

# Taxonomic Notes on South African Deep-Sea Conoidean Gastropods (Gastropoda: Conoidea) described by K.H. Barnard, 1963

Alexander V. Sysoev

Zoological Museum of Moscow State University  
Hertzen st. 6  
Moscow 113009, RUSSIA

## ABSTRACT

Type specimens of ten species of deep-sea conoidean gastropods from South Africa described by Barnard in 1963 are described and illustrated. Lectotypes are designated for those species represented by syntype series. A new genus, *Abyssothauma*, is established for *Moniliopsis psilarosis* Barnard, 1963.

**Key words:** Conoidea, South Africa, deep-sea, type specimens.

## INTRODUCTION

In 1963, K. H. Barnard described a collection of South African deep-sea mollusks obtained at lower bathyal to upper abyssal depths. Most of the new species described were conoidean gastropods. Unfortunately, the new species were rather sketchily and often inadequately illustrated, which hampers their identification and comparison with other deep-sea species. None of Barnard's species of deep-sea conoidean gastropods were subsequently figured, and most were not subsequently mentioned by other authors.

There are no reviews of the deep-sea conoidean gastropod fauna of the Cape Point region, and Barnard's work still remains the primary reference. The Cape Point region is of particular interest due to its geographical position, because it is situated at the border between two oceans, and its deep-sea fauna may represent a mixture of Atlantic and Indo-Pacific elements.

Through the courtesy of Mrs. Michelle G. van der Merwe from the South African Museum, Cape Town (SAM), I was able to examine the type specimens of Barnard's species of deep-sea conoidean gastropods. The purpose of the present paper is to illustrate these species and to revise their taxonomic position.

In his publication, Barnard (1963) designated some specimens from his material as "types". Sometimes, when a species was represented by a few specimens, he did not mention the presence of types at all. In these cases, all such specimens are considered syntypes.

Specimens of four of Barnard's species were sent by

him to the British Museum (Natural History) as "paratypes". However, the designation of paratypes without a designation of holotype is invalid. Moreover, almost all these specimens are not even syntypes, because they were not originally included into "types" (= type series) (ICZN Art. 27(b)VI).

## SYSTEMATICS

Superfamily CONOIDEA Fleming, 1822

Family TURRIDAE H. & A. Adams, 1853

Subfamily TURRINAE H. & A. Adams, 1853

*Gemmula (Ptychosyrinx) lobatopsis* (Barnard, 1963)  
(figures 1–3)

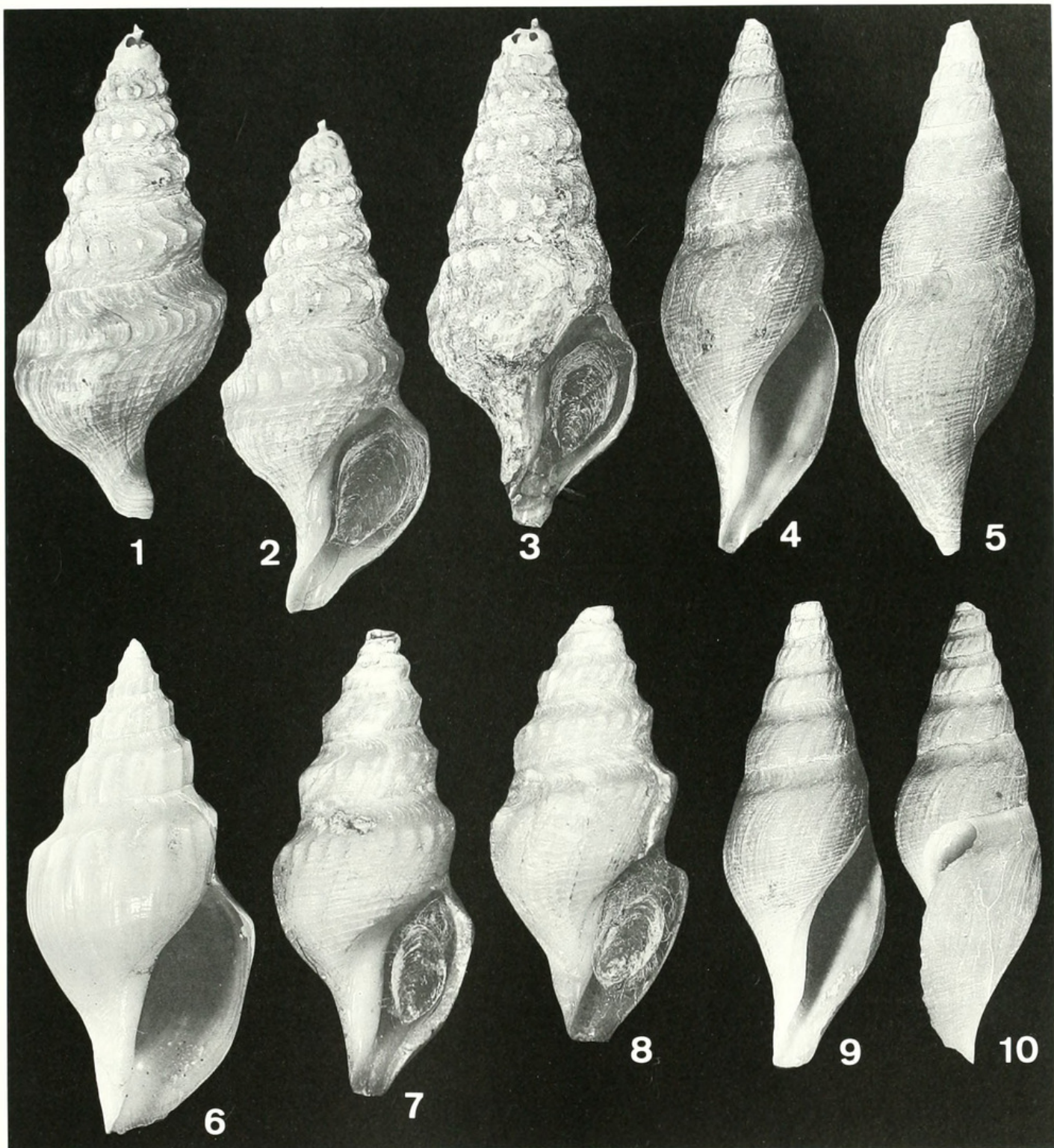
*Turris lobata* (Sowerby) [partim] Barnard, 1958:107, fig. 3j.  
*Clavatula lobatopsis* Barnard, 1963:420–421, fig. 2a.  
*Gemmula (Ptychosyrinx) lobatopsis* (Barnard) Kilburn, 1983: 582.

**Material examined:** Three specimens (SAM A9730) indicated by Barnard (1963) as "Types".

**Type locality:** "Africana II", sta. A191, 33°36'S, 16°15'E, 1520–1570 fms (2780–2918 m).

**Description:** Two of the three syntypes are heavily corroded, though the presence of opercula indicates that they were collected alive. The best preserved specimen is here designated as lectotype (figs. 1–2). The dimensions are: lectotype—32.4 × 13.6 mm at 6.5 preserved whorls; paralectotypes—34.6 × 12.9 mm and 33.4 × 13.7 mm at 5.5 and 6+ preserved whorls, respectively. The upper whorls are eroded and partly missing in all shells. Lectotype strongly angulate at periphery. Suture slightly wavy, clear, despite Barnard's statement, visible on all whorls. Subsutural cord thin, narrow, less distinct on body whorl, with small tubercles at points of intersection with growth lines passing through peripheral gemmules. These growth lines strong, raised, especially on body whorl.





**Figures 1–10.** 1–3. *Gemmula* (*Ptychosyrinx*) *lobatopsis*, lectotype (1, 2) and paralectotype, 33.4 mm (3). 4–5, 9–10. *Abyssoshauma* *psilarosis*, lectotype (4, 5) and paralectotype (9, 10). 6. *Gymnobela* (*Theta*) *chrysoplex*, holotype. 7, 8. *Typhlomangelia* *polythele*, lectotype (7) and paralectotype (8).

Four weak, narrow, widely spaced cords between sub-sutural cord and row of peripheral gemmules, 3 distinct cords below gemmulate periphery on last whorls. Shell base and canal covered by 17 narrow, widely spaced cords, which gradually weaken towards the canal end. Peripheral gemmules on spire whorls mostly eroded, but preserved ones strong and acute, becoming progressively

weaker, longitudinally elongate, arcuate towards the body whorl. They are numerous, irregularly placed on last half of the body whorl, almost obsolete near aperture. Penultimate whorl bears 20 gemmules, the body about 33.

Paralectotypes have less angulate whorls with less prominent peripheral gemmules. Subsutural ramp may be concave, especially on last half of the body whorl.



Siphonal canal varies in length and may be almost straight or turned to left, as in lectotype. The pattern of sculpture is not similar to that shown in Barnard's drawing (Barnard, 1963:fig. 2a), *i.e.*, with very strong and closely set bilobed tubercles forming the subsutural cord.

**Remarks:** This species was also recorded in the area from 33°26'S to 34°37'S and from 16°23.5' E to 17°03'E, at 2378–3036 m (Barnard, 1963). The shells found in the John Murray Expedition, sta. 118, off Zanzibar, 1789 m, and identified as *G. teschi* (Powell, 1964) (Sysoev, in press, figs. 68–70), are *G. lobatopsis*.

Family CONIDAE Fleming, 1822

Subfamily CLATHURELLINAE H. & A. Adams, 1858  
*Typhlomangelia polythele* Barnard, 1963  
(figures 7–8)

*Typhlomangelia* (?) *polythele* Barnard, 1963:422, fig. 3e, f.

**Material examined:** Two syntypes (SAM A9802).

**Type locality:** "Africana II", sta. A317, 33°50'S, 16°30'E, 1480–1660 fms (2707–3036 m).

**Description:** Largest (12.3 × 5.4 mm) and better preserved of two syntypes here designated as lectotype. Its shell rather thick, consisting of 5.5 remaining whorls. Protoconch missing, first teleoconch whorl eroded. Whorls angulate at periphery. Subsutural ramp slightly concave, with narrow subsutural cord and numerous, regular, narrow, arcuate folds formed by thickened growth lines. Axial sculpture represented by numerous, very short ribs below subsutural ramp. Ribs rapidly weaken, do not reach lower suture or periphery of body whorl. Ribs number about 22 on penultimate whorl (its dorsum broken, apparently during extraction of soft body) and 26 on body. Spiral cords (7 on penultimate whorl and 32 on body whorl) are narrow, separated by wide interspaces (2–4 times wider than cords). Spiral cords are more closely set on siphonal canal. Canal short, straight. Symmetrical anal sinus occupies entire subsutural ramp, being deepest in its middle. Paralectotype (11.5 × 5.1 mm at 5+ preserved whorls) has the same conchological characters.

**Remarks:** Barnard provisionally placed this species in *Typhlomangelia*, which seems to be appropriate for the species, despite its small and broad shell lacking spiral sculpture on the subsutural ramp. *Typhlomangelia adenica* Sysoev, a very similar species both conchologically and in radular characters, is known from the Gulf of Aden, John Murray Expedition sta. 26 and 185, 200–2312 m (Sysoev, in press).

*Abyssoshauma* Sysoev, 1996, new genus

**Type species:** *Moniliopsis psilarosis* Barnard, 1963.

**Diagnosis:** Shell large, to 60 mm, fusiform, with rounded and weakly convex whorls, covered by thick olivaceous periostracum. Spire more than 30% of shell height. Early whorls weakly angulate. Axial sculpture of numerous

oblique narrow folds below shoulder in early whorls, or absent. Spiral sculpture of low, rather wide cords below subsutural ramp. Shell base weakly convex, not differentiated from canal. Aperture narrowly oval, siphonal canal wide, long. Anal sinus moderately deep, rounded, occupying the subsutural ramp, with deepest point in its middle. Operculum large, leaf-shaped, with terminal nucleus. Radular teeth hollow, long, slightly curved, not barbed, with rounded base and terminal opening of tooth cavity.

**Remarks:** The new genus resembles the genera *Typhlosyrinx* Thiele, 1925 and *Belaturricula* Powell, 1951. From the former genus it differs in having a stronger shell with better developed spiral sculpture, thick dark-colored periostracum, different form of axial sculpture on early whorls, and presence of operculum. This new genus differs from *Belaturricula* in having a narrower shell with stronger sculpture, pronounced siphonal canal and deep anal sinus. The new genus includes the type-species and a new species from the Tasman Sea, 3610–3688 m that will be described elsewhere. *Pontiothauma ergata* Hedley, 1916, resembles *A. psilarosis* in general shell outline, predominance of spiral sculpture, structure of radular teeth (see Egorova, 1982, figs. 63a, b), presence of operculum with terminal nucleus, but differs in having a shallow anal sinus (holotype illustrated by Dell, 1990: figs. 418–419) and very thin light-colored periostracum. The taxonomic position of *P. ergata* is uncertain, but it obviously does not belong to *Pontiothauma*, differing in the shell form, sculpture, the presence of operculum and different radular teeth indicating the placement in the Clathurellinae, not Raphitominae. Probably *P. ergata* belongs to a separate genus, closely related to *Abyssoshauma*.

*Abyssoshauma psilarosis* (Barnard, 1963)  
(figures 4–5, 9–10)

*Moniliopsis psilarosis* Barnard, 1963:421–422, fig. 4a.

**Material examined:** Two specimens (SAM A9789) indicated by Barnard (1963) as "Types".

**Type locality:** Barnard (1963) did not designate the type locality nor indicate which of his two samples contained "types". However, judging from the indicated number and quality of specimens from "Africana II" sta. A316, 34°42'S, 16°54'E, 1725–1780 fms (3155–3255 m), corresponding to specimens from the type series, the type locality is restricted to these coordinates.

**Description:** Largest of two type specimens is here designated as lectotype. Dimensions: 47.2 × 16.0 at 6.5 preserved whorls (lectotype) and 40.8 × 14.4 at 6 preserved whorls (paralectotype). Lectotype shell strong, solid, covered by thick dark-olivaceous periostracum. Protoconch and at least one teleoconch whorl missing. Upper whorls distinctly angulate above periphery, angulation weakening in subsequent whorls, becoming obsolete in penultimate whorl. Subsutural ramp weakly



concave. Upper whorls with strong, oblique axial ribs below subsutural ramp (18 ribs on first well-preserved whorl). Ribs form small knobs in upper part. Ribs markedly weaken towards lower suture, becoming shorter in successive whorls. Last 3.5 whorls devoid of axial sculpture except for indistinct, irregular folds formed by growth lines. Spiral sculpture of initial whorls consists of wide, very low cords separated by narrow grooves. Cords become stronger and more widely spaced on two last whorls, but interspaces do not exceed cord width. Subsutural ramp lacks spiral sculpture except of 3–4 feeble striae on lower part. Aperture narrow, inner lip evenly curved, covered by a smooth callus. Siphonal canal moderately long, narrow. Paralectotype smaller, with only 2.5 whorls, lacking axial ribs. Spiral cords slightly weaker than those of lectotype. Outer lip intact, evenly projecting forward below anal sinus. Sinus rounded, moderately deep, slightly asymmetrical, with its deepest point just above middle of subsutural ramp.

**Remarks:** Barnard (1963) placed his species in *Moniliopsis* Conrad, 1865. However, this Eocene genus containing few species from southern USA and Peru, is characterized by a strong sculpture of very wide spiral cords cut into subrectangular nodes that are present on the subsutural ramp. In Barnard's time, *Moniliopsis* was used to include some Recent West American species which are now included in the genus *Ophiodermella* Bartsch, 1944. This genus, in turn, cannot accommodate the Barnard's species either, because it is characterized by a much lower position and different type of anal sinus.

#### Subfamily RAPITOMINAE Bellardi, 1875

*Gymnobela glaucocreas* (Barnard, 1963)  
(figures 15, 19)

*Cythara* (?) *glaucocreas* Barnard, 1963:422–423, fig. 2d.

**Material examined:** One specimen (SAM A9821) indicated by Barnard (1963) as "Type" (holotype).

**Type locality:** "Africana II", sta. A318, 33°52'S, 16°51'E, 1380–1520 fms (2524–2780 m).

**Description:** Shell 26.0 × 11.8 mm, with 7.5 preserved whorls, greyish-white, covered by thin periostracum. Protoconch whorls eroded, probably partly missing. Early teleoconch whorls with only a slight angulation at periphery. Towards body whorl, whorls become more angulate, subsutural ramp becomes concave. Sutures shallowly channeled. Axial ribs begin in lower part of subsutural ramp, numerous (27 on body and penultimate whorls), narrow, oblique, with sharp crests. Two ribs may rarely merge together near whorl shoulder. Subsutural ramp covered by thin arcuate folds following traces of anal sinus. Folds are not always continuations of axial ribs, and are more numerous than latter (41 on body whorl, plus several similar short folds that do not reach lower part of subsutural ramp). Spiral sculpture of narrow, flattened, widely spaced cords covering entire shell

surface. Cords on subsutural ramp more closely spaced. Interspaces between cords bear thinner secondary thread.

**Remarks:** This species has all the characteristics of *Gymnobela* Verrill, 1884. It is most similar to the North Atlantic *G. engonia* Verrill, 1884 (type species of the genus) and differs from the latter mainly in having less angulate whorls, less oblique axial ribs, and fainter spiral sculpture. The radula of *G. glaucocreas*, described by Barnard as similar to that of *G. verecunda* (Barnard, 1963), also has much in common with that of *G. engonia* (see Bouchet & Warén, 1980, fig. 26).

*Gymnobela dagama* (Barnard, 1963)  
(figures 11–14)

*Cythara* (?) *dagama* Barnard, 1963:423, fig. 2g, h.

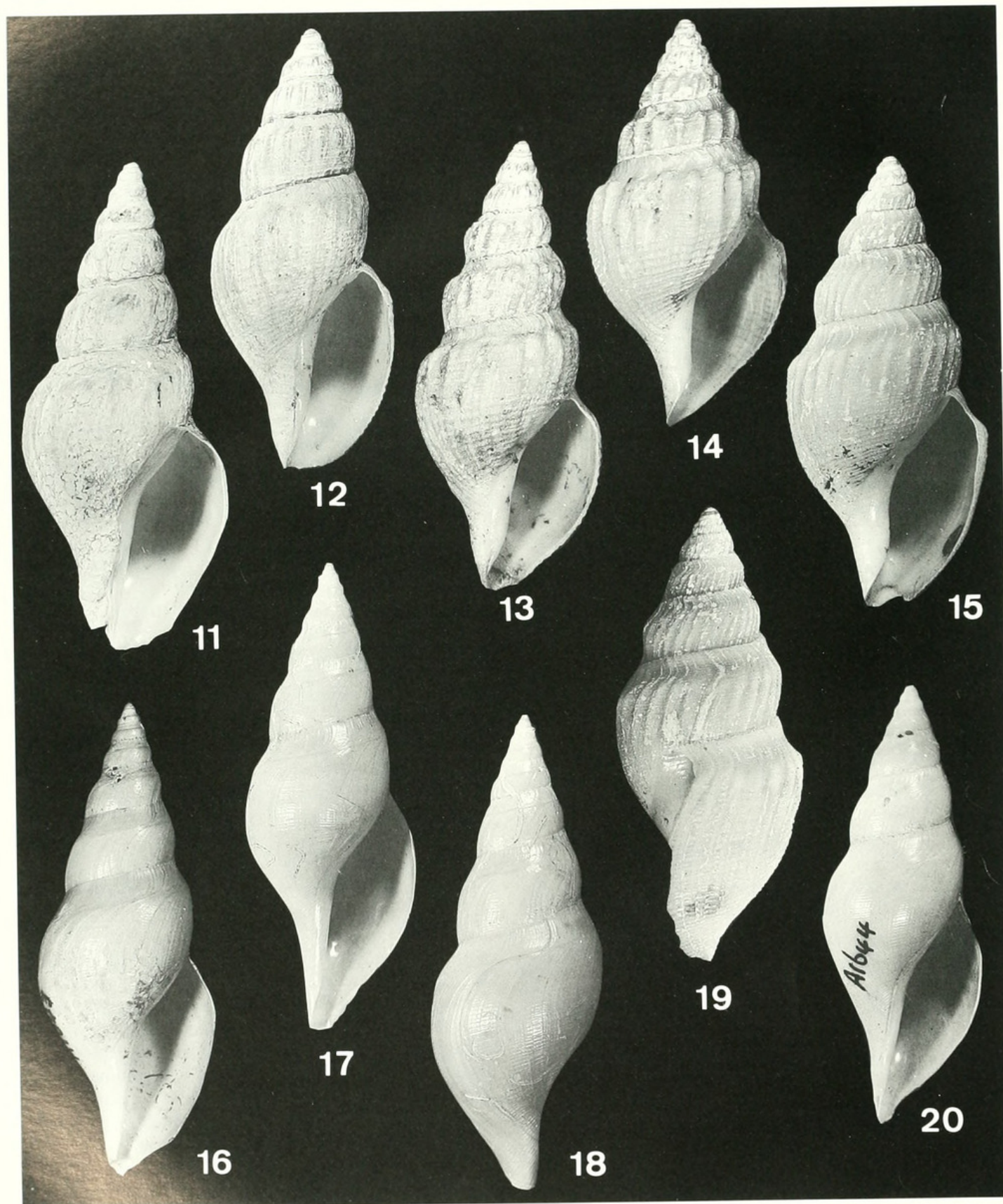
**Material examined:** Four specimens (SAM A9731) out of 5 indicated by Barnard as "Types".

**Type locality:** "Africana II", sta. A191, 33°36'S, 16°15'E, 1520–1570 fms (2780–2871 m).

**Description:** Largest syntype (38.4 × 16.3 mm) with heavily eroded surface. Second largest specimen (32.8 × 13.8 mm) with well preserved shell (fig. 12) is here designated as lectotype. Shell of 6.5 whorls. Protoconch missing, upper whorls eroded. Sutures deeply channeled. Whorls almost evenly convex, with only slight angulation at about 1/4 of whorl height. Subsutural ramp narrow, slightly concave. Axial ribs weak, narrow, with rounded or flattened crests, numerous (19 on penultimate whorl and 27 on body whorl) and somewhat irregular in strength, especially on body whorl. Ribs begin at border of subsutural ramp and extend to lower shell base. Subsutural ramp devoid of sculpture. Spiral sculpture on spire whorls appears to consist of wide, flattened cords separated by narrow grooves due to the erosion of surface. Cords well preserved and are narrow and widely spaced (interspaces 1.5–2 times wider than cord) only in some shell areas, particularly on body whorl. Aperture oval, with short, wide siphonal canal poorly differentiated from aperture. Judging from growth lines, outer lip very slightly projects forward below anal sinus. Anal sinus narrow, with its deepest point at middle of subsutural ramp. Two smaller paralectotypes (31.3 × 13.1 mm and 23.6 × 11.5 mm at 7+ and 6+ whorls, respectively) have more angulate whorls with more concave subsutural ramp, especially in smallest, best preserved specimen. This specimen has weak spiral cords on lower part of subsutural ramp, covered by numerous thin arcuate folds formed by thickened growth lines.

**Remarks:** The radula (Barnard, 1963, fig. 2h) is not characteristic of *Gymnobela* and more closely resembles that of *Benthomangelia* Thiele, 1925. However, the conchological characters indicate the assignment of this species to *Gymnobela*. Besides the type locality, the species was found in the area from 33°36' to 34°37'S and from 16°15' to 17°03'E, at 2707–3219 m (Barnard, 1963).





Figures 11–20. 11–14. *Gymnobela dagama*, lectotype (12) and paralectotypes (11, 13, 14; 38.4, 31.3, and 23.6 mm, respectively). 15, 19. *Gymnobela glaucocreas*, holotype. 16–18, 20. *Xanthodaphne pyrropelex*, lectotype (17–18) and paralectotypes (16, 20; 49.3 and 44.7 mm, respectively).



*Gymnobela verecunda* (Barnard, 1963)  
(figures 21–24)

*Daphnella* (?) *verecunda* Barnard, 1963:427–428, fig. 2e.

**Material examined:** Three syntypes (SAM A9697).

**Type locality:** “Africana II”, sta. A189, 33°50’S, 17°21’E, 600 fms (1097 m).

**Description:** Largest (shell  $22.4 \times 10.8$  mm) of three syntypes best preserved, and here designated as lectotype (figs. 21–22). Shell white, consisting of 7 preserved whorls (uppermost broken). Protoconch missing. Spire whorls angulate at periphery, subsutural ramp slightly concave. Axial ribs begin in lower part of subsutural ramp, very rapidly become prominent at shoulder, and gradually weaken below, not reaching canal. Ribs strong, oblique, narrow, 15 ribs on penultimate whorl, 16 on body whorl. Some growth lines on subsutural ramp thickened near upper suture. Spiral sculpture on subsutural ramp consisting of weak, narrow threads, which appear at some distance from upper suture and become stronger towards shoulder. Spiral sculpture on subsutural ramp not always visible due to shell erosion. Spiral cords below the shoulder rather wide, flattened, sometimes with a narrower secondary cord in interspaces. Siphonal canal short, slightly twisted. Anal sinus, judging from growth lines, is asymmetrical, with its deepest point in lower half of subsutural ramp. Paralectotypes are  $19.5 \times 9.5$  and  $16.6 \times 8.3$  mm in size. Larger paralectotype better preserved, with 15 axial ribs on body whorl and wider spiral cords than in lectotype. All three shells have a characteristic light-orange staining on columella.

**Remarks:** Besides the type locality, the species was also found off northern Namibia (19°45’S), at 1600 m, R/V “Professor Shtokman”, sta. 1563 (Sysoev, unpublished data).

*Gymnobela* (*Theta*) *chrysoplex* (Barnard, 1963)  
(figure 6)

*Typhlosyrinx chrysoplex* Barnard, 1963:425, fig. 3g, h.

**Material examined:** One specimen (SAM A9857) (holotype).

**Type locality:** “Africana II”, sta. A322, 34°36’S, 17°00’E, 1500–1760 fms (2743–3219 m).

**Description:** Shell  $18.8 \times 8.6$  mm, white, with glossy surface. Protoconch of three preserved whorls (at least 1–1.5 initial whorls missing), diameter 1.25 mm. Protoconch sculpture not well preserved, consisting of arcuate axial riblets passing from suture to suture. Riblets on lower half of whorl diagonally crossed by oblique riblets beginning at lower suture. Teleoconch of 4.75 whorls. First whorl angulate slightly above periphery, penultimate whorl at about 1/3 of whorl height. Oblique axial ribs beginning just above whorl angulation, slightly weaken below, and reaching lower suture and upper shell base. Ribs 15 on penultimate whorl, 18 on body whorl.

Spiral sculpture of obscure striations below whorl angulation, feeble threads on lower part of shell base and canal. Based on growth lines, anal sinus very shallow as compared to congeners.

**Remarks:** This species agrees well with the subgenus *Theta* Clarke, 1959 in the shell outline and sculpture. The protoconch is very similar to that of *G. (T.) chariessa* (Watson, 1881) (see Bouchet & Warén, 1980: figs. 254, 255), but larger than in that species. The radular teeth (Barnard, 1963, fig. 3h) are typical of *Gymnobela*. *Gymnobela* (*T.*) *chrysoplex* is closely related to *G. (T.) chariessa*, but differs in having a shallower anal sinus, larger protoconch, and less oblique axial ribs.

*Xanthodaphne pyrropelex* (Barnard, 1963)  
(figures 16–18, 20)

*Pleurotoma* (*Surcula*) *dissimilis* (non Watson)—Barnard, 1958: 147–148, fig. 23a.

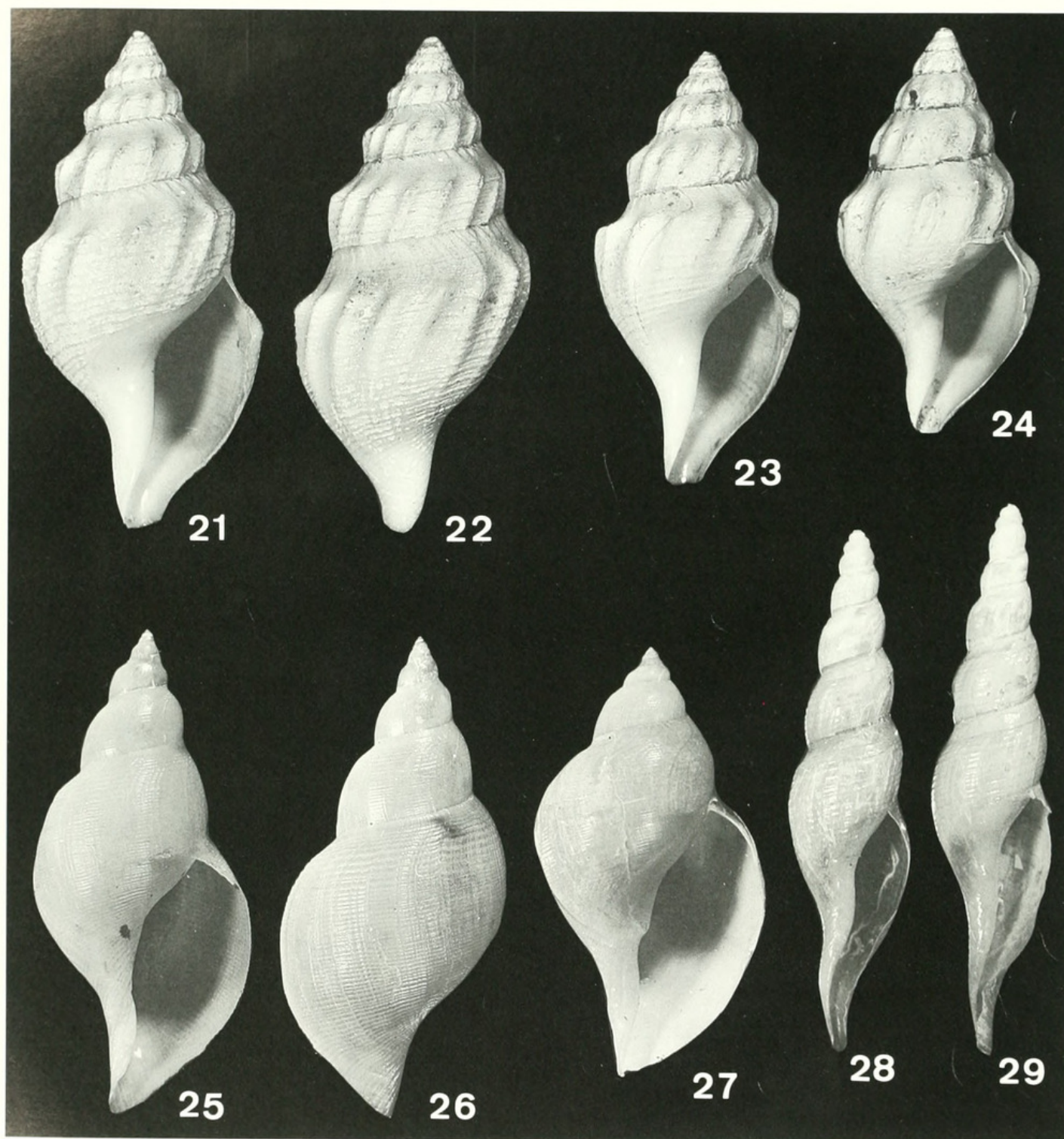
*Typhlosyrinx pyrropelex* Barnard, 1963:423–425, fig. 2c.

**Material examined:** Four specimens (SAM A1643, SAM A1644, SAM A1645) out of 5 indicated by Barnard (1963) as “Types”.

**Type locality:** Barnard did not designate the type locality, and the type series came from three different localities described as “Cape Point N. 77°E. 650–700 fathoms; NE.  $\times$  E. 1/2 E. 43 miles, 900 fathoms; NE.  $\times$  E 3/4 E. 38 miles, 750–800 fathoms”. The syntypes were collected by the Cape Government trawler s.s. “Pieter Faure”, but the respective station numbers were not indicated in the publications (Barnard, 1958, 1963) or on labels. Assuming that Barnard (1963: 424) listed localities and museum numbers in the same order, the lectotype was found in the second of above-mentioned localities.

**Description:** Largest syntype (SAM A1643,  $49.3 \times 18.5$  mm at 7 teleoconch, 1.5 preserved protoconch whorls) with slightly broken canal, eroded parts of body whorl. Another syntype (SAM A1645,  $45.0 \times 15.3$  mm) strongly eroded, with broken aperture. Largest of two remaining syntypes designated here as lectotype (figs. 17–18). Shell  $48.2 \times 17.2$  mm, white, thin, fragile. Protoconch of 1.5 preserved brown whorls with thin oblique arcuate axial riblets. Ribs more crowded and irregular near the transition to teleoconch, less inclined, occasionally bifurcating in lower part. Teleoconch whorls (6.8 in number) almost evenly rounded, with well-marked subsutural ramp, slightly concave in early whorls, almost flat in last ones. Border of subsutural ramp defined by shallow groove. Some growth lines on subsutural ramp thickened below suture, which is more pronounced in early whorls. Subsutural ramp devoid of spiral sculpture except for indistinct striation on its lower part. Spiral sculpture below shoulder consisting of very low, flattened, wide, slightly wavy cords with serrated edges, separated by narrow grooves. Cords becoming stronger, narrower below body whorl periphery. Based on growth lines, the





Figures 21-29. 21-24. *Gymnobela verecunda*, lectotype (21-22) and paralectotypes (23, 24; 19.5 and 16.6 mm, respectively). 25-27. *Xanthodaphne subrosea*, lectotype (25-26) and paralectotype (27). 28-29. *Famelica bitrudis*, lectotype (28) and paralectotype (29).

anal sinus subsutural, wide, deep. Its margin almost vertical below suture, nearly horizontal at border of subsutural ramp. Outer lip very strongly projecting forward below sinus. Paralectotypes very similar to lectotype, varying insignificantly in details of spiral sculpture. None have more intact protoconch than on lectotype.

**Remarks:** The species has all the essential characters of *Xanthodaphne* Powell, 1942. Protoconch sculpture is similar to that of the type species of the genus, *Pleurotoma membranacea* Watson, 1886. However, the shell of *X. pyrropelex* is more slender than that of most other representatives of the genus. *Xanthodaphne pyrropelex*



species was also recorded in the area from 33°36'S to 34°36'S and from 16°15'E to 17°00'E, at 2524–3219 m (Barnard, 1963).

*Xanthodaphne subrosea* (Barnard, 1963)  
(figures 25–27)

*Typhlosyrinx subrosea* Barnard, 1963:425–426, fig. 3a–d.

**Material examined:** Two syntypes (SAM A9822).

**Type locality:** “Africana II”, sta. A318, 33°52'S, 16°51'E, 1380–1520 fms (2524–2780 m).

**Description:** Larger of two syntypes (36.0 × 16.2 mm) designated here as lectotype. Shell white, semi-transparent, fragile. Protoconch of at least 3.5 brown whorls (upper whorls eroded) sculptured by numerous arcuate axial riblets on upper half, diagonally cancellated on lower half. Protoconch diameter 1.45 mm. Teleoconch of 4.75 evenly convex, rapidly expanding whorls. Whorls smooth initially, then obscure spiral striations appear, turning into rather strong and flattened cords (about 60 on body whorl) covering the entire whorl except for narrow area just below upper suture. Strongest, most widely spaced cords situated on whorl shoulder. These cords appear first on shell. Interspaces between cords usually do not exceed the cord width at whorl periphery. Siphonal canal rather long, slightly twisted. Inner lip without callus. Based on growth lines, anal sinus subsutural, outer lip greatly projecting forward below sinus. Paralectotype with much smaller, proportionally broader shell (20.3 × 11.0 mm), its protoconch consisting of about 4.5 whorls. Upper whorls eroded, others with sculpture similar to that of lectotype. Protoconch diameter 1.35 mm. Spiral sculpture similar to that of respective whorls of lectotype. Sculpture irregular on most of body whorl, due to scar of heavy damage to shell. Inner lip covered by very thin callus.

**Remarks:** The species corresponds well to the diagnosis of *Xanthodaphne*, and is quite similar to its type-species, *X. membranacea*. The only difference is that the protoconch sculpture in *X. membranacea* is mainly axial. However, the protoconch sculpture of *X. subrosea* falls within the range of variability characteristic of the genus in general (see Bouchet & Warén, 1980: figs. 234–237).

*Famelica bitrudis* (Barnard, 1963)  
(figures 28–29)

*Daphnella* (?) *bitrudis* Barnard, 1963: 428, fig. 1b.

**Material examined:** Two syntypes (SAM A9754).

**Type locality:** “Africana II”, sta. A193, 33°49'S, 16°30'E, 1500 fms (2743 m).

**Description:** Larger syntype (15.2 × 3.4 mm) with broken aperture, partly broken penultimate whorl. Smaller syntype (13.6 × 3.3 mm) here designated as lectotype. Shell very narrow, semi-transparent, white, very fragile, consisting of 7.5 whorls, uppermost whorl(s) missing. Upper 3 whorls with eroded surface, differing in their proportions from subsequent whorls, apparently representing a protoconch. Teleoconch whorls rather evenly convex, with clearly defined subsutural ramp, bordered by spiral cord corresponding to lower, almost horizontal branch of anal sinus. Spiral sculpture developed below subsutural ramp, consisting of weak narrow cords separated by wide (2–3 times wider than cords) interspaces. Cords weaken on shell base, with smooth band at transition of shell base to canal. Sculpture resuming on canal, but with very weak cords. Siphonal canal long, narrow, twisted. Anal sinus subsutural, not very broad. Outer lip projects forward below anal sinus. Paralectotype differs only in having slightly more numerous and more closely spaced spiral cords (12 on the penultimate whorl vs. 11 in the lectotype).

**Remarks:** In their original description of *Famelica*, Bouchet and Warén (1980), the authors included *Daphnella bitrudis* in their new genus.

#### ACKNOWLEDGEMENTS

The author is greatly indebted to Mrs. Michelle G. van der Merwe, Collection Manager, South African Museum, for the loan of the material.

#### LITERATURE CITED

- Barnard, K. H. 1958. Contributions to the knowledge of South African marine Mollusca. Part I. Gastropoda: Prosobranchiata: Toxoglossa. *Annals of the South African Museum* 44:73–163.
- Barnard, K. H. 1963. Deep sea Mollusca from west of Cape Point, South Africa. *Annals of the South African Museum* 46:407–452.
- Bouchet, P. and A. Warén. 1980. Revision of the North-East Atlantic bathyal and abyssal Turridae (Mollusca, Gastropoda). *Journal of Molluscan Studies*, supplement 8:1–119.
- Dell, R. K. 1990. Antarctic Mollusca: with special reference to the fauna of the Ross Sea. *Bulletin of the Royal Society of New Zealand* 27:1–311.
- Egorova, E. N. 1982. Biological results of the Soviet Antarctic expeditions, 7. Mollusks of the Davis Sea. *Issledovaniya fauny morei* 26(34):3–142 (in Russian).
- Kilburn, R. N. 1983. Turridae (Mollusca: Gastropoda) of southern Africa and Mozambique. Part 1. Subfamily Turrinae. *Annals of the Natal Museum* 25(2):549–585.
- Sysoev, A. V. 1996. Deep-sea conoidean gastropods collected by the John Murray Expedition, 1933–34. *Bulletin of the Natural History Museum, London (Zoology)*, in press.





1996. "Taxonomic notes on South African deep-sea conoidean gastropods (Gastropoda: Conoidea) described by K.H. Barnard, 1963." *The Nautilus* 110, 22–29. <https://doi.org/10.5962/bhl.part.3571>.

**View This Item Online:** <https://www.biodiversitylibrary.org/item/34222>

**DOI:** <https://doi.org/10.5962/bhl.part.3571>

**Permalink:** <https://www.biodiversitylibrary.org/partpdf/3571>

**Holding Institution**

MBLWHOI Library

**Sponsored by**

MBLWHOI Library

**Copyright & Reuse**

Copyright Status: In copyright. Digitized with the permission of the rights holder.

Rights Holder: Bailey-Matthews National Shell Museum

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.