagnificus*, with type locality Khor Fak-kau in the Gulf of Oman. Wils (1986: 192, figs. 76–77) has collected identical specimens in the Red Sea (Elat, Gulf of Akaba). However, the maximum shell length of the Red Sea specimens is 43 mm, whereas the Omani shells can reach 80 mm.

The taxonomic status of *C. quasimagnificus*, and its relation to *C. pennaceus* needs further study. It is known that the species of Conidae with the so-called “tent”-pattern show a great variety in shape, pattern and colour and the taxonomic confusion in this complex is frequently mentioned (e.g. Bosch & Bosch, 1982: 130).

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