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Alphabetical revision of the (sub)species in recent Conidae
3. albus to antillarum
with the description of Conus algoensis agulhasi, nov. subspecies

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INTRODUCTION

This is the third part in the series on (sub)specific names in recent Conidae. In general we may refer to the introductions of the first and second parts (Basteria 43: 9-10, and 81, 1979).

Since we started the research for this series, several years ago, the Zoological Museum has received many lots of Conidae from colleagues and collectors over the world. We will mention their names in alphabetical order: A.C.M. Asselbergs (Bergen op Zoom) – W. Bergmans (Amsterdam) – Dr. D. Bosch (Oman) – H. de Brauwer (Belgium) – Fr. A.M. Broeders (St. Martin) – L.P. Burnay (Lisbon) – J.R. Cantera (Colombia) – P.W. Clover (USA) – Mrs. C.M. Connolly (S. Africa) – Dr. H. Duffels (Amsterdam) – Mrs. Dr. M.I. Gerhardt (Domburg) – Mrs. W.H. Harmon (USA) – D. Hunt (Barbados) – C. Karnekamp (Diemen) – R.N. Kilburn (S. Africa) – Dr. A. Kohn (USA) – L. Letens (Belgium) – H. Lippa (India) – A.N. de Man (Aruba) – Mrs. S. & R. Martin (Philippines) – Dr. A. Matsukuma (Japan) – B. van der Most (Schiedam) – W.E. Old (USA) – Dr. M.P. de Oliveira (Brasil) – P. van Pel (Egmond) – Mrs. G. Pini (Australia) – J. Rinkens (Australia) – H. Saesen (Belgium) – Dr. F. Sander (Barbados) – G.D. Saunders (Gr. Britain) – Dr. J.H. Stock (Amsterdam) – C. Vriese (Diemen) – Dr. P. Wagenaar Hummelinck (Utrecht) – Dr. S. Weinberg (Porto Rico) – Dr. W. Wellens (Belgium) – Mrs. T. Whitehead (Australia) – Mrs. M. Williams (Saudi Arabia) – E. Wils (Belgium). L.J.M. Butot, honorary associate, donated his entire *Conus* collection, mainly collected in Indonesia.

From Mrs. Dr. W.S.S. van der Feen-van Benthem Jutting, former curator of Molluscs at ZMA, we received her personal malacological library, including many publications on Conidae.

Assistance from colleagues concerning loan of specimens, literature, advice or otherwise, is acknowledged with the species concerned. The photographs were made by Mr. L. van der Laan, the maps were drawn by Mr. J. Zaagman.

GENUS *CONUS* LINNÉ, 1758

Valid names of species, subspecies, and formae are printed in heavy type in the alphabetical list. A junior synonym, homonym, nomen dubium or nomen nudum is printed in normal type.

albus

fig. 58

Conus albus Sowerby III, 1887, Thes. Conch. 5: 274, spec. 532, pl. 36, fig. 761

Type. – The holotype is present in BMNH, measurements 48.7 x 25.1 mm (fig. 58).

Type locality. – Not mentioned.

Remarks. – Through the courtesy of Mrs. K.M. Way (BMNH) we were able to study the holotype. After comparing this pure white shell with a number of Conidae, our conclusion is that *Conus albus* Sowerby must be considered an albino of the polymorphic *C. magus* Linné, 1758. The present authors have seen another albinistic *C. magus*, dimensions 45.6 x 23.2 mm, from Papua, New Guinea (coll. J.S.M. Gerrits), which specimen has the typical shape of this species.

See also *alba* Coen, and *albus* Shaw.

albus

fig. 59

Conus quercinus var. *albus* Shaw, 1915, Proc. malac. Soc. Lond. 11: 210

Type. – Holotype present in BMNH, measurements 58 x 34 mm.

Type locality. – "Aden".

Remarks. – The shell was described by Shaw as: "the colour is snow-white. The apex of the spire is a warm rose-brown, and the shell is entirely devoid of the usual fine thread-like, transverse brown markings". Although described as "snow-white", the type specimen is cream coloured. Also the specimens in ZMA are creamy to white.

According to article 45 e(i) of the ICZN a variety, described before 1961, must be interpreted as denoting subspecific rank. Therefore *albus* Shaw, 1915 is a junior homonym of *Conus albus* Sowerby, 1887. However, creating a new name for *albus* Shaw is not advisable, since it is only considered a colour form of *Conus quercinus* Solander, and therefore of infrasubspecific rank. ZMA has specimens of *C. quercinus* forma *albus* from Ceylon and the Moluccas (fig. 59).

See also *Conus akabensis* Sowerby (in part 2 of this series, Basteria 43: 92, 1979), which is considered an albino of *C. quercinus*.

aldrovandi

fig. 60

Conus millepunctatus Lamarck, 1822, var. *aldrovandi*
Dautzenberg, 1937 (nom. nov.), Mém. Mus. r. Hist. nat. Belg. hors série 2 (18): 171-172
(non *Conus aldrovandi* Brocchi, 1814, a fossil)

Type. – The variety *aldrovandi* was described by Dautzenberg as a nomen novum for *Conus litteratus* var. d Hwass in Bruguière, 1792. From the references cited by the author we herewith designate the specimen figured as *Conus millepunctatus* δ in the Tableau Encyclopédique et Méthodique vol. 23 (1798), pl. 324 fig. 4 lectotype of *aldrovandi* Dautzenberg. It is reproduced here as fig. 60, the dimensions are 119 x 66 mm. The type specimen is not in the collection of the Musée d'Histoire Naturelle at Geneva (Mermod, 1947: 192). Although Dautzenberg did not mention any specimens with the description of *aldrovandi*, his collection in IRScNB at Brussels contains one specimen, indicated as "type", measurements 71 x 47 mm, loc. Mauritius.

Type locality. – Not mentioned.

Remarks. – *Conus millepunctatus* Lamarck, 1822 (non Röding, 1798) is a junior synonym of *C. leopardus* (Röding, 1798).

According to its description the shell of *aldrovandi* has more and smaller dots. We have studied the variation of *C. leopardus*, from which it is concluded that *aldrovandi* Dautzenberg is a junior synonym.

The "name" *aldrovandi* Dautzenberg, 1937, is a junior homonym of the fossil *aldrovandi* Brocchi, 1814.

alexandrinus

Conus alexandrinus "Pais da Franca" Kaicher, 1976-1977, Card catal. shells: 1293

Remarks. – The name *"Conus alexandrinus"* is found on dealer lists, but the species was never described by M. de L. Paes-da Franca. Kaicher (1976-1977) used this name; however, she did not supply a valid description. The name *C. alexandrinus* thus is a nomen nudum.

alfredensis

figs. 63, 64

Conus alfredensis Bartsch, 1915, Bull. U.S. natn. Mus. 91: 13, pl. 1, fig. 12

Type. – Two syntypes in USNM at Washington, no. 186972, measurements 44.9 x 22.0 mm (fig. 63), and 35.3 x 17.1 mm (fig. 64). The larger shell, with a damaged outer lip, was figured by Bartsch, and is herewith designated lectotype.

Our thanks are due to Dr. R.S. Houbrick (USNM) for permitting us to study and photograph the type material.

Type locality. – "Port Alfred", South Africa.

Remarks. – South African malacologists had different opinions concerning the status of *C. alfredensis*. According to Barnard (1958: 91) it is a synonym of "*C. elongatus* Chemn." (= *C. mozambicus* Hwass, 1792), whereas Kilburn (1971: 47) considered *C. alfredensis* conspecific with *C. tinianus*. We have studied the type material of *C. alfredensis* and compared it with both species, from which we must conclude that *C. alfredensis* is a junior synonym of the variable *C. tinianus* Hwass, 1792.

algoensis

figs. 51, 53, 66-67

Conus algoensis Sowerby I, 1834, in Sowerby II, Conch. Ill. (Conus): 3, pl. 54, fig. 66; Proc. zool. Soc. Lond. 2: 18

Type. – In BMNH are 5 syntypes, length 17, 21, 25, 27, and 30 mm. None of these is looking exactly like the type figure, which measures 29 x 13½ mm. The dimensions in the description are "1.15 x 0.55 poll." (= 29.1 x 13.9 mm). The largest specimen of the syntypes is herewith designated lectotype.

Type locality. – "Algoa Bay". The species was named after this locality; however, it does not occur there. Kilburn (1971: 43) has restricted the type locality of *C. algoensis* to Table Bay.

Distribution. – This species lives on the coast of South Africa from Saldanha Bay to Cape Agulhas (figs. 51, 53).

Remarks. – *Conus algoensis* is considered a valid species, its variability and distribution were studied by Kilburn (1971). Three subspecies are being recognized:

C. algoensis algoensis Sowerby I, 1834, has a yellow to brown body whorl, with one to three rows of irregular white blotches (figs. 66, 67). Found from Saldanha Bay to the Cape Peninsula. ZMA has specimens from Table Bay, we have studied shells from Saldanha and Kommetjie (Natal Mus.).

C. algoensis simplex Sowerby II, 1857-1858. Shell whitish with brown axial flames, sometimes with a brown band below the shoulder. West side of False Bay; specimens in ZMA from Simonstown and Strandfontein.

C. algoensis scitulus Reeve, 1849, has a light coloured shell with spiral series of small squarish dots, and a wide brown band under the shoulder of the last whorl. Base sometimes brown. Known from Hermanus and Cape Agulhas; specimens in ZMA from Cape Agulhas.

Next to these a new subspecies is described:

Conus algoensis agulhasi

nov. subsp.

figs. 51, 68

Type. – Holotype in ZMA, measurements of the shell 23.4 x 11.6 mm (fig. 68). Seven paratypes in Natal Museum, length 14½, 15, 15½, 18, 19½, 20 and 23½ mm.

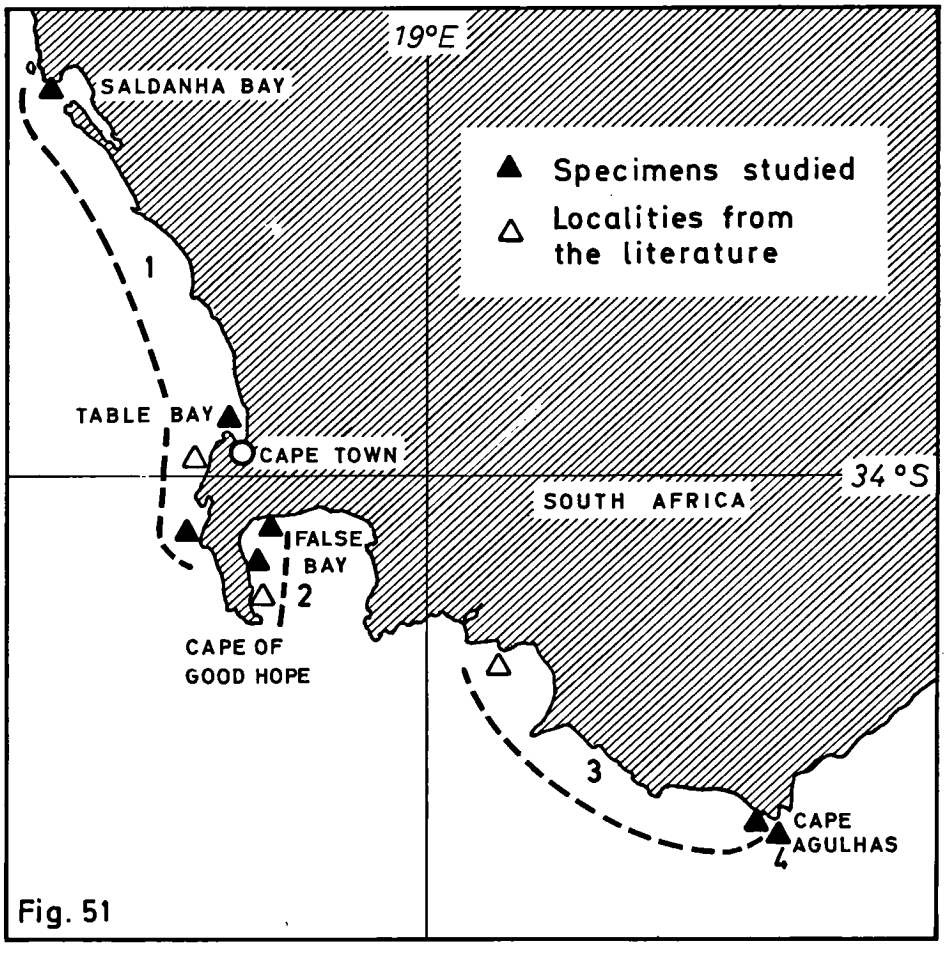

Fig. 51. Distribution of the *Conus algoensis* complex
1. *C. algoensis algoensis.*
2. *C. algoensis simplex.*
3. *C. algoensis scitulus.*
4. *C. algoensis agulhasi* nov. subsp.

Type locality. – Cape Agulhas, South Africa (fig. 51), in depth of 60 cm, under rocks and mud. Holotype and paratypes collected by Mrs. C.M. Connolly.

Description. – Last whorl very slightly convex, spire straight, apical angle just over 90°. Surface of body whorl with very weak spiral ridges, becoming stronger near the base. Colour bluish white, with a narrow chocolate brown band under the shoulder, otherwise no pattern except for some traces of brown at the base; inside of aperture brown. Periostracum yellowish green.

This subspecies is distinct from the others because, except for the brown shoulder band and base, it has no pattern on the last whorl.

Remarks. – The occurrence of this subspecies was known to Kilburn (1971: 42), who wrote (under *C. scitulus*): "A peculiar pale colour form sometimes occurs in which the markings are completely absent, apart from a continuous brown shoulder band, and traces of a brown tinge around the base".

We are grateful to Mrs. C.M. Connolly for donating fine series of specimens of the *C. algoensis* complex to ZMA, and to Mr. R.N. Kilburn for permitting us to study the Natal Museum material.

alternans

fig. 61

Conus betulinus Linné var. *alternans* Dautzenberg, 1937 (nom. nov.), Mém. Mus. r. Hist. nat. Belge hors série 2 (18): 48

Type. – No type specimen was mentioned because the name *alternans* was introduced as a "new name" for a variety of *C. betulinus* Linné, 1758. From the references cited by Dautzenberg we designate the specimen, figured in the Tableau Encyclopédique et Méthodique vol. 23 (1798), pl. 334 fig. 8, lectotype of *alternans*. It is reproduced here as fig. 61. The measurements of the figure are 126 x 75 mm.

Type locality. – Not mentioned.

Remarks. – Dautzenberg named this shell "alternans" as it has a pattern of alternating rows of larger and smaller dots. This character was also described by Dillwyn (1817: 392) and Lamarck (1822: 484) for *C. betulinus* var. b. We consider *alternans* a form of *C. betulinus*, next to the other "varieties" of this species which were named by Dautzenberg (1937: 48-50).

ZMA has specimens of *Conus betulinus* forma *alternans* from the Moluccas, Indonesia.

alternatus

fig. 62

Conus alternatus Link, 1807, Beschr. Nat. Samml. Univ. Rostock 3: 101-102

Type. – Link only referred to the specimen figured in Martini (1773) pl. "56" (error for 61) fig. 670, which therefore is the holotype. It is reproduced here as fig. 62. The measurements are about 44 x 26 mm. The same figure was used by Röding (1798: 41) for *C. quadratulus*, cf. Kohn (1975: 218).

Type locality. – Not mentioned.

Remarks. – Link described *C. alternatus* as (translated from the German): "Between the rows of larger red squarish dots, there are alternating rows of red points".

From description and type figure it is concluded that *C. alternatus* Link is a junior synonym of *Conus eburneus* Hwass, 1792. The holotype probably was a dead collected shell, as fresh specimens have dark brown to black dots.

alticonica

fig. 65

Conus mediterraneus Bruguière var. *alticonica* Pallary, 1904, J. Conchyl., Paris 52: 217-218

Type. – No type specimen was designated, and there is no type material in MNHN at Paris. The shell was not figured by Pallary; the author only gave a short description and referred to some figures in Philippi (1836: pl. 12 figs. 17, 18, 20). From these figures we herewith designate the specimen of pl. 12 fig. 20 in the "Enumeratio Molluscorum Siciliae" lectotype of *alticonica*. It is reproduced here as fig. 65, the measurements are 41 x 18 mm. This shell also belongs to the type material of *C. mediterraneus* var. *ater* Philippi, 1836.

Type locality. – The original shells of Pallary were from the "Golfe de Gabès", Tunisia. The lectotype is from Messina, Sicily, which island is opposite the Gulf of Gabes.

Remarks. – The variety *alticonica* was described as a high-spired *Conus mediterraneus*; the lectotype agrees with this description. It is not clear why Pallary gave another name to this shell, which was already described by Philippi.

The name *alticonica* Pallary, 1904 is an objective synonym of *ater* Philippi, 1836, which we consider to denote the high-spired forma of the very variable *Conus mediterraneus* Hwass, 1792.

altispiratus

fig. 69

Conus altispiratus Sowerby III, 1873, Proc. zool. Soc. Lond. 1873: 146, pl. 15, fig. 4

Type. – After having described *C. altispiratus* in 1873, Sowerby sold the holotype to H.C. Roeters van Lennep, a shell collector in the Netherlands (Van Benthem Jutting, 1939: 169-170). The specimen was mentioned by Roeters van Lennep (1876: 7) as *Conus "altispira"*, and again under this incorrect name in the auction Catalogue (1876: 23, no. 394) of his shell collection, with the remark "unique". At this auction the specimen of *C. altispiratus* was obtained by the Zoological Museum Amsterdam. Its identity was recently discovered, the measurements of the holotype shell are 37.0 x 15.8 mm (fig. 69).

It must be kept in mind that G.B. Sowerby III published on mollusks, but also was a shell dealer (Coomans, 1974: 159). Therefore a number of type specimens, which one expects to be in BMNH at London, were sold to collectors or other museums.

Type locality. – "Agulhas Bank, S. Africa".

Distribution. – Unknown. The type locality is doubted by South African malacologists, since they have never collected this species again.

Remarks. – As far as known the holotype is the only specimen of this species. The shell is pure white with a pink apex. Since the spire is rather high, it has been suggested that it may be a turreted specimen of another *Conus* species. However, its shape, white colour, and doubtful locality do not render any help in identifying it with some other *Conus*. The synonymy with other Conidae, as mentioned in the literature (cf. Barnard,

1958: 83-84; Walls, 1979: 71, 74-77) cannot be validated by us, after comparing these with the type specimen of *C. altispiratus*.

For the time being *Conus altispiratus* Sowerby is considered a valid species.

alveolus

fig. 70

Conus alveolus Sowerby I, 1833, in Sowerby II, Conch. Ill. (Conus): 1, pl. 25, fig. 11

Type. – The specimen figured by Sowerby, reproduced here as fig. 70, is the holotype. This shell is not present in BMNH, its whereabouts are unknown. The measurements on the figure are 35 x 15 mm.

Type locality. – Not mentioned.

Remarks. – From the type figure *C. alveolus* is generally considered to be a junior synonym of *Conus stramineus* Lamarck, 1810.

amabilis

Conus amabilis Lamarck, 1810, Annls Mus. Hist. nat. Paris 15: 425, no. 137

Type. – The collection of MHNG at Geneva contains 3 syntypes from Lamarck (Mermod, 1947: 164-165). The dimensions are 43 x 21, 31 x 16, and 29 x 16 mm respectively. From these a lectotype will be designated by A.J. Kohn (in press).

Type locality. – "je le crois originaire des mers des grandes Indes" (I believe original from the Indian Ocean).

Remarks. – The syntypes of *C. amabilis* Lamarck are conspecific with *Conus pertusus* Hwass, 1792, which makes *C. amabilis* a junior synonym.

amadis

figs. 52, 71, 72

Conus amadis Gmelin, 1791, Syst. Nat. 13 ed., 1: 3388, no. 32

Type. – Gmelin did not have a type specimen. From his references a lectotype was designated by Kohn (1966: 77, pl. 1, figs. 3, 4). This specimen, figured in Chemnitz (1788: pl. 142, figs. 1322, 1323), is present in ZMUC at Copenhagen (ex coll. Moltke). The measurements are 78 x 41 mm.

Type locality. – Not mentioned by Gmelin. The locality of the lectotype should be the Nicobar Islands, which is questionable. Chemnitz (1788: 73) mentioned that the species was found at the Nicobar, Sunda and Moluccan Islands, and east of Tranquebar. Probably the first locality was used by Moltke for his specimen. The lectotype has the

typical pattern known from specimens living along the Coromandel coast of India, where Tranquebar is situated. We herewith designate Rameswaram, India, type locality.

Remarks. – *Conus amadis* Gmelin is considered a valid species. The colour of the last whorl is variable from light to dark brown; the pattern also shows variation (figs. 71, 72). Shells with a yellow to orange colour were known to Knorr (1772, pt. 6: 11, pl. 5, fig. 3) as the "gelbe Amadistutte" (yellow Amadis cone) and described by Dautzenberg (1937: 14-15) as var. *aurantia* (non *C. aurantius* Hwass, 1792).

A subspecies may be recognized, in which the pattern of tent marks is interrupted by two orange-brown bands: *Conus amadis castaneofasciatus* Dautzenberg, 1937. Sometimes, as in the type specimen, the shell has a darker appearance. Recently Da Motta (1978: 7) described a deep water form of this subspecies as *Conus arbornatalis*. These shells have a slender shape, more elevated spire, and sometimes a furrowed body whorl. We have studied intermediates between *castaneofasciatus* and *arbornatalis* (in ZMA and RMNH).

Distribution. – *C. amadis* lives in the Bay of Bengal from Ceylon to North Sumatra (fig. 52). Other Indonesian localities (Java, Borneo, Moluccas) in the literature are erroneous.

C. amadis s.s. (including forma *aurantia* Dautz.) has a limited range along the Coromandel coast of India from Madras to Ceylon. ZMA has specimens from Ceylon (Trincomalee), the Gulf of Mannar at Rameswaram, and India (Cuddalore).

C. amadis castaneofasciatus (with the deepwater forma *arbornatalis*) is found around the Andaman and Nicobar Islands, and in the Andaman Sea on the coasts of Thailand and Burma (Da Motta & Lenavat, 1979: 4, pl. 2). Specimens of this subspecies with "Indian" localities were collected by shrimp fishers, not near the coast of India, but more to the

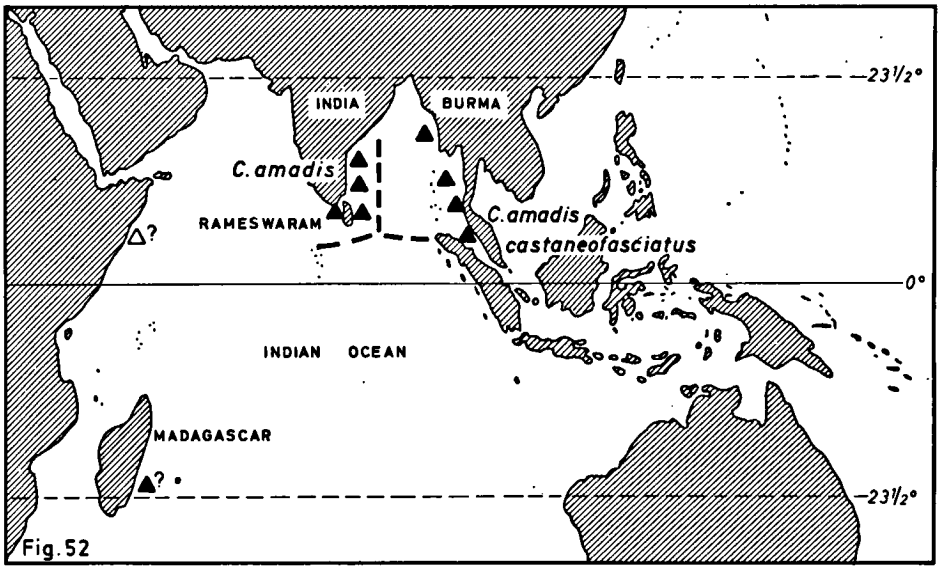

Fig. 52. Distribution of *Conus amadis*.

east in the Bay of Bengal. *C. amadis castaneofasciatus* is present in ZMA from the Bay of Bengal. In addition we have studied specimens, including forma *arbornatalis*, from the Andaman Sea, Thailand (Phuket, Ranong), and the Straits of Malacca (coll. RMNH and Wils).

We cannot verify the African localities. *C. amadis* is mentioned from North-East Africa by Marsh (1964: 42, 57). MNHN in Paris has a specimen from South-East Madagascar. A junior synonym of *C. amadis* was described as *Conus subacutus* by Fénaux (1942: 4), also from Madagascar.

amazonicus

Conus mediterraneus var. *amazonicus* Nardo, 1847, Sinon. moderna: 41-42

Type. – This variety was originally described in a manuscript by S. Chiereghini in 1802, to which Nardo referred. Chiereghini's collection is dispersed, and the type material of *amazonicus* is considered lost (cf. *Conus adriaticus* Nardo, in our former publication, Coomans, c.s., 1979: 83).

Type locality. – "Golfo Veneto", the Gulf of Venice in the Adriatic Sea.

Remarks. – This variety was described as having a green shell with white dots and stripes, and a band in the middle of the last whorl. We consider it a colour form of this very variable species: *Conus mediterraneus* Hwass forma *amazonicus* Nardo.

Our thanks are due to Mrs. Dr. M.I. Gerhardt for translating the Latin description.

ambaroides

Conus (Phasmoconus) ambaroides Shikama, 1977, Science Rep. Yokohama natn. Univ. (II) 24: 20-21, pl. 4 fig. 3, pl. 5 fig. 3

Type. – The type specimen, measurements 33.2 x 15.8 mm, is in coll. Shikama. This author passed away in 1978. Dr. Y. Hasegawa (Geological Institute, Yokohama National University) kindly informed us that the Shikama collection is to be deposited in the Kanagawa Prefectural Museum at Yokohama in the near future.

Type locality. – "Philippines".

Remarks. – Since the Shikama collection is at present not available for loan, we were not able to study the type specimen of *C. ambaroides*. From the original description and type figures the shell looks like a juvenile specimen of the common and very variable *Conus magus* Linné, 1758, which species is known from the Philippines. This was also suggested by Tucker (1979: 11).

ambiguus

figs. 53, 73, 74

Conus ambiguus Reeve, 1843, Proc. zool. Soc. Lond. 11: 177;
Conch. Icon. 1 (1844), Conus, pl. 44, spec. 244

Type. – The type specimen was originally in the Stainforth collection. Presently it is not in BMNH or in the National Museum of Wales, Cardiff. The type specimen must therefore be considered lost, and because it was not a representative specimen (see under remarks), the type figure is useless for the identification of *Conus ambiguus* (Reeve's type figure is reproduced here as fig. 73, the measurements are 36½ x 19 mm).

As a result there is confusion in recent literature about the identity of *C. ambiguus* and

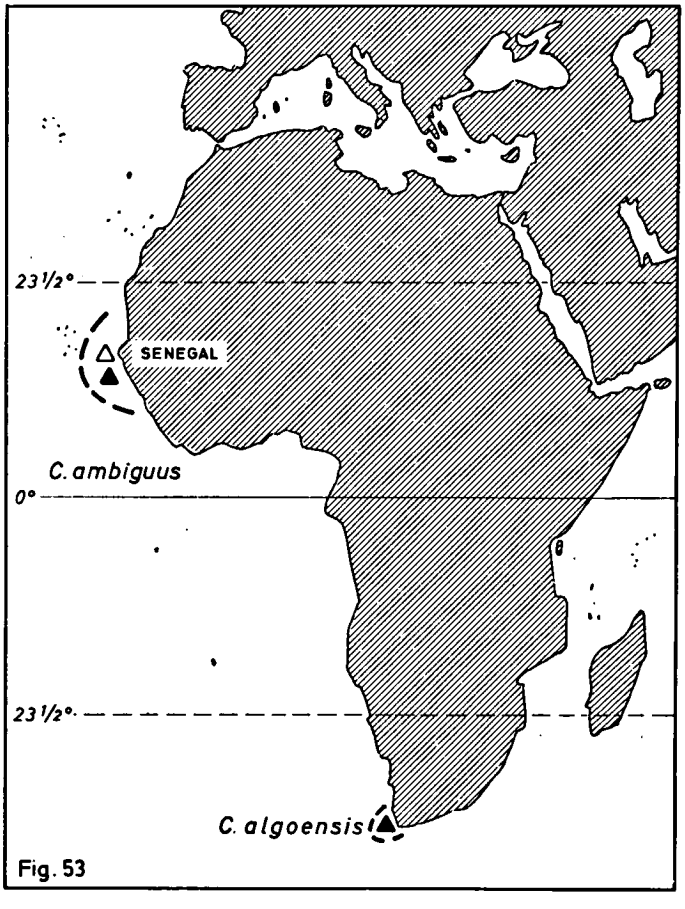

Fig. 53. Distribution of *Conus ambiguus* and *C. algoensis* (cf. fig. 51).

related species from West Africa. For the stability of nomenclature we herewith designate a neotype for *Conus ambiguus* Reeve, which specimen (fig. 74) is present in the Zoological Museum at Amsterdam, the dimensions of the shell are 39.3 x 23.0 mm. The neotype is in accordance with Reeve's description.

Type locality. – Not mentioned by Reeve. The neotype is from West Africa; the coast of Senegal is here designated restricted type locality.

Distribution. – *Conus ambiguus* is known from deeper water, 50-100 m, off the coast of Senegal (fig. 53).

ZMA has specimens from West Africa. Dr. J. Knudsen (ZMUC, Copenhagen) loaned us a live collected specimen from Senegal, off Joal (95 m), dimensions 46.5 x 23.1 mm.

Remarks. – *Conus ambiguus* Reeve is considered a valid species. After Reeve had described the type, he received specimens in better condition from which it was concluded (cf. Reeve, 1849, Conch. Icon. 1, Conus, Emendations: 3-4) that *Conus griseus* Kiener, 1845, from "les côtes septentrionales d'Afrique" (= the coasts of northern Africa) is conspecific. The present authors agree with this synonymy.

> Reeve's description reads as follows: "Shell turbinated, smooth, ridged towards the base, rather obsoletely engraved with very fine, festooned, longitudinal lines; white, palely stained with light brown; spire obtusely convex, slightly canaliculated, ornamented with arched brownish spots; apex raised and pointed."

The length of the shell is from 35 to 50 mm, the colour ranges from white to bluish gray and lilac.

Conus germanti (Petuch, 1975) from off Cape Verde is another synonym of *C. ambiguus*. Its description matches the holotype of *C. griseus* perfectly.

Conus tabidus Reeve, 1843, is a distinct species. The specimens we have studied were collected in shallow water at the Cape Verde Islands, and kindly donated to ZMA by Mr. L.P. Burnay and Mr. G.D. Saunders. The species probably also lives on the coast of Senegal. The shell is smaller (25-35 mm), more slender (width = half the length), often pear-shaped, with grooves on the spire, and slightly coronate. The colour is white to light yellow, sometimes with light-brown longitudinal stripes. *Conus "ambiguus"*, mentioned by Petuch (1975a: 182) and by Burnay & Monteiro (1977: 48-49, fig. 51) is *C. tabidus*.

Conus carnalis Sowerby III, 1879 (syn. *C. amethystinus*, see below in this publication) from Angola has round shoulders, less prominent spiral ridges at the base, and a more purplish colour; the length may reach 60 mm.

amboinensis

fig. 75

Conus ammiralis var. *amboinensis* Donovan, 1822, Natur. Repos. 1: pl. 1, fig. 1

Type. – Donovan has described two variants of *amboinensis*, α and β. Specimen α (pl. 1, fig. 1 in Donovan) is herewith designated lectotype. It is reproduced as fig. 75, the measurements are 68 x 34 mm.

Variant β (pl. 1, fig. 2 in Donovan) was renamed *C. ammiralis* var. *donovani* by Dautzenberg (1937: 20).

The type material was originally in the Leverian Museum, but sold afterwards and presently the whereabouts are unknown.

Type locality. – "Amboyna". The island of Ambon in the Moluccas is within the range of *Conus ammiralis*, see fig. 54.

Remarks. – The title page of The Naturalist's Repository, vol. 1, mentions the year 1834; however, this volume was published from April 1822 to April 1823.

Donovan called his variety "the three-banded Amboyna high-spired Admiral shell", with "two broad bands ..... and a narrow band between" (fig. 75). The number and width of bands in *C. ammiralis* is very variable; for this reason *amboinensis* Donovan must be considered a synonym of *Conus ammiralis* Linné, 1758.

americanus

Conus ammiralis americanus Gmelin, 1791, Syst. Nat. 13 ed., 1: 3378, no. 10 β

Type. – Not available.

Type locality. – Not mentioned.

Remarks. – After the studies of Kohn (1966: 78) the authors can only agree that *C. ammiralis americanus* Gmelin should be declared a nomen dubium.

amethysteus

Conus amethysteus Link, 1807, Beschr. Nat. Samml. Univ. Rostock 3: 105

Type. – Holotype is the shell figured in Martini (1773) pl. 63 fig. 708, dimensions 13 x 7 mm.

Type locality. – Not mentioned.

Remarks. – This little shell is unrecognizable; Link does not give a description and no type specimen is available.

From the description by Martini (1773: 347), translated from the German: "small, clouded violet and white, with spiral striations, spire pointed and coronate", this shell is also unidentifiable.

We therefore consider *Conus amethysteus* Link a nomen dubium.

amethystinus

figs. 81, 82

Conus amethystinus Trovão, 1975, Bolm. Centr. Port. Activ. subaq. 4(2): 9-10, pl. 1, fig. 1, pl. 2, figs. 1-2

Type. – The holotype is in the Laboratory of Malacology of CPAS at Lisbon (no. CON-097/187), measurements 34.2 x 19.1 mm. Four paratypes are also in CPAS, and one was deposited in Museum Bocage at Lisbon (destroyed by fire in March 1978). Four more

specimens were mentioned with the description.

Type locality. – "Angola, na orla costeira, entre 12°48' e 13°51' de lat. Sul." This is between Benguela and Lucira, Angola.

Remarks. – We have studied two specimens from the original material described by Trovão. One (fig. 81) is in MNHN at Paris (measurements 30.6 x 16.5 mm), the other (fig. 82) is present in the Natal Museum (no. G 7727, measurements 33.3 x 18.6 mm). These shells were compared to the type specimen of *Conus carnalis* Sowerby III, 1878 (National Museum of Wales), from which we must conclude that *C. amethystinus* Trovão is a junior synonym of *C. carnalis* (see also under *C. ambiguus* in this publication).

The authors are grateful to Mr. R.N. Kilburn (Natal Museum), Dr. G. Oliver (Museum Wales) and Dr. G. Richard (MNHN) for permitting us to study and photograph their material.

amigus

Conus mediterraneus var. *amigus* De Gregorio, 1885, Bull. Soc. malac. Ital. 11: 113

Type. – The author did not designate a holotype and the shell was not figured. Dr. M.G. di Palma (Intituto di Zoologia, Palermo) kindly informed us (in litt.) that the De Gregorio collection is kept in the Museo di Paleontologia of the University of Palermo. However, due to a reorganisation the shells are not available for study at the moment.

Type locality. – "Mediterraneo vivente- Partanna- Mondello Fossile (Strati inferiori del postpliocene)." Living in the Mediterranean Sea, and fossil known from lower Postpliocene deposits at Partanna, Mondello (Sicily), Italy.

Remarks. – According to the short description of *amigus* it differs from *C. mediterraneus* in the whorls of the spire, which are ornamented with two distinct spiral striae.

De Gregorio (1885) has recognized a number of "varieties" in *Conus mediterraneus* Hwass, 1792. The present authors consider *amigus* one of the many forms which were described in this polymorphic species.

ammiralis

figs. 54, 75-79

Conus ammiralis Linné, 1758, Syst. Nat. 10 ed., 1: 713, no. 257

Type. – From the specimens in Linnaeus' collection a lectotype was designated and figured by Kohn (1963: 744, fig. 1). This shell is stored in the collections of the Linnean Society of London; the measurements are 72 x 40 mm.

Type locality. – "O. Americae meridionalis". This locality is in error, as *C. ammiralis* does not occur in tropical American waters. Therefore we herewith designate the Moluccan Islands in Indonesia type locality.

Remarks. – *Conus ammiralis* Linné is a valid species. The shell is named after the yellow bands which encircle the body whorl (fig. 76), like the golden bands on the admiral's uniform (*Conus "admiralis"* of authors is a misspelling). The number (from two to six)

and width of these bands is variable. This variability has resulted in a score of names, already started by Linné himself (Dodge, 1953: 25-28). The frequency and size of the white triangular maculations also revealed some variation. All these names will be discussed later in their alphabetical sequence; for *abbreviata* Dautzenberg see Basteria 43: 14 (1979), for *amboinensis* (fig. 75) see this paper. Most of these names are synonyms of *Conus ammiralis*.

Granulated shells (fig. 77) seem to be rather common in this species (cf. Coomans, 1973: 321, fig. 1); the body whorl may be completely or partly granulose. The granulated form is known as *C. ammiralis* forma *architalassus* Solander, 1786 (synonyms: *architha-lassus* Hwass, 1792; *granulatus* Röding, 1798, non *C. granulatus* Linné, 1758).

Two subspecies may be recognized:

C. ammiralis ammiralis (fig. 76). The shell has a smooth shoulder and an (almost) straight body whorl; average length 55-70 mm, to a maximum of 80 mm; its range is the tropical Western Pacific.

C. ammiralis blainvillii Vignard, 1829 (non *C. blainvillei* Kiener, 1845). The shell has a coronated shoulder (fig. 78).

Conchologists are being confused by this coronation (on the shoulder) and granulation (on the body whorl). *Conus ammiralis coronatus* Gmelin, 1791 (non *C. coronatus* Gmelin, 1791) is not the coronated subspecies, but another synonym of the granulated forma *architalassus*. However, *C. ammiralis coronatus* of later authors represents the coronated subspecies, which was described by Vignard (1829) as *Conus blainvillii*. Next to the coronated shoulder, the shell of *blainvillii* has a convex body whorl, the average length is 45-55 mm, maximum 65 mm; it is found in the Indian Ocean. The shell of this rare subspecies was figured by Vignard (1829), Sowerby (1832-1841: pl. 36, fig. 46), Reeve (1843: pl. 3, fig. 11e), Kiener (1845: pl. 21, fig. 1c), and Walls (1979: 88 below).

Distribution. – *Conus ammiralis* s.s. lives in the tropical western Pacific from S. Japan to Queensland and eastern Indonesia (fig. 54). ZMA has specimens from Indonesia (Moluccas, Ambon, Mysool, Banda, Flores) and the Philippines (Sulu Archipelago, Siasi). We have also studied shells from Boeton near Celebes, and Ceram (RMNH); from Palawan, Cebu (Philippines), Guadalcanal (Solomon Is.), and Queensland (coll. H. Saesen).

C. ammiralis forma *architalassus* (fig. 77) is represented in ZMA from the Moluccas.

C. ammiralis blainvillii is known from Mozambique, Conducia Bay (Natal Museum, measurements 44 x 20 mm), and from Mauritius (Delaware Mus. Nat. Hist., 2 specimens, length 64.6 and 49.0 mm, cf. Walls, 1979: 88). It is mentioned in the literature from Madagascar and the Seychelles (fig. 54). ZMA has one specimen without a locality (fig. 78).

Another population has been discovered recently in the Andaman Sea around Raya Island, Phuket, Thailand (Da Motta & Lenavat, 1979: 4, pl. 2, figs. 22, 23). We have studied a few specimens, present in ZMA, MNHN in Paris (fig. 79) and coll. Wils and H. Saesen (Antwerp). The shell has a coronated shoulder and a convex body whorl like the African specimens. Average length 40-45 mm to a maximum of 55 mm. Next to smooth shells, granulated ones seem to be common. When more specimens of *blainvillii* from East Africa and Thailand become available, a decision about possible subspecific rank of the Thai population may be considered.

Dr. G. Richard kindly supplied us with a copy of the rare and privately printed

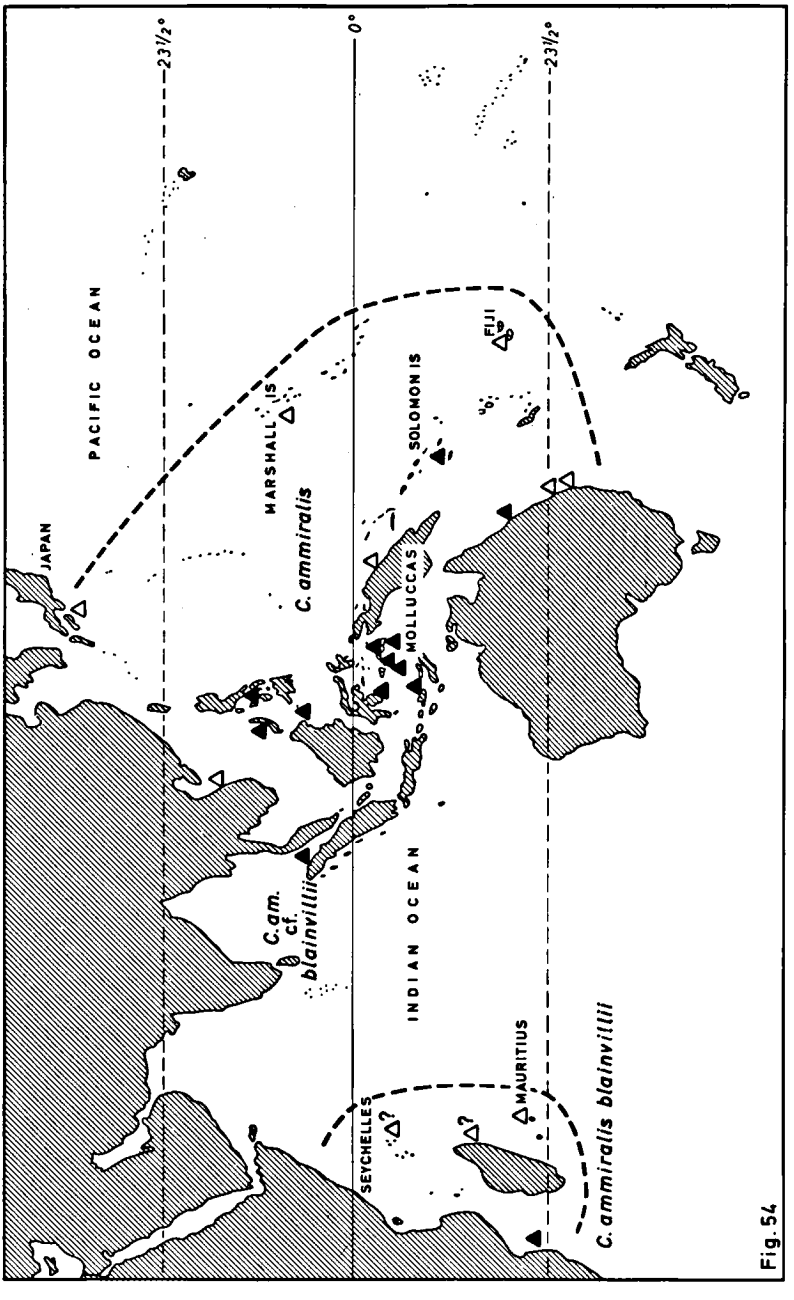

Fig. 54. Distribution of *Conus ammiralis*.

publication by Vignard. Our thanks are due to Mr. R.N. Kilburn (Natal Museum), Dr. G. Richard (MNHN, Paris) and Mr. H. Saesen (Antwerp) for the loan of specimens.

amphiurgus

figs. 55, 80

Conus amphiurgus Dall, 1889, Bull. Mus. comp. Zool. Harv. 18: 70

Type. – The type specimen is present in USNM (no. 87303), measurements 40.0 x 19.6 mm (fig. 80).

Type locality. – "Dredged in 27 fms., near the coast of Yucatan". Clench (1953: 374) defined the type locality as: Albatross, sta. 2366; Mexico, off Cape Catoche, Yucatan, 22°28' N., 87°02' W. in 27 fms.

Distribution. – Due to its rarity we do not have sufficient locality data to define the range of *C. amphiurgus*. The species is known from the Gulf of Mexico between Yucatan and Florida (fig. 55).

Remarks. – *C. amphiurgus* was obscurely described in the "Blake Report", and not figured by Dall. The holotype was figured by Clench (1953: pl. 184, fig. 2), and considered by him to be a junior synonym of *C. villepinii* Fischer & Bernardi, 1857. This synonymy is accepted by Wagner & Abbott (1978: 25-011), but not by the present authors. We consider *Conus amphiurgus* Dall a valid species.

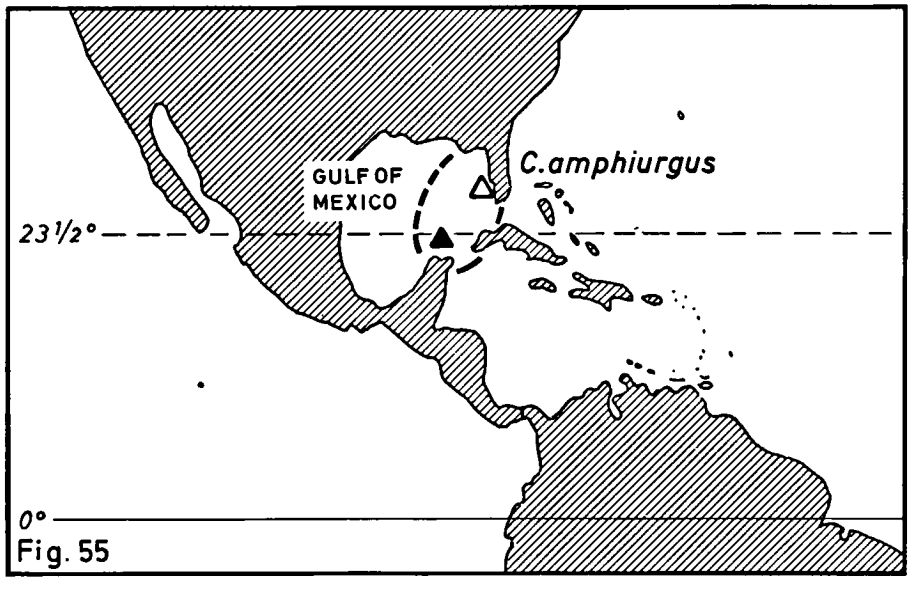

Fig. 55. Distribution of *Conus amphiurgus*.

Walls (1979: 91) placed *C. juliae* Clench, 1942, in the synonymy of *C. amphiurgus*. We have studied the type specimens of both species, from which the conspecificy could not be established yet.

Our thanks are due to Dr. R.S. Houbrick (USNM) and Dr. F.G. Thompson (Florida State Mus.) for the loan of type material.

anabathrum

figs. 83, 84

Conus anabathrum Crosse, 1865, J. Conchyl., Paris 13: 304, pl. 9, fig. 4

Type. – The type specimen is present in BMNH, London; dimensions 28.3 x 13.0 mm (fig. 83).

Type locality. – Not mentioned by Crosse. We herewith designate the coast of Florida type locality.

Remarks. – After studying the holotype of *C. anabathrum* (fig. 83) we cannot agree with Tomlin (1937: 211) and other authors that it is a synonym of *Conus japonicus* Hwass, 1792. Without any doubt the yellow coloured shell of *C. anabathrum* is conspecific with *Conus floridanus* Gabb, 1869 from Florida and the Bahamas (fig. 84).

For the stability of nomenclature it is, however, not to be recommended to change the well-known and established name of *Conus floridanus* into *C. anabathrum*, although the latter has four years priority. We consider *C. anabathrum* a senior synonym of *C. floridanus*. The status of nomen oblitum would be advisable for *C. anabathrum*.

The authors are grateful to Mrs. K.M. Way (BMNH) for permitting us to study the type specimen of *C. anabathrum*.

anadema

fig. 85

Conus anadema Tomlin, 1937 (nom. nov.), Proc. malac. Soc. Lond. 22: 206

Type. – *Conus anadema* is a new name for *C. fasciatus* Kiener, 1845 (non *fasciatus* Schroeter, 1803; non Perry, 1811). According to Kiener (1845: pl. 109, fig. 2; 1849-1850: 311-312) the type specimen of his *fasciatus* was in the Lorois collection; its present whereabouts are unknown. The type figure is reproduced here (fig. 85), the length of the shell is 42 mm.

Type locality. – Not mentioned by Tomlin or Kiener.

Remarks. – Kiener compared the type specimen to *C. monile* Hwass, 1792, but he considered them distinct. Later authors had different opinions. Tomlin (1937: 206, 211) did not supply any more information about *anadema* but the new name. The type figure of *C. anadema* (fig. 85) shows resemblance with *C. splendidulus* Sowerby I, 1833. Provisionally we consider *C. anadema* a valid species.

anaglypticus

fig. 86

Conus anaglypticus Crosse, 1865, J. Conchyl., Paris 13: 314-315, pl. 11, figs. 8, 8a

Type. – The type specimen is present in BMNH; dimensions 17.3 x 9.9 mm, the shell is granulated (fig. 86). Crosse also recognized a variety β ; this shell in BMNH is smooth and measures 16.0 x 8.8 mm. In the type lot a third specimen is present, length 13.2 mm and granulated; this shell is mentioned by Tomlin (1937: 211), but not by Crosse.

Type locality. – "In insulis Antillis".

Remarks. – After Sowerby's statement (1866: 325) that *Conus "anaglyptus"* (error for *anaglypticus*) is "nearly resembling *C. verrucosus* in form and sculpture", these species were considered synonyms by later authors. Tomlin (1937: 211) mentioned *C. anaglypticus* synonym of *C. mindanus* Hwass, 1792.

We have studied the type material of *C. anaglypticus*, and concluded that the holotype (fig. 86) represents a juvenile of the granulated form of *C. mindanus*. The variability of *Conus mindanus* has been discussed by us (Basteria 43: 89) under *C. agassizii*. The granulated form was called *C. mindanus* forma *karinae* Usticke, 1968. Since *C. anaglypticus* Crosse, 1865 has priority over *karinae*, the granulated shells of *C. mindanus* should be named forma *anaglypticus*.

C. anaglypticus var. β with its smooth shell is a junior synonym of *C. mindanus*.

Mrs. K.M. Way (BMNH) kindly permitted us to study the type material of *C. anaglypticus*.

anceps

fig. 87

Conus anceps A. Adams, 1854, Proc. zool. Soc. Lond. 21: 119

Type. – There are three syntypes in BMNH, London, length 81½, 78, and 65 mm respectively. According to Tomlin (1937: 211) the specimen with a length of 78 mm bears the original label of Adams; this shell is herewith designated lectotype of *C. anceps*.

Type locality. – "Moluccas".

Remarks. – *Conus anceps* is conspecific with *C. consors* Sowerby I, 1833, but more slender, with a higher spire and a striped pattern (fig. 87). For these reasons it can be considered a form: *C. consors* forma *anceps*.

Distribution. – *Conus consors* and forma *anceps* are found together around Indonesia and the Philippines.

ZMA has specimens of forma *anceps* from the Moluccas. One specimen of *anceps* from Naçala Bay, Mozambique, is present in the Natal Museum; this locality is far outside its known range.

andamanensis

Conus andamanensis E.A. Smith, 1878, Proc. zool. Soc. Lond. 1878: 804-805, pl. 50, fig. 1

Type. – The type specimen is present in BMNH, London, measurements 22 x 11 mm. Next to the description of the holotype Smith mentioned and figured (fig. 1a) a larger specimen, 31 x 15 mm, from coll. Hungerford; it is not in BMNH. However, in the lot with the holotype is another shell, 20½ x 9½ mm, not mentioned by Smith.

Type locality. – "a few fathoms off Port Blair, Andaman Islands".

Remarks. – The holotype of *Conus andamanensis* is a juvenile shell, as was confirmed by Smith. After having studied this specimen, and comparing it to the Conidae living around the Andaman Islands, *C. andamanensis* must be considered a juvenile, and therefore a synonym, of *Conus collisus* Reeve, 1849.

C. albospira E.A. Smith, 1880, discussed in part 2 of this series (Basteria 43: 98), is another name for juvenile *C. collisus*.

andrangae

fig. 90

Conus andrangae Schwengel, 1955, Nautilus 69 (1): 14-15, pl. 2, figs. 8-11

Type. – Holotype in USNM at Washington D.C. (no. 617.611), measurements 47.0 x 33.9 mm (fig. 90). Schwengel mentioned 47 x 32 mm. Paratypes in coll. J.S. Schwengel and coll. T.T. Dranga.

Type locality. – "Bahia El Coco, Costa Rica".

Remarks. – Schwengel (1955: 15) discussed the resemblance of *Conus andrangae* with *C. brunneus* Wood, 1828, and with *C. bartschi* Hanna & Strong, 1949. Hanna (1963: 15) considered *C. andrangae* a synonym of *C. brunneus* "with more light colored markings than usual in *brunneus*".

We have studied the holotype of *C. andrangae* (fig. 90) and compared it with specimens of *C. brunneus* and with the type specimen of *C. bartschi*. Our conclusion is that *C. andrangae* is conspecific with *C. bartschi* Hanna & Strong, and therefore a junior synonym of the latter. Both shells have no spiral cords on the whorls of the spire, as was also stated by Tucker (1979a: 42-43). *Conus brunneus* clearly shows these spiral cords on the spire whorls (cf. Kerstitch, 1979).

Our thanks are due to Dr. R.S. Houbrick (USNM) and Mr. B. Roth (California Academy of Sciences) for the loan of type material.

anemone

figs. 56, 88, 89

Conus anemone Lamarck, 1810, Annls. Mus. Hist. nat. Paris 15: 272, no. 78

Type. – From the type material mentioned by Lamarck two specimens are present in MHNG at Geneva (Mermod, 1947: 166), the measurements are 45 x 21 and 38 x 21½ mm. These shells were figured by Kiener (1845: pl. 46, figs. 3, 3a). A lectotype will be designated by A.J. Kohn (in press).

Type locality. – "les côtes de la nouvelle Hollande" (the coasts of New Holland = Australia).

Remarks. – *Conus anemone* Lamarck is a valid species (fig. 88). The variability in shape, colour and pattern has produced about ten names. The present authors have studied many specimens from a number of localities along the Australian coastline, and compared these with the opinions in literature.

We recognize two subspecies:

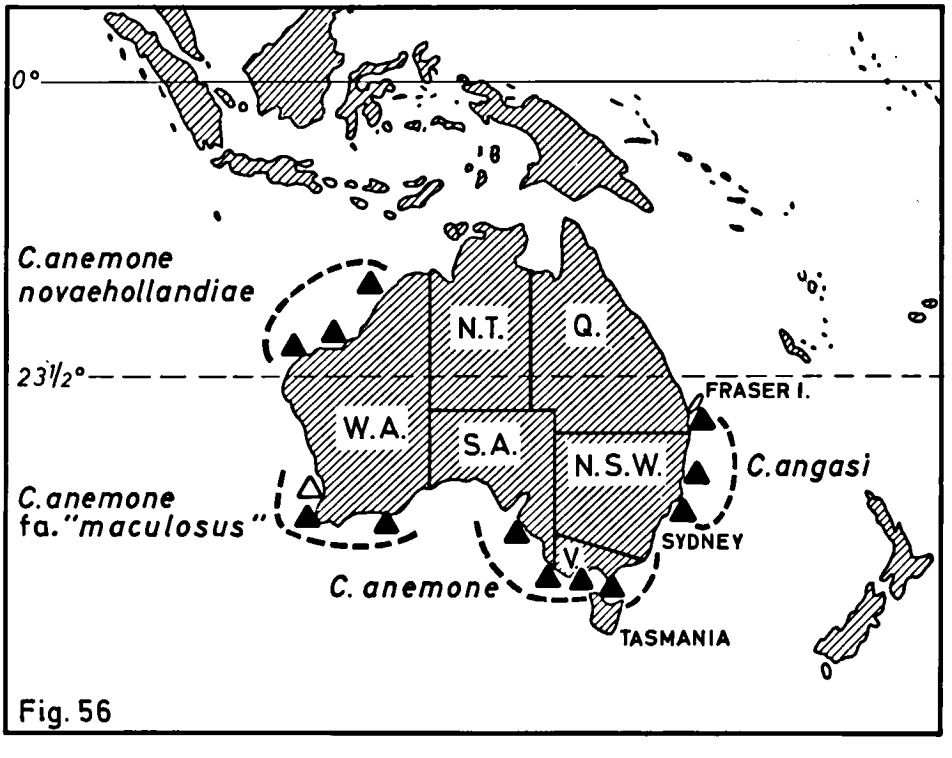

Fig. 56. Distribution of *Conus anemone* and *C. angasi*.

Conus anemone anemone Lamarck, with a moderately raised spire (fig. 88), found on the coasts of S. Australia and Victoria. High-spired shells from this area are known as forma *compressus* Sowerby II, 1866.

Conus anemone novaehollandiae A. Adams, 1854, with a low spire, is known from NW. Australia.

Specimens from the southwestern area of W. Australia are usually considered to be *C. anemone* s.s.; however, the shell is shaped like *novaehollandiae,* and often maculated (fig. 89). The name "forma *maculosus* Sowerby I, 1833" (non *maculosus* Röding, 1798) can be applied to these shells.

Distribution. – *Conus anemone* s.s. lives at the coast of S. Australia, Victoria, Tasmania, and southern N.S. Wales (fig. 56). ZMA has specimens from S. Australia. In addition we have studied shells from Edithburgh and Port Macdonnell in S. Australia, Torquay and Port Fairy in Victoria (coll. Wils), and from Tasmania (coll. H. Saesen).

C. anemone forma *compressus* is present from S. Australia (ZMA).

We have studied specimens of "forma *maculosus*" from the south-west coast (fig. 56) at Esperance (coll. Wils), Dunsborough, and Bunker Bay (ZMA). Walls (1979: 92) figures a specimen from Rockingham.

C. anemone novaehollandiae is found between North West Cape and Dampier Land (fig. 56). ZMA has specimens from Exmouth Gulf, Port Hedland, and Broome.

angasi

figs. 56, 91

Conus angasi Tryon, 1883, Manual Conch. (1) 6: 62-63, pl. 19, fig. 99

Type. – No type specimen is available, since *C. angasi* is a new name for *C. metcalfei* Angas, 1877 (non *C. metcalfii* Reeve, 1843).

Type locality. – The type locality of *C. metcalfei* is: "Dredged at Sow and Pigs reef, Port Jackson", N.S. Wales, Australia.

Remarks. – Although it was not explicitely stated by Tryon, that *C. angasi* is a nomen novum for *C. metcalfei*, he had copied the type figure and type locality, and mentioned: "Described by Angas as *C. Metcalfei*, a name preoccupied by Reeve".

Conus angasi Tryon is a valid species. We have studied specimens from Queensland (fig. 91) and N.S. Wales (coll. Saesen) *C. sydneyensis* Sowerby III, 1887, also from Port Jackson, is a junior synonym of *C. angasi*, but not a new name for *C. metcalfei* as was stated by Iredale & McMichael (1962: 76).

Flat spired specimens are known as forma *advertex* (Garrard), see no. 2 of this series (Basteria 43: 84, fig. 35, 1979).

Distribution. – Known from deeper water off Queensland and N.S. Wales, Australia (fig. 56), between Fraser Island and Sydney.

anglicus

Conus ammiralis anglicus Gmelin, 1791, Syst. Nat. 13 ed., 1: 3379

Type. – As Gmelin did not have a specimen, he referred to some figures in literature, from which Kohn (1966: 78, pl. 1, fig. 10) designated a lectotype. It is the figure in Knorr (1771: pt. 5, pl. 24, fig. 2), measurements 32 x 15 mm.

Type locality. – Not mentioned by Gmelin, (or by Knorr).

Remarks. – *Conus ammiralis anglicus* is not a subspecies of *C. ammiralis* Linné; in fact, *anglicus* is not related to this species at all. The same figure in Knorr was also used by Gmelin to represent *Conus coccineus*. For this reason *C. ammiralis anglicus* Gmelin is a synonym of *C. coccineus* Gmelin, 1791.

Walls (1979: 343, 947) favours the opinion that "the type figure of *C. coccineus* seems to be *C. vittatus*". If this were correct, the Panamic *C. vittatus* Hwass, 1792, must be named *C. coccineus* Gmelin, 1791, since the latter has one year priority.

We have compared the type figure in Knorr with specimens of the Panamic *C. vittatus* and with the western Pacific *C. coccineus*. The figure in Knorr shows characters of the western Pacific species, like an elongate shell tapering at the base, a red colour with only one white band in the middle covered with some larger brown dots above and smaller spots below. Other characters are those of *C. vittatus*, like a maculated spire and a smooth shoulder; however, *C. vittatus* has a triangular shell, often more than one white band on the body whorl, whereas the brown dots are differently situated, and the shell colour is yellowish brown. Thus there are reasons to consider the figure of *C. coccineus* in Knorr a specimen of the western Pacific species. Accepting this view, leaves the name *C. vittatus* for the Panamic species, and so no unnecessary nomenclatorial changes are proposed.

angolensis

Conus angolensis Paes da Franca, 1957, Trab. Miss. Biol. marit. 13: 80-81, pl. 1, figs. 7-8, pl. 2

Type. – The holotype is present in Missão de Biologia Maritíma, Junta de Investigações do Ultramar, Lisbon, length 29 mm. One paratype, length 17 mm.

Type locality. – "Baía da Lucira, na praia" (Lucira Bay, on the beach), Angola.

Remarks. – We did not study the type material. In the description, which is in Portuguese, the author does not mention any species to which she has compared *C. angolensis*. The shell has zebra-like stripes. Size, shape and pattern of the shell in *C. angolensis* lead to the conclusion that it is a junior synonym of *Conus bulbus* Reeve, 1843 (type locality Cabinda, north of the mouth of the Congo River).

angulatus

fig. 92

Conus angulatus A. Adams, 1854, Proc. zool. Soc. Lond. 21: 118

Type. – The type specimen is present in BMNH; the measurements are 40.5 x 22.4 mm (fig. 92).

Type locality. – Not mentioned.

Remarks. – We have studied the holotype. Its length must have been greater, because the base is slightly damaged (fig. 92). The present authors agree with the opinion of former authors (Tomlin, 1937: 212; Emerson & Old, 1962: 20; Hanna, 1963: 30) about *C. angulatus* being a junior synonym of *Conus regularis* Sowerby I, 1833.

Some authors consider *Conus gradatus* Wood, 1828, to be the first available name for this species. However, the identity of *C. gradatus* is still questionable at the moment.

annularis

Cucullus annularis Röding, 1798, Mus. Boltenianum 2: 40, no. 499/24

Type. – Röding mentioned one specimen, which must be considered lost (cf. Kohn, 1975: 192).

Type locality. – Not given.

Remarks. – Röding did not supply a description. He only stated: "Die geringelte Tute. Gmel. sp. 24. C. varius 1 St." We agree with Kohn (1975: 193-194) that *Conus annularis* (Röding) is a junior synonym of *C. varius* Linné, 1758.

annulus

Cucullus annulus Röding, 1798, Mus. Boltenianum 2: 44, no. 555/65

Type. – Röding mentioned one specimen, which is considered lost.

Type locality. – Not given.

Remarks. – Röding only stated: "Die Ring-Tute 1 St." (The ring Cone, 1 specimen), without a description or reference. *Conus annulus* (Röding) is therefore a nomen nudum.

anonymus

Cucullus anonymus Röding, 1798, Mus. Boltenianum 2: 48, no. 607/101

Type. – Röding mentioned two specimens, which are considered lost.

Type locality. – Not given.

Remarks. – Röding only stated: "Die namenlose Tute. 2 St." (The nameless Cone, 2

specimens), without a description or reference. *Conus anonymus* (Röding) is therefore a nomen nudum.

anthonyi

fig. 93

Africonus anthonyi Petuch, 1975, Veliger 17 (3): 263, figs. 5-6

Type. – Holotype in California Academy of Sciences, Geological Department, San Francisco (no. 54805). Measurements 11.2 x 6.1 mm (fig. 93); Petuch gave 13 x 6 mm. Walls (1979: 96) figured a "paratype" of *C. anthonyi*; however, no paratypes are mentioned in the original description.

Type locality. – "Baia do Inferno, São Tiago Island, Cabo Verde Islands (15°00' N; 24°33' W), under rocks in 1 m of water".

Remarks. – This species is based on only one specimen, a juvenile shell, which was studied by us (fig. 93), and compared to the type material of *Conus lugubris* Reeve, 1849, in BMNH, London. These are conspecific. The length of adult *C. lugubris* is somewhat over 20 mm. Further studies may lead to the conclusion that *C. lugubris* is a synonym of *C. reticulatus* Born, 1778. For the time being *Conus anthonyi* (Petuch) is considered a junior synonym of *C. lugubris* Reeve.

Petuch (1975: 262) placed *C. anthonyi* in a new genus *Africonus*, which has its distribution in the Mauretanian Province of W. Africa. *Conus cuneolus* Reeve, 1843, the type species, and four more species were assigned to *Africonus*, but *C. lugubris* and *C. reticulatus* were not included.

Our thanks are due to Mr. B. Roth (California Academy of Sciences) for the loan of the type specimen of *C. anthonyi*.

antillarum

Cucullus antillarum Röding, 1798, Mus. Boltenianum 2: 47, no. 596/92

Type. – Röding mentioned seven specimens, which must be considered lost. From the literature references Kohn (1975: 194, pl. 1, fig. 2) has designated a lectotype. It is the shell figured in Knorr (1768: pt. 3, pl. 6, fig. 5).

Type locality. – Not given by Röding, although the name "antillarum" indicates a species from the Antilles.

Remarks. – Tomlin (1937: 213) identified the type figure in Knorr as *Conus pertusus* Hwass, 1792, an Indo-Pacific species. However, we agree with Kohn (1975) that *C. antillarum* (Röding) is a junior synonym of *C. granulatus* Linné, 1758, from the Antilles. Knorr also stated that the figured shell was the West Indian Admiral, and his description clearly indicates *C. granulatus*.

SUMMARY

Based on the original descriptions, and on the *Conus* collection of the Zoological Museum, Amsterdam and other museum and private collections, the (sub)specific names in the recent Conidae are revised. Illustrations and distribution maps are supplied. In the third part the following *Conus* names are discussed:

agulhasi nov. subspecies of *C. algoensis* Sow. – Cape Agulhas.
albus Sow. – albino of *C. magus* L.
albus Shaw – homonym of *albus* Sow.; a colour form of *C. quercinus* Sol.
aldrovandi Dautz. – homonym of *aldrovandi* Brocchi (fossil); junior synonym of *C. leopardus* (Röding), lectotype designated.
alexandrinus "authors" – nomen nudum.
alfredensis Bartsch – junior synonym of *C. tinianus* Hw., lectotype designated.
algoensis Sow. – valid species, lectotype designated – S. Africa.
alternans Dautz. – a form of *C. betulinus* L., lectotype designated.
alternatus Link – junior synonym of *C. eburneus* Hw.
alticonica Pallary – objective synonym of *C. mediterraneus* fa. *ater* Phil., lectotype designated.
altispiratus Sow. – provisionally considered a valid species, holotype rediscovered – ? South Africa.
alveolus Sow. – junior synonym of *C. stramineus* Lam.
amabilis Lam. – junior synonym of *C. pertusus* Hw.
amadis Gmel. – valid species – Bay of Bengal, Rameswaram designated type locality.
amazonicus Nardo – colour form of *C. mediterraneus* Hw. – Gulf of Venice.
ambaroides Shikama – probably synonym (juvenile) of *C. magus* L. – Philippines.
ambiguus Rve – valid species, neotype designated – West Africa, the coast of Senegal designated type locality.
amboinensis Donovan – junior synonym of *C. ammiralis* L., lectotype designated.
americanus Gmel. – nomen dubium.
amethysteus Link – nomen dubium.
amethystinus Trovão – junior synonym of *C. carnalis* Sow.
amigus Gregorio – a form of *C. mediterraneus* Hw.
ammiralis L. – valid species – Moluccas designated type locality. Two subspecies are recognized: *C. a. ammiralis* (tropical Western Pacific), and *C. a. blainvillii* Vignard (East Africa and W. Thailand).
amphiurgus Dall – valid species – Gulf of Mexico.
anabathrum Crosse – senior synonym of *C. floridanus* Gabb – Florida designated type locality.
anadema Tomlin – provisionally considered a valid species.
anaglypticus Crosse – first name for the granulated form of *C. mindanus* Hw. – Antilles.
anceps A. Ads – a form of *C. consors* Sow., lectotype designated.
andamanensis E.A. Smith – junior synonym (juvenile) of *C. collisus* Rve.
andrangae Schwengel – junior synonym of *C. bartschi* Hanna & Strong.
anemone Lam. – valid species – S. Australia, Victoria.
angasi Tryon – valid species – Queensland, N.S. Wales.
anglicus Gmel. – synonym of *C. coccineus* Gmel.
angolensis Paes-da Franca – junior synonym of *C. bulbus* Rve.
angulatus A. Ads. – junior synonym of *C. regularis* Sow.
annularis (Röding) – junior synonym of *C. varius* L.
annulus (Röding) – nomen nudum.
anonymus (Röding) – nomen nudum.
anthonyi (Petuch) – junior synonym of *C. lugubris* Rve.
antillarum (Röding) – junior synonym of *C. granulatus* L.

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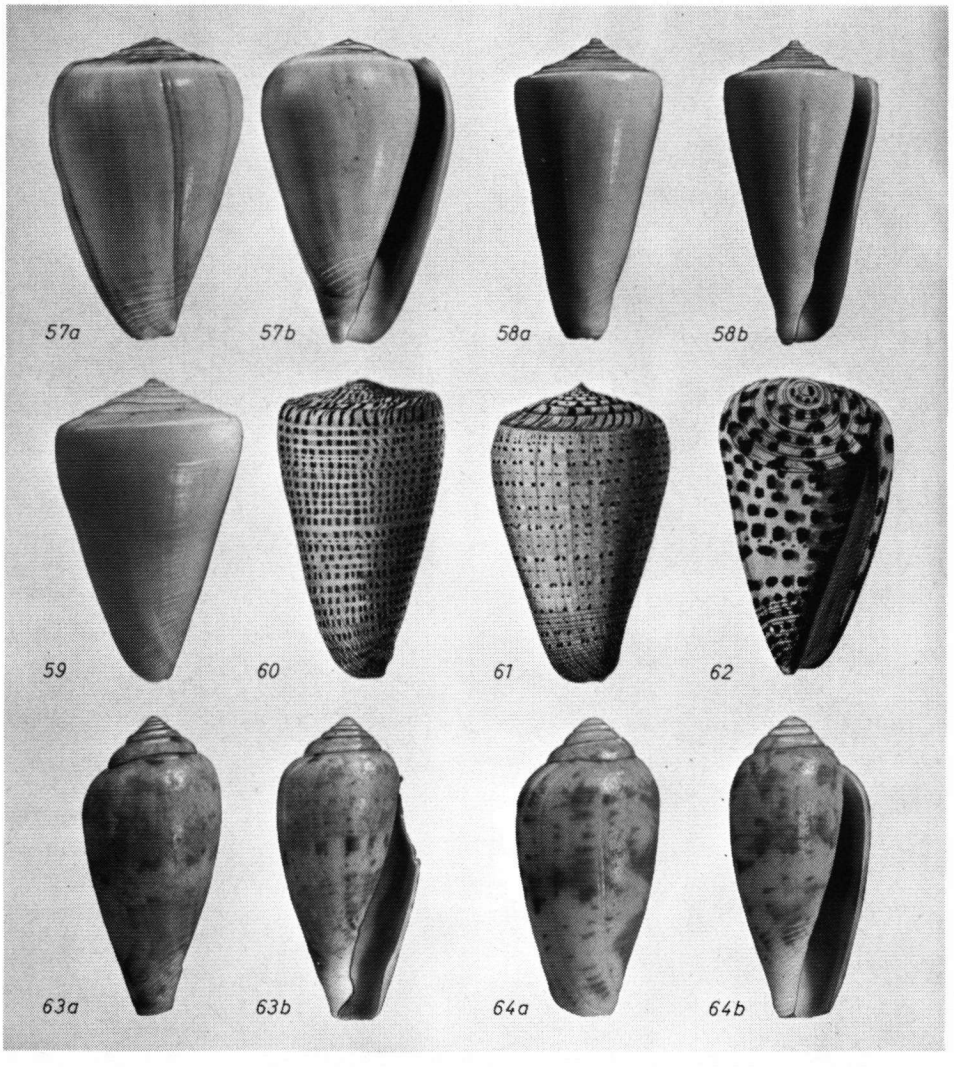


Fig. 57. *Conus figulinus loroisii* fa. *agrestis* Mörch, paratype, India, Tranquebar, length 76.0 mm (ZMUC). See Basteria 43: 90, 1979.
Fig. 58. *C. magus* L. (albino), holotype of *C. albus* Sow., length 48.7 mm (BMNH).
Fig. 59. *C. quercinus* fa. *albus* Shaw, Moluccas, length 55.3 mm.
Fig. 60. *C. leopardus* (Röd.), lectotype of *C. millepunctatus* Lam. var. *aldrovandi* Dtz., (after Hwass), length 119 mm.
Fig. 61. *C. betulinus* fa. *alternans* Dtz., (after Hwass), lectotype, length 126 mm.
Fig. 62 *C. eburneus* Hw., type figure of *C. alternatus* Link, (after Martini), length 44 mm.
Figs. 63-64. *C. tinianus* Hw., S. Africa, Port Alfred (USNM). 63. Lectotype of *C. alfredensis* Bartsch, length 44.9 mm. 64. Paralectotype, length 35.3 mm.

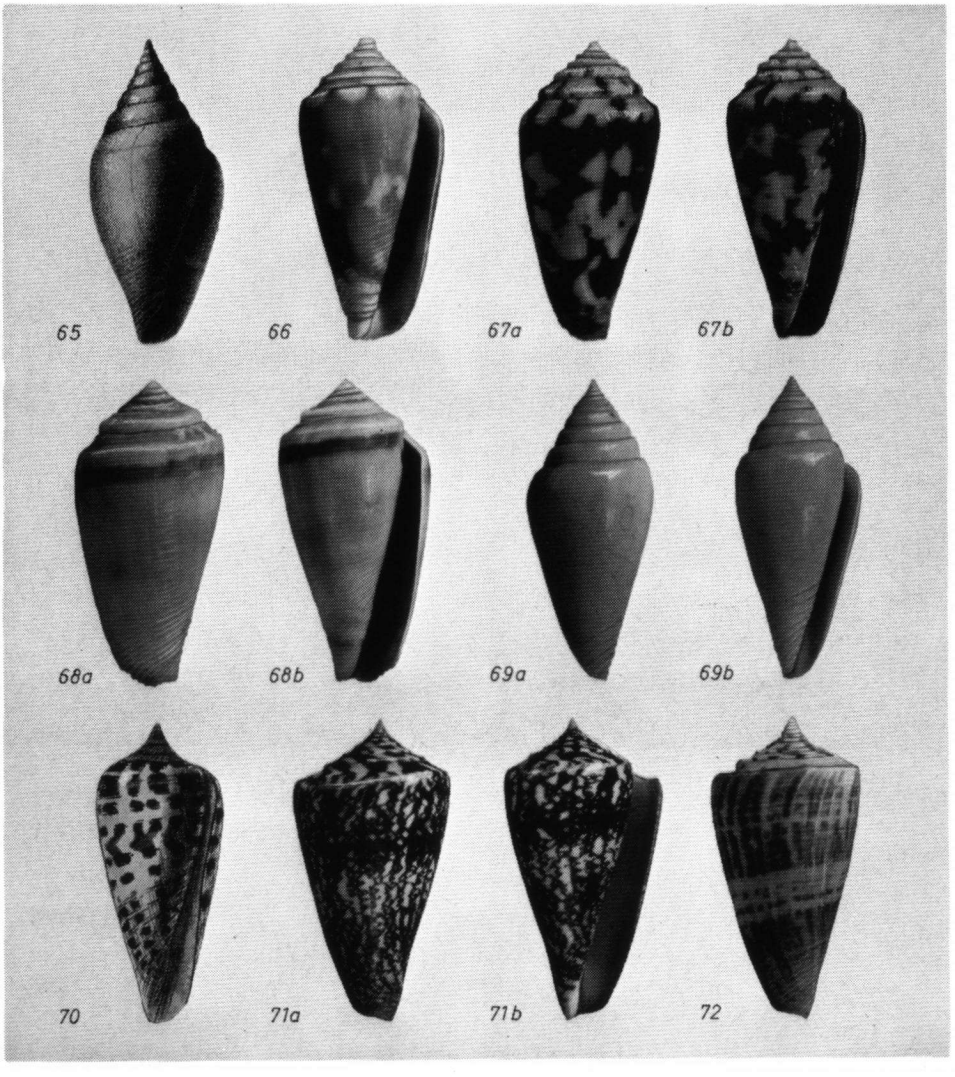
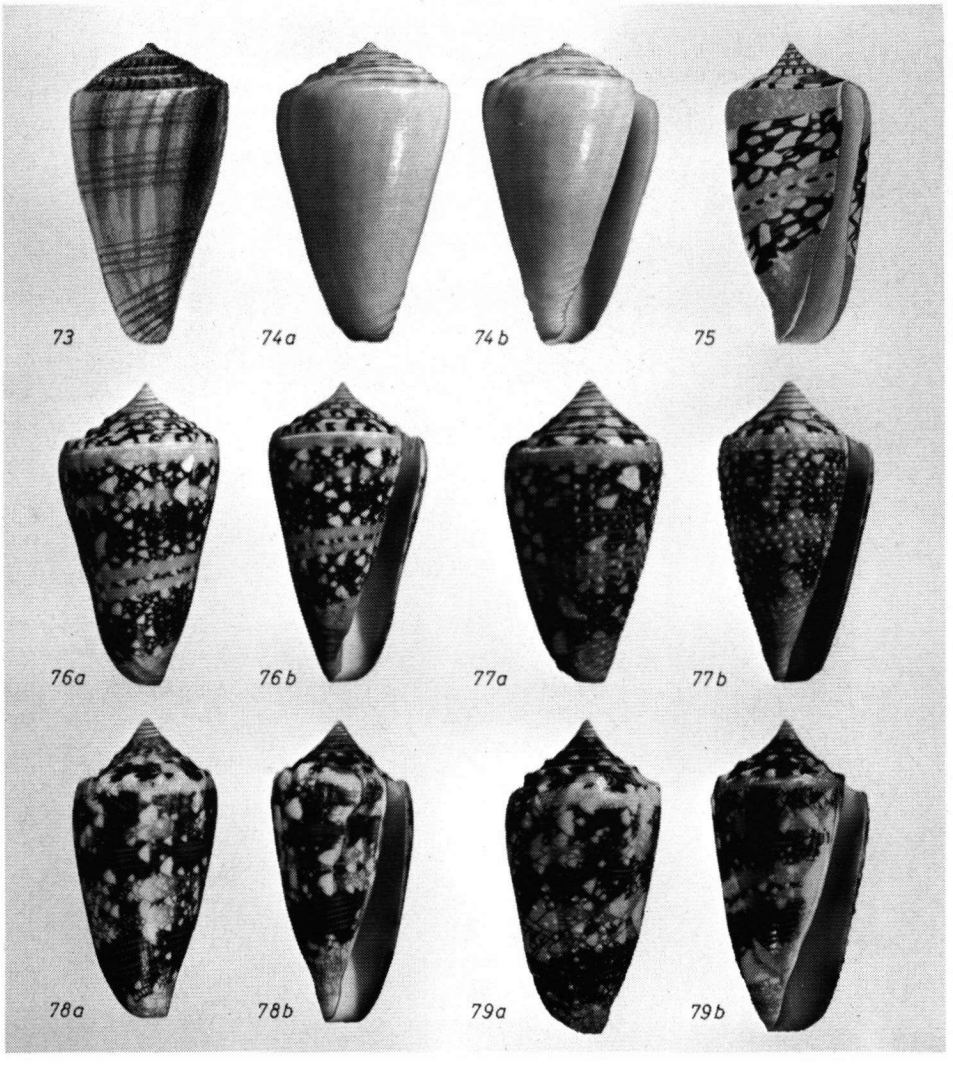


Fig. 65. *Conus mediterraneus* fa. *alticonica* Pall., (after Philippi), lectotype, Sicily, length 41 mm.
Figs. 66-67. *C. algoensis algoensis* Sow. 66. S. Africa, length 23.2 mm. 67. Table Bay, length 23.4 mm.
Fig. 68. *C. algoensis agulhasi* nov. subsp., holotype, S. Africa, Cape Agulhas, length 23.4 mm.
Fig. 69. *C. altispiratus* Sow., holotype, "Agulhas Bank", length 37.0 mm.
Fig. 70. *C. stramineus* Lam., type figure of *C. alveolus* Sow., (after Sowerby), length 35 mm.
Figs. 71-72. *C. amadis* Gmel. 71. India, Rameswaram, length 77.1 mm. 72. Ceylon, length 59.7 mm.



Figs. 73-74. *Conus ambiguus* Rve. 73. Type figure (after Reeve), length 36½ mm. 74. Neotype, length 39.3 mm., West Africa.
Figs. 75-77. *C. ammiralis* L. 75. Lectotype of *C. a.* var. *amboinensis* Don., (after Donovan), length 68 mm. 76. *C. a. ammiralis*, Moluccas, length 67.3 mm. 77. *C. a.* fa. *architalassus* Sol., Moluccas, length 36.0 mm.
Figs. 78-79. *C. ammiralis blainvillii* Vign. 78. length 47.3 mm. 79. W. Thailand, Raya la Petite, length 49.4 mm (MNHN).

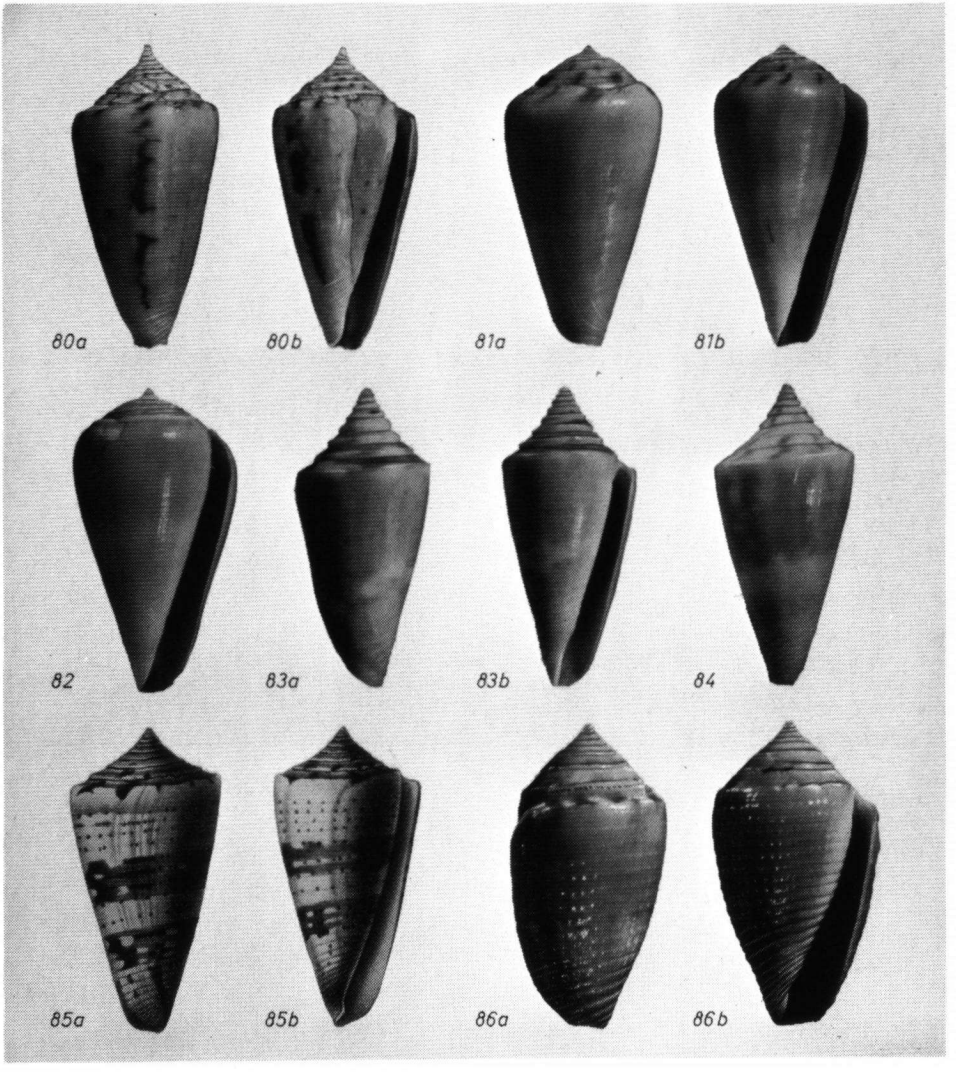


Fig. 80. *Conus amphiurgus* Dall, holotype, Mexico, Yucatan, length 40.0 mm (USNM).
Figs. 81-82. *C. carnalis* Sow. "Paratypes" of *C. amethystinus* Trovão, Angola, Lucira-Benguela area. 81. Length 30.6 mm (MNHN). 82. Length 33.3 mm (Natal Mus.).
Figs. 83-84. *C. floridanus* Gabb. 83. Holotype of *C. anabathrum* Cr., length 28.3 mm (BMNH). 84. Florida, length 29.7 mm.
Fig. 85. *C. anadema* Toml. Type figure of *C. fasciatus* Kiener, (after Kiener), length 42 mm.
Fig. 86. *C. mindanus* fa. *anaglypticus*, holotype of *C. anaglypticus* Crosse, length 17.3 mm (BMNH).

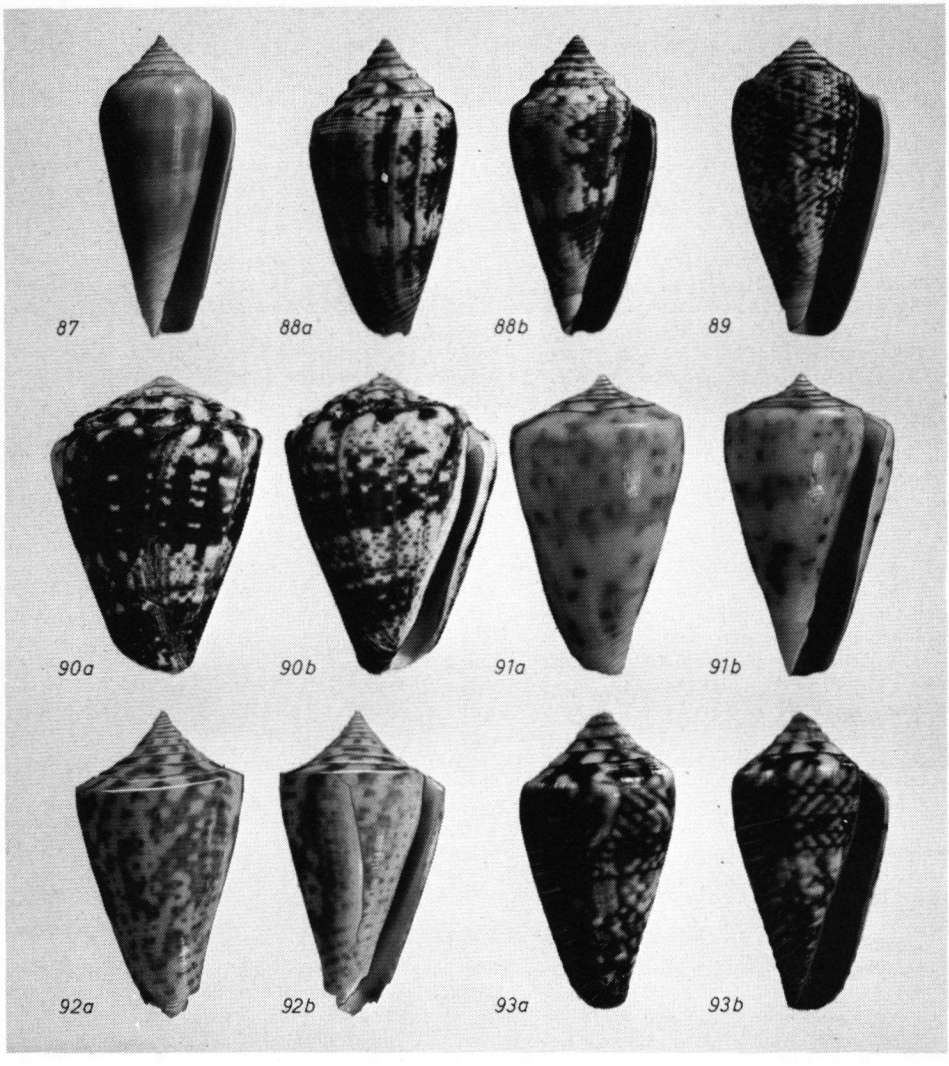


Fig. 87. *Conus consors* fa. *anceps* Ads., Moluccas, length 60.1 mm.
Figs. 88-89. *C. anemone* Lam. 88. S. Australia, length 44.1 mm. 89. *C. anemone* "fa. *maculosus* Sow.", W. Australia, Dunsborough, length 34.7 mm.
Fig. 90. *C. bartschi* Han. & Str., holotype of *C. andrangae* Schw., Costa Rica, length 47.0 mm (USNM).
Fig. 91. *C. angasi* Tryon, Queensland, length 28.2 mm (coll. Wils).
Fig. 92. *C. regularis* Sow., holotype of *C. angulatus* Ads., length 40.5 mm (BMNH).
Fig. 93. *C. lugubris* Rve. (juvenile), holotype of *C. anthonyi* (Petuch). Cape Verde Is., length 11.2 mm (Calif. Acad. Sci.).
Unless otherwise stated, specimens in ZMA.