

Seventeen New Cone Shell Names (*GASTROPODA: CONIDAE*)

by
A. J. da Motta

Nine of the new taxa being proposed hereunder represent conclusions resulting directly from the research process undertaken in the course of an indepth review of the *Conus textile* complex, currently being published in a series of articles in *La Conchiglia*, which started with the Jul-Aug. 1981 issue.

The study entailed investigation into the origin of every single name within the tented shell group. This led to the discovery that the popularly known *Conus episcopus auctorum* was still without a valid name; two others: *Conus auratus* Hwass, 1792 and *Conus vicarius auctorum* had been erroneously classified by subsequent authors and must therefore be renamed.

Some of the remaining species were wrongly regarded as being conspecific with unrelated species while several others could not be identified with any already described previously known species. To this last category are added several altogether newly discovered species, among which, the descriptions of four species are being co-authored with Mr Taizo Ninomiya of Tokyo, Japan, Manfred Blöcher of Duisburg, Germany and Dieter Röckel of Darmstadt, Germany.

Conus episcopatus sp. nov. da Motta

Fig. 1

Description: Shell turbinate, subcylindrical and smooth; six spiral whorls obtuse at its apex; stoutly shouldered and subangulate; sides moderately convex with an elongated body whorl; large white areas of indistinct trigonal shape within irregular chestnut-brown blotches; body whorl sculptured with very fine and close spiral striae; aperture wide and flaring out towards the base; interior, porcelaneous-white.

Holotype: The holotype measures 82 mm×36,5 mm and is lodged with the Museum d'Histoire Naturelle, Geneva under No. 981.739.

Paratypes: No. 1 70 mm×32 mm

2 69 mm×32 mm

both from Comorro Island, Indian Ocean; retained by the author for distribution to other museums.

Type locality: Found in shallow water, Mahe Island, Seychelles.

Distribution: This species is extremely prolific and is widely distributed throughout the Indo-West Pacific region. It is found in several color and pattern forms, and when fully mature, tends to develop bulging shoulders.

Discussion: This species has remained nameless although popularly known as *Conus episcopus* auctorum, and not to be confused with the species so named by Hwass, 1792, which is an ovately-oblong shell with a needle point apex and having varying sizes of tent markings of a russet color; an entirely different and distinct species. *Conus episcopatus* is closest to *Conus magnificus* Reeve, 1843. However, the latter is a more solid and heavier shell with less tapering sides as well as its unique maroon coloration and pattern of much smaller tenting marks. Occasionally it is confused with *Conus pennaceus* Born, 1778 but can be separated from the latter's flat spire and sharply pointed apex. Some forms of *Conus aulicus* Linne, 1758 have similar brown and large white markings, but differ by having ventricose sides and an acute apex.

Conus auratinus sp. nov. da Motta

Fig. 2

Description: Shell elongately cylindrical, smooth; spire conical, obtuse at the apex; eight whorls obliquely flattened on top with channeled sutures; shoulder level, almost without angulation, slopes down to flat sides throughout its attenuated length, suddenly constricting at the basal end, resembling the shape of a cigar. Entire surface is decorated with reddish-brown blotches of varying sizes surrounded by heart-shaped or triangular rosy-pink spots; within the blotches, strands, articulated with pink spots are visible. Body whorl is covered with very fine transverse striae forming deeper sulci at the base. Aperture is wide and broadened at the anterior end; the interior, a nacreous pink shade.

Holotype: The holotype measures 82 mm×29,5 mm and is lodged with the Museum d'Histoire Naturelle, Geneva under No. 982.118.

Paratypes: No. 1 85 mm×31 mm

2 56 mm×20,5 mm

retained by the author for subsequent distribution to other museums.

Type locality: Taken in shallow water, Fakarava Island, Tuamotu Archipelago.

Distribution: The type described is peculiar to the Tuamotu Archipelago. A form with smaller tenting pattern has been found in Kwajalein; also, a chestnut-colored one from Samar, Philippines. Occurrence in other Pacific island has been reported; but not known in the Indian Ocean.

Discussion: *Conus auratus*, Hwass, 1792 or the synonymous *Conus aulicus forma aurantia* Dautzenberg, 1937 by comparison with *Conus auratinus* is a much larger shell with a sharply pointed apex, weakly carinated shoulder and ventricose sides, which rounds off to a constricted basal end. Its ground color is contrastingly white and the ornamentation, golden-orange. The large blotches are without any inner decorations except for the plain lineations of the transverse striae. In color, pattern and structural morphology, no affinity, beyond being congeneric, can be established between these two altogether different species. *Conus auricomus* Hwass, 1792 is structurally closer to *C. auratinus* but is generally a smaller-sized species with a completely different pattern arrangement, and never seen in the reddish coloration of *C. auratinus*.

Conus quasimagnificus sp. nov. da Motta

Fig. 3

Description: Shell oblong, turbinated and stout; spire low, obtuse at its apex; eight whorls, flat on top, with closely coiled sutures; shoulders very broad and swollen with flat sides which taper to a constricted base. Body whorl is sculptured with very fine and close spiral striae, those at base of the canal becoming stronger and sulcated. The entire surface from spire to base is ornamented with reticulations of ovately-triangular white spots or chestnut-brown with several large blotches of the same color forming two interrupted circular bands, inside of which decorations of continuous strands articulated with white spots can be seen. Aperture is broad and dilated towards the base and the interior, porcelaneous-white. Periostracum is a light translucent brown.

Holotype: The holotype measures 68,5 mm×38 mm and is deposited with the Museum d'Histoire Naturelle, Geneva under No. 981.736.

Paratypes: No. 1 64 mm×36 mm
2 61 mm×34 mm

Type locality: Found in shallow water in Khor Fakkau in the Gulf of Oman.

Distribution: The new species is found throughout the Middle East and ranges towards the north-eastern coast of Africa and Seychelles islands. Some forms are reddish-brown with more closely-packed reticulations.

Discussion: The new species can readily be distinguished from *Conus magnificus* Reeve, 1843 by the latter's pinkish ground color, straight sides which do not taper, and more elongated body whorl, and in place of the tessellated strands within the large patches, it is sprinkled with minute white spots. Comparison of growth series shows the young of the new species starting its earlier stages resembling *Conus pennaceus* Born, 1778 in shape with already inflated shoulder, whereas *C. magnificus*, before reaching maturity, would resemble the more cylindrical *Conus episcopatus*, from which it is sometimes difficult to tell apart. There is also no geographical link between the two species; *C. magnificus*, proliferating in Central & S.E. Pacific, the other, confined to western Indian Ocean. *C. pennaceus* is found sympatrically with *quasimagnificus* thereby proving their separate identities.

Conus textile neovicarius ssp. nov. da Motta

Fig. 4

Description: Shell conic, oblong-ovate and heavy; ten closely-coiled spiral whorls with a pointed rose-tinted apex; shoulder subangular and lightly carinated, bulging out prominently at its upper part, with tapering flat sides sigmoid at the waist. Entire surface is decorated with medium-sized tenting, with numerous small and larger patches of orange-brown flammules in three vague circular bands. Aperture is wide and dilated at the anterior end with a porcelaneous-white cavity.

Holotype: The holotype measures 76 mm×45 mm and is deposited with the Museum d'Histoire Naturelle, Geneva, under No. 982.115.

Paratypes: No. 1 78 mm×39 mm
2 74 mm×36,5 mm
3 54 mm×28 mm

retained by the author for distribution to other museums.

Type locality: Found in shallow waters in Sharem-el-Shech, Gulf of Aqueba.

Distribution: Confined to the Red Sea and some areas of the Arabian Sea.

Discussion: The new species was erroneously identified by Reeve, Sowerby and other authors as *Conus vicarius* Lamarck, 1810 non Linné, 1767. The name, being preoccupied, was replaced by *C. abbreviata* Dautzenberg, 1937 non Reeve 1843. Lamarck's *vicarius*, in any event, is not a variety of *C. textile* Linné, 1758 but a form of *C. ammiralis* Linné, 1758. The new species is unique in having swollen shoulders instead of the usual ventricose contours of *C. textile*, together with its pinched-in mid-section, characteristics not seen in other conspecific populations. Because these features are consistently present even in young specimens, allowing for ready identification, its taxonomic separation is fully justified. The new taxon *Conus neovicarius* is being proposed to substitute for *C. vicarius* auctorum and not *C. vicarius* Lamarck, 1810 non Linné, 1767.

Conus textile dahlakensis ssp. nov. da Motta

Fig. 5

Description: Shell heavy, smooth and cylindrically ovate; conic spire with nine smooth, closely-coiled whorls and a pointed white apex (pink when young). Shoulder subangulate and rounded, with flat sides which taper down the length of its elongated body whorl. Body surface is reticulated profusely with white tentings delineated with chestnut-brown, and encircled by three bands formed with interrupted patches of golden-brown flammules; the same flammules marking the spire in a radial pattern. Aperture is wide, flaring out towards the base; the interior being porcelaneous-white.

Holotype: The holotype measures 87 mm×40 mm and is lodged with the Museum d'Histoire Naturelle, Geneva under No. 982.111.

Paratypes: No. 1 82,5 mm×37,5 mm
2 63 mm×31,2 mm
3 48 mm×23 mm

Type locality: Taken by native divers in shallow waters in the area of Dahlak Archipelago, off Massawa in the Red Sea.

Distribution: As explained in the next paragraph, it is believed that the subspecies is endemic to the type locality.

Discussion: The new subspecies belongs to a population found in the area of the Dahlak Archipelago and is unique because only the one single form described has consistently been found, without any color or pattern varieties within its vicinity. Compared with the typical *Conus textile* Linné, 1758 it does not have the latter's usual concave spire, ventricose sides and oval contours. It appears to be an isolated community but remains within geographical touching range of other *C. textile* populations and must therefore be classified as a subspecies until genetic analysis can prove otherwise.

Conus rubropennatus sp. nov. da Motta

Fig. 6

Description: Shell subcylindrically conical and heavy; eight closely coiled spiral whorls with a rose-tinted mammillate apex; shoulder subangulate, somewhat inflated at the upper part, but having flat sides on a moderately attenuated body whorl. Ground color is a magnificent ruby-pink; with ruby-brown reticulations of numerous round or trigonal spots covering its entire surface from spire to base. Several patches of the same color are scattered and not arranged in any pattern. The body whorl surface is smooth and obsoletely ridged at the lower end. Aperture is broad and dilated towards the base; the cavity, a nacreous pinkish-white.

Holotype: The holotype measures 40 mm×21 mm and is deposited with the Museum d'Histoire Naturelle, Geneva under No. 981.735.

Paratypes: No. 1 42 mm×23 mm
2 45 mm×23 mm
3 42 mm×21 mm

retained by the author for distribution to other museums.

Type locality: Taken by divers in shallow water in Reunion Island, Indian Ocean.

Distribution: Specimens have never been found either in Mauritius or Madagascar and certainly not any farther areas. It can therefore be assumed to be endemic to the type locality.

Discussion: This new species is the smallest member of the Subgenus *Darioconus*, Iredale, 1930. It has mistakenly been identified as *Conus stellatus* Kiener, 1849. Kiener, in his *Icon. Coq. Viv.*, *Conus elisae*, nobis pp. 341-2 remarked, in part: «M. Reeve, dans son supplément de *Conchologia Iconica* pl. 9 fig. 280b, a fait représenter pour cette espèce une variété du *C. monachus*, et sur la même planche, fig. 280, il a donné, comme jeune du même Cône, une coquille qui n'est autre que mon *Conus stellatus*, espèce cepedant bien distinct.» This identification by the actual author of both *stellatus* and *elisae* precludes the use of the former name for the species in Reunion and necessitates a change of the Hawaiian species from *elisae* to *stellatus*. (Kiener's *C. elisae* is another species altogether different, occurring in East Africa.) *Conus omaria* Hwass, 1792 is possibly the closest congeneric species; but is a lighter and more elongated shell, growing very much larger than the maximum of 48 mm so far recorded for the new species. *Conus pennaceus* Born, 1778, another congener, has a more depressed and concave spire with very much broader shoulders by comparison. *C. canonicus* Hwass, 1792 is probably closest in general appearance, including a pink aperture, but is structurally different with eleven spiral whorls and without an inflated shoulder, and its white tenting and brown flammules are ornamentation quite dissimilar to *C. rubropennatus*, a distinct and uniquely beautiful species.

Conus patonganus sp. nov. da Motta

Fig. 7

Description: Shell heavy, subcylindrically turbinated; smooth and glossy surface; nine closely-coiled whorls with a rosetinted mammillate apex; shoulder weakly carinated bulging at the upper part with gradual tapering flat sides, slightly sigmoid at the waist. Ground color is deeply rosaceous when freshly taken, tending to decrease in intensity from exposure; the entire surface ornamented with dark maroon-brown blotches forming two vague circular bands, inside of which can be seen continuous linear rows articulated with minute pink spots. Attached to these blotches are smaller patches of little round spots bunched closely together as they surround other profusely

scattered larger heat-shaped and trigonal pink spots. These concentrations of small round spots also form a radial pattern of patches on the spire. Outer lip is marginally white but turns a deep yellow in its interior; the aperture is broad and flaring out towards the anterior end.

Holotype: The holotype measures 54 mm×27 mm and is lodged with the Museum d'Histoire Naturelle, Geneva under No. 981.738.

Paratypes: No. 1 57 mm×27 mm

2 53,3 mm×26,5 mm

retained by the author for distribution to other museums.

Type locality: Found at a depth of about 100 feet by native divers off Raya Island, Phuket, S.W. Thailand in the Andaman Sea.

Distribution: It appears to be endemic to its type locality.

Discussion: The new species is closest to *Conus omaria* Hwass, 1792 but is a much heavier shell. It has the pointed mammillate apex and general markings of the latter species, but is not as cylindrical or as elongated. It resembles *Conus pennaceus* Born, 1778 with its bulging shoulders but not its coloration or pattern. It has the pink body color of *Conus paulucciae* Sowerby, 1876. The species has been under observation for six years, and the conclusion to separate it as a distinct species was reached after studying growth series and a considerable number of specimens at different times, all of which have shown that it consistently possesses the same morphological characteristics, quite different from any of its several congeners.

Etymology: Named for an area in Phuket, Thailand, called Patong Beach.

Conus skinneri sp. nov. da Motta

Fig. 8

Description: Shell obconic, subcylindrical and smooth; spire depressed, consisting of twelve whorls, with a short pointed apex of five to six rose-tinted post-nuclear whorls; the remaining volutions, ornamented with white-and-brown tessellations, being excavated and finely threaded, partly intersected by arcuate striae on the sutural edges. Shoulder is carinated and angular with moderately attenuated sides, which are flat. Ground color is coffee-brown with irregularly trigonal-shaped white spots, bunching together at the shoulder, mid-section and the basal areas. A continuous necklace of about nineteen strands (to twenty eight in other specimens) encircle the body surface, star-

ting from the sparsely-spotted area below the shoulder to the unspotted area above the base; the strands resembling entwining white-and-chocolate brown cords. The base is slightly stained with a different shade of brown. Aperture is broad and widening towards the anterior end; the interior, porcelaneous-white.

Holotype: The holotype measures 50 mm×25 mm and is lodged with the Museum d'Histoire Naturelle, Geneva under No. 981.737.

Paratypes: No. 1 41,5 mm×18,8 mm
2 38,2 mm×18,5 mm
3 65 mm×33,8 mm

retained by Mrs. Skinner for distribution to other museums. No. 4 64 mm×31,5 mm retained in the author's collection.

Type locality: Found in shallow water off Nusa Tenggara on the east coast of Bali, Indonesia.

Distribution: Appears to be endemic to the type locality.

Discussion: The new species needs to be compared with three congeneric species: *C. nobilis* Linné, 1758; *C. cordigera* Sowerby, 1866 and *C. victor* Broderip, 1842. *C. nobilis* is golden-yellow, white spotted, but without any brown necklace ornamentation; and having a white apex and sides which are convex. The population occurs in Palawan, Philippines. Another population of somewhat similar color and pattern, but more attenuated with sides which are flat, is found in Andaman Island, Indian Ocean. A population of *C. cordigera* occurs in Mandi Darrah, North Borneo. This species is dark brown, larger than the average *nobilis* in size, with convex sides, and has the same white spots without the necklace ornamentation. *C. victor*, always golden-yellow, is morphologically, the closest species to *C. skinneri*, and occurs in Flores Island, Indonesia. This species has never exceeded its maximum size of 50 mm compared with 70 mm for *skinneri*. The necklace ornamentation of *victor* is usually formed in two separate tidy bands, but instead of the intact strands of *skinneri*, it has rows of individual cuneiforms not linked with each other.

Although the geographical disposition of these different populations allow for the hypothesis that they might be conspecific, no intermediate community providing such a link has ever been uncovered. Nor, in each of these separate populations, has any specimen of another of the other species been found. Mrs. Skinner, who resided for many

years in Indonesia, has done extensive field explorations in the vicinity of both areas. She is convinced that both *victor* and *skinneri* are endemic to their separate habitats and that these are two isolated populations, having developed its own specific characteristics to establish each one as a distinct species. On the available evidence, such a conclusion is fully justified.

Etymology: Named for Renate and Edwin Skinner in recognition of their combined contributions to malacological research work over many years.

Conus krabiensis sp. nov. da Motta

Fig. 9

Description: Shell elongately obconic, stout, smooth and glossy; spire depressed with a sharply exerted apex; shoulder acutely angular with almost flat sides. The ground color is white, but invariably overlaid with orange covering the surface partially or sometimes completely. Spire is white, very sparsely sprinkled with little brown streaks. The base is stained with deep purple; the aperture narrow and is white inside.

Holotype: The holotype measures 45 mmX19,5 mm and is lodged with the Museum d'Histoire Naturelle, Geneva under No. 982.116.

Paratypes: No. 1 45 mmX21 mm
2 49 mmX22,5 mm
3 48 mmX21,2 mm

retained by the author for distribution to other museums.

Type locality: Taken by native divers in Raya Island, Phuket, S.W. Thailand from depths of about 100 feet in sandy and rocky bottom.

Distribution: Not seen in other areas of the Andaman seaboard. Some specimens have been trawled by Taiwan boats, but there is no evidence to establish accurate habitat.

Discussion: This species has been under observation for over six years. Regardless of the season, specimens have been continuously gathered but none has ever exceeded the maximum size of 55 mm. This can establish the new species as a dwarf of the congeneric species *C. generalis* Linne, 1767. A population of the typical *C. generalis* occurs

on the other side of the Kra Peninsula, off the Shongkha coast in the Gulf of Thailand. This has the color forms very close to those occurring in Okinawa. Across the Andaman Sea on the Indian coast, the new species has never been found. The *C. generalis* population of this Indian area is usually exceptionally large and heavy and of very dark colorations.

Dautzenberg attempted to differentiate several pattern forms of *C. generalis*, but this would be of greater scientific interest if varieties could be identified from different and specific populations instead. We can separate *Conus maldivus* Hwass, 1792 from *C. generalis* because the two always occur in allopatric populations. The same status can be established for *C. cingulum* Sowerby, 1881. This truly midget member in the *C. generalis* complex, is, very definitely, a separate species, as we must regard *Conus krabiensis*.

There are also varieties of different ornamentation within this Thai population, but the basic characteristics of the species are still always in evidence.

Conus kantanganus sp. nov. da Motta

Fig. 10

Description: Shell elongately fusiform with spire; whorls twelve, of which two form a smooth globose protoconch; subsequent six to seven minutely beaded but becoming progressively obsolete and disappearing completely; space between the deeply channeled sutures being grooved with perpendicular riblets. There is no angulation at the shoulder level, the flat sides being slightly rounded at its periphery, as it tapers down the extended length of the narrow body whorl, which continues to be encircled with over thirty transverse grooves punctured with the same riblets seen in the spiral whorls. Ground color is white with light brown quadrangular blotches, profusely sprinkled throughout the spire and body surface, with some concentration coalescing to form two median and basal interrupted brown bands. Aperture is straight and narrow with a dull white interior, the outer lip being moderately undulated.

Holotype: The holotype measures 33 mm×10 mm and is lodged in the Museum d'Histoire Naturelle, Geneva under No. 982.113.

Type locality: Trawled by fishing boats off the coast of Kantang, S. W. Thailand in the Andaman Sea.

Distribution: It occurs in both sides of the Andaman Sea, being also found in the coastal areas off Madras, India.

Discussion: This new species has been mistakenly identified for *Conus longurionis* Kiener, 1849 by other authors. Kiener described it as having fourteen or fifteen whorls, slightly stepped, joined by a deep suture, shoulder obtuse, its entire surface covered by rather large spiral grooves, the base pointed and considerably recurved. Reeve, among other authors, considered *C. longurionis* as *C. aculeiformis*, another species which attains considerably greater size, but has a shorter spire, carinated shoulder, and smooth body whorl with very shallow spiral incisions.

Neither of these two species resembles the exquisite flowing lines of the new species, which is also remarkable for having the same sculptural characteristics covering the entire surface from the apex to base without any apparent interruption.

Conus samiae sp. nov. da Motta

Fig. 11

Description: Shell turbinated, solid and heavy, white five to six white post-nuclear whorls, minutely beaded towards a pointed apex, followed by seven more solid brown spiral whorls heavily threaded and cancellated, the edges of each whorl prominently noduled with contrasting white knobby protuberances, symmetrically spaced, bestowing upon the conic spire a tiered crown. The shoulder is coronated with the same protruding nodules and having flat sides. The ground color is white, with three spiral bands of solid brown on the shoulder, midsection and lower part of the body whorl, which is sculptured throughout with fifteen equidistant rows of encircling linear ridges, studded with alternating raised white beads and sunken dents of brown spots, appearing like dot-interrupted lines; the interstices being transversely furrowed with grooves in pairs, decussately cancellated with deep longitudinal striae. The aperture is straight and has a porcelaneous-white interior; the outer lip sharply crenulated.

Holotype: The holotype measures 57,5 mm×34 mm and is lodged with the Museum d'Histoire Naturelle, Geneva under No. 982.117.

Paratype: No. 1 58,5 mm×31,4 mm
2 57 mm×30,5 mm
3 64,8 mm×35,1 mm
4 56,2 mm×31,3 mm

For subsequent distribution to other museums.

Type locality: Taken by natives with ground nets in depths of approximately 200 meters in Balut Island, off Mindanao, Philippines.

Distribution: Se far known only from the type locality although some unverified claims of specimens being found in Punta Engano, Cebu, have been made.

Discussion: *Conus batheon* Sturany, 1904 is closest in general appearance to the new species, but has a much lower and somewhat convex spire, also encircled with flatter nodules considerably smaller in size by comparison. Its shoulder is similarly coronated, but the sides are ventricose and constricted towards the base. Its body whorl is covered with irregular longitudinal streaks of brown spots and also encircled throughout with transverse granulated ridges, but these number over twenty three with the striae in-between grooves of an altogether different formation. *Conus bocki* Sowerby, 1881 is closer in contour with its flat sides, but does not have any pronounced nodulation in its spire, except for its shoulder, which is strongly coronated. However, the body whorl is smooth with several deep sulci appearing at its basal section only, while its ground color is a solid brown.

Etymology: The species is named for Mrs. Samia Martin, who devoted many years, together with her husband Roger, to the study and collection of specimens, aiding conchological research.

Conus fulvobullatus sp. nov. da Motta

Fig. 12

Description: Shell cylindrically ovate and smooth, having eight imperceptibly convex spiral whorls, with a rose-tinted apex; sutures channeled, with five deep spiral threads; shoulder weakly carinated; body whorl narrower at the shoulder with sides which are inflated. Ground color is white with large golden-yellow maculations, occasionally daubed with dark brown smudges, arranged in a circular pattern to produce two broad, and vague bands, encircled with continuous rows of brown dot-interrupted spiral lines. The aperture is arched over its length and dilated towards the base; columella slightly twisted and appears to have folds; interior is porcelaneous-white.

Holotype: The holotype measures 52,5 mm×25 mm and is deposited with the Museum d'Histoire Naturelle, Geneva under No. 982.114.

Paratypes: No. 1 49 mm×25 mm
2 57 mm×27 mm

retained by the author for distribution to other museums.

Type locality: Type specimen was trawled off the east coast of Malaysia.

Distribution: Appears to range from the Strait of Formosa, Palawan and Jawa Timor, Indonesia, where specimens have also been collected.

Discussion: The new species appears to be congeneric with *Conus bullatus* Linné, 1758 except that *bullatus* has a narrower shoulder, more ventricose sides, but the color and pattern have no resemblance to each other. Because of the coloration, it has some resemblance to *Conus magus* Linné, 1758, but *magus* has more tapering sides, an attenuated body whorl and an untwisted columella. Variable as *magus* can be, it does not have a pattern approaching that of the new species.

Conus gabelishi spec. nov. da Motta & Ninomiya

Fig. 13

Description: Shell turbinated, smooth and glossy with a globose apex; eight stepped spiral whorls convex on top, latticed with transverse linear threads and arcuate striae; shoulder subangulate, inflated at the upper part and tapering towards the base. The body surface has a golden-yellow color, with nine encircling rows of brown-and-white tessellated narrow bands, and three areas: below the shoulder, mid-section and basal end, having irregular and indistinct white patches. Lower part is grooved with eight shallowly incised sulci; aperture comparatively wide and is porcelaneous-white within.

Holotype: The holotype measures 35,5 mmX 19,3 mm and is deposited with the National Science Museum, Tokyo under reference NSMT Mo No. 59.670.

Paratypes: No. 1 — 31,5 mm×18 mm lodged with Museum d'Histoire Naturelle, Geneva under No. 982.253.

No. 2 — 23,2 mm×13 mm retained by Taizo Ninomiya.

Type locality: Trawled by fishing boats from 1978 to 1980 in the Great Australian Bight, in the Esperance/Albany area, West Australia, from depths of 400 to 700 feet.

Distribution Known from the type locality only.

Discussion: The new species is closest to *Conus suturatus* Reeve, 1844 but does not have a nodulose shoulder nor the lavender stain at its base. In color and pattern it bears some resemblance to the ornamentation of *C. infrenatus* Reeve, 1848; but does not have its elongated cylindrical shape. Apart from these two instances of similarity, *C. gabelishi* appears to be quite a distinct species from its unique shape and coloration.

Etymology: The new species has been named for A.J. Gabelish who discovered it, and who has assisted very extensively in making study specimens constantly available for research work.

Conus orri sp. nov. Ninomiya & da Motta

Fig. 14

Description: Shell obconic, smooth and solid; spire depressed with an apex concavely exerted and obtuse; eight spiral whorls slightly convex on top, voluting on channeled sutures, with faintly visible spiral threads crossed by stronger axial striae; shoulder subangulate, roundly inflated at the upper part of the body whorl but constricting rapidly towards the lower end. Basic color is chestnut-brown, the entire body surface marked with reticulations of triangular spots of grayish-brown, the basal extremity being unspotted, forming an area of a lighter brown coloration. The five post-nuclear whorls are grey but those following are tessellated with brown and grey spots. The narrow aperture is olivaceous-grey, marginated with brown at the outer lip.

Holotype: The holotype measures 25,8 mm×16 mm and is deposited with the National Science Museum Tokyo under reference NSMT MO No. 59.669.

Paratypes: No. 1 — 24,3 mm×15 mm deposited in the Museum d'Histoire Naturelle, Geneva under No. 982.252.

No. 2 — 25,8 mm×16 mm retained by Taizo Nonimiya.

No. 3 — 30 mm×18 mm retained by A. J. da Motta.

Type Locality: Solifor Point, Bojol Island, Gambia, West Africa found under rocks in pools of exposed reef.

Distribution: Known only from the type locality.

Discussion: The new species has been found in several color and pattern varieties, one form being uniformly grey without ornamentation but retaining the basal area of a lighter brown coloration (Paratype No. 3). Another has spots, more round than triangular, with five circular bands of different color shades, the last being a light brown tint (Paratype No. 1), which evidently is a consistent characteristic of the species. *Conus orri* resembles closest in its body contour to *Conus africanus* Kiener, 1845 but does not have its very convex spire nor its color and pattern, in which respect, it is similar to an unusual reticulated form of *Conus mercator*, Linné, 1758 found in N'Gor, Senegal. That variety has closely-packed tenting on its entire body surface but of a bluish-brown coloration. The broad shoulder and squat appearance of *C. orri* can generally be singled out from among other West African species, most of which have convex spires and more attenuated body whorls.

Etymology: The new species is named for John Orr who discovered it. John is known for his long time interest in malacology particularly in the area of field research work.

Conus gracianus da Motta & Blöcher

Fig. 15

Description: Shell conic, narrow and cylindrically elongated, with eight spiral whorls, the first four forming a white obtuse apex, the remainder, sculptured with arcuate striae on channeled sutures, and almost entirely of a solid brown color. Shoulder is subangulate with flat sides imperceptibly convex. The ground color is pinkish-white with large irregularly formed longitudinal reddish-brown patches interspersed with minute white tentings throughout its body surface, which is covered with prominent spiral striations. Aperture is a dull porcelaneous-white, narrow at the posterior end but progressively flaring out towards the base.

Holotype: 44 mmX15 mm lodged with the Museum d'Histoire Naturelle, Geneva under No. MHN 982.112.

Paratypes: 1 49 mmX18,5 mm
2 46 mmX17 mm
3 43 mmX16,3 mm
4 43,2 mmX16,5 mm
5 37 mmX13,2 mm
6 31,2 mmX11 mm

Type locality: From greater depths at the fringes of the «Grand Recif» towards the open sea of Tulear, S.W. Madagascar. Specimens are usually collected a few days following ground swells of unknown origin.

Discussion: The new species has never been found larger than a maximum length of 60 mm. The average size of mature specimens has been 45 mm. Found sympatrically is a form of *C. auricomus* Hwass, 1792 which has nine spiral whorls on a mammillate apex. The coloration is very similar, and although the minute white tenting is almost identical, *Conus auricomus* is readily recognizable from its two, sometimes three, encircling bands of solid brown. Another similar species is *Conus aulicus* Linné, 1758, especially when still young. However, *Conus aulicus*, from the same area, grows very much larger, attaining lengths in excess of 130 mm. Its more inflated sides, and gradually constricted basal section, are additional features separating the two species.

Conus lenavati sp. nov. da Motta & Röckel

Fig. 16

Description: Shell obconical, medium-sized, averaging 50 mm, with a stoutly inflated shoulder attenuating sharply towards a constricted base, and having a flat spire consisting of twelve spiral whorls with the early whorls exerting to a conic and pointed apex. Each whorl is shallowly ridged with four or five spiral threads and revolving on channeled sutures. The surface of the last whorl is smooth, with four to five spiral sulci at the anterior end. The shell is white to cream with brown spots irregularly sprinkled on the spire surface around a brown crest, and two broken bands of larger brown figurations encircle the body whorl. The aperture is moderately wide with a white interior and is pinched-in just above the columella.

Holotype: 62 mm×33 mm is lodged with the Museum d'Histoire Naturelle, Geneva under No. 981 663.

Paratypes: 4 specimens remain in Phairot Lenavat's custody.

From left to right:

- | | |
|-------|-------------|
| No. 1 | 71 mm×37 mm |
| 2 | 52 mm×29 mm |
| 3 | 46 mm×27 mm |
| 4 | 46 mm×25 mm |

Type locality: Taken with ground nets by native fishermen in approximately 200 meters depth off Punta Engano, Cebu Island, Philippines.

Distribution: At present known only from Cebu Island.

Discussion: An allied species to *Conus lenavati* is *C. sugimotonis* Kuroda, 1928, which is however a much larger shell attaining lengths exceeding 100 mm. It is also heavier and has an opaque periostracum compared with the light brown translucent epidemis of *C. lenavati*. Although equally inflated at the shoulder, *C. sugimotonis* is more elongated, its shoulder carinate and sharply angled.

Conus tribblei by comparison, is a narrower shell with straight sides and a more cylindrically elongated body whorl. Its elevated spire consists of pronounced spiral ridges in all its whorls, and having more diversified brown markings.

Etymology: Named for Phairot Lenavat, who first observed the distinct morphological characteristics and provided ample material for study of the new species.

Conus garciai sp. nov. da Motta

Fig. 17

Description: Shell turbinated, stout and conic with a pointed apex, having about ten turreted spiral whorls shallowly threaded and crossed with stronger arcuate striae, the first few post-nuclear whorls being beaded; shoulder, angulated and keeled, with sides which are convex at the upper part, but upon attaining maturity, becoming progressively less inflated and constricted at the basal end. Body surface is strongly grooved throughout with perpendicular riblets, the transverse ridges being obsoletely granular. Basic color of the body whorl is a uniform coffee-brown, as if painted in arching longitudinal brush strokes, and ornamented just below the midsection with a white, slightly spotted belt. Aperture is narrow with the columella twisting outward, a trenchant outer lip, and the interior generally of a lavender color.

Holotype: The holotype measures 59 mm×28 mm and is lodged with the Museum d'Histoire Naturelle, Geneva under No. 982.528.

Paratypes: No. 1 69 mm×30 mm
2 63 mm×33 mm
3 45 mm×22 mm
4 40 mm×20 mm
5 27 mm×15,5 mm

for subsequent distribution to other museums.

Type locality: First found in May 1979. Trawled off Punta Patuca, Honduras, along a line east to Caratasca Key, from 120 to 160 feet in mud bottom.

Distribution: Known only from its type locality.

Discussion: At first sight, the new species somewhat resembles *Conus cingulatus* Lamarck, 1810. However, the latter differs, in having distinct channeled sutures with spiral whorls slightly rounded on top, and the surface marked all over with spiral striae, the spaces between them forming small flattened cords; shoulder obtuse, its body whorl having many spiral lines of tawny subquadrangular dots, these rows alternating with other rows of much smaller dots overlaid with longitudinal flame-like streaks of the same color; aperture white. In its structural shape *Conus cancellatus* Hwass, 1792 comes closest, but has a spire less stepped, with the whorls slightly concave on top; its entire body sculptured with wavy circular striae and axial growth lines; its basic color, being a uniform grayish-white. *Conus floridensis* Sowerby, 1870 has an equally pronounced turreted spire, but which is sharply carinated at the shoulder. Its body whorl is entirely smooth, and decorated with a different pattern altogether.

Etymology: Named for Dr. Emilio F. Garcia who discovered the species and furnished accurate data making possible its study and the positive identification necessary to establish the status of the species.

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RESUMO

O autor propõe 17 novos taxa para a família Conidae (Mollusca: Gastropoda).

Nalguns casos, trata-se de novos nomes para espécies e populações até ao presente usualmente referidas por denominações incorrectas; noutros, as espécies apresentadas não haviam sido, até ao momento, descritas, pelo que são apresentadas como novas, sendo algumas delas descritas conjuntamente com Taizo Ninomiya, de Tóquio, Japão, Manfred Blöcher e Dieter Röckel, respectivamente de Duisburg e Darmstadt, República Federal Alemã.

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1 a,



b



2 a,



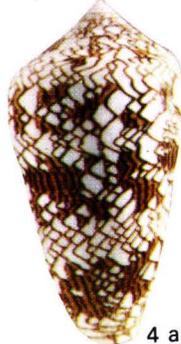
b



3 a,



b



4 a,



b



5 a,



b



6 a,



b



7 a,



b



8 a,



b

- 1 a, b — *C. episcopatus* sp. nov. (holotype)
- 2 a, b — *C. auratinus* sp. nov. (holotype)
- 3 a, b — *C. quasimagnificus* sp. nov. (holotype)
- 4 a, b — *C. textile neovicarius* ssp. nov. (holotype)
- 5 a, b — *C. textile dahlakensis* ssp. nov. (holotype)
- 6 a, b — *C. rubropennatus* sp. nov. (holotype)
- 7 a, b — *C. patonganus* sp. nov. (holotype)
- 8 a, b — *C. skinneri* sp. nov. (holotype)



- 9 a, b — *C. krabiensis* sp. nov. (holotype)
- 9 c — *C. krabiensis* sp. nov. (paratypes)
- 10 a, b — *C. kantanganus* sp. nov. (holotype)
- 11 a, b — *C. samiae* sp. nov. (holotype)
- 12 a, b — *C. fulvobullatus* sp. nov. (holotype)
- 13 a, b — *C. gabelishi* sp. nov. (holotype)
- 13 c — *C. gabelishi* sp. nov. (paratype)
- A — *C. infrenatus* Reeve
- B — *C. suturatus* Reeve



14 a,



b



14 c



15 a,



b



16 a,



b



17 a,



b



17 c



- 14 a, b — *C. orri* sp. nov. (holotype)
14 c — *C. orri* sp. nov. (paratypes)
15 a, b — *C. gracianus* sp. nov. (holotype)
16 a, b — *C. lenavati* sp. nov. (holotype)
17 a, b — *C. garciai* sp. nov. (holotype)
17 c — *C. garciai* sp. nov. (paratypes)

ERRATUM

In Publ. Ocas. Soc. Port. Malac. No. 1, 1982, p. 11, 12th line: «can be established for *Conus cingulum* Gmelin, 1791...» should be amended to read: «can be established for *C. spiculum* Reeve, 1849...».

ADDENDA

In Publ. Ocas. Soc. Port. Malac. No. 1, 1982, p. 16, 19th line: Add «*sp. nov.*» after «*Conus gracianus* da Motta & Blöcher».

Add on the 39th line under «Paratypes»: «for subsequent distribution to other museums».

