

THE SUBFAMILY TROPHONINAE IN SOUTHERN AFRICA

by Roland Houart

(This is an abridged version of the revisions that appeared in APEX Vol 2(2) April, 1987 and APEX Vol 4(3) October, 1989. Reproduced here with the kind permission of the Societe Belge de Malacologie.)

Three genera are used in this monograph to describe the South African specimens of this family: **Trophon** Montfort, 1810; **Apixystus** Iredale, 1929 and **Afritrophon** Tomlin, 1947.

Afritrophon insignis (Sowerby, 1900)
Figs 3, 4, 26.

Trophon ? insignis Sowerby, 1900: 2, pl. 1, fig. 1

TYPE LOCALITY: The Kowie (Port Alfred)

DISTRIBUTION: Cape Agulhas to Kwelega (Transkei). Found in shell grit washed ashore.

SIZE: 7 mm

REMARKS: Cannot be confused with other species. Protoconch of 2½ shouldered whorls, crossed by 3 spiral threads; last nuclear whorl heavy spirally and axially sculptured.

Afritrophon kowieensis (Sowerby, 1901)

Figs 1, 24.

Trophon kowieensis Sowerby, 1901: 213, pl. 22, fig. 16

TYPE LOCALITY: The Kowie (Port Alfred)

DISTRIBUTION: False Bay to East London. Usually found in shell grit. Found living 30 to 110 m (Barnard, 1959)

SIZE: 8,2 mm

REMARKS: Protoconch consists of 1¾ keeled whorls, crossed by 3 spiral cords. Spiral cords of last nuclear whorl nodulose. The shell is brown.

Afritrophon agulhasensis (Thiele, 1925)

Figs 2, 25.

Trophon agulhasensis Thiele, 1925: 169, pl. 18, fig. 12

TYPE LOCALITY: Agulhas Bank, 35 deg. 16'S; 22 deg. 26'7 E, 155 metres.

DISTRIBUTION: Luderitz, Diaz Point, Namibia to Port Elizabeth.

SIZE: 8 mm

REMARKS: More common than **A.**

kowieensis from which it differs by its non-nodulose protoconch; the shell is more nodulose and has no fine axial threads connecting the spiral cords to each other as in **A. kowieensis**. Shell is brown.

Afritrophon inglorius Houart, 1987

Figs 5, 6, 27.

Afritrophon inglorius Houart, 1987: 31, figs 5, 6, 27, 43.

TYPE LOCALITY: Off Ngqabara Point (32 deg. 25'S, 28 deg. 58'3E), 330—340 m in muddy sand, broken corals and shells. Dredged R.V.Meiring Naude, 1984

DISTRIBUTION: Known only from type locality.

SIZE: 5,5 x 2,5 mm

REMARKS: Shell medium sized, elongate. Aperture ovate and large. Columellar lip smooth, completely adherent to the shell. Anal notch very shallow and large. Outer lip and inner part of the lip is smooth. Spire high and acute, consisting of 1¾ nuclear whorls; first whorl strongly keeled on its upper side, second with numerous axial ribs and a slightly shallower carina. 3½ elongate, slight shouldered teleoconch whorls. Suture impressed. First teleoconch whorl bearing 11 sharp axial lamellae, second 12 and last 9. Spiral sculpture consisting of 4 cords. Where the spiral cords cross the axial lamellae, small, open spinelets are formed, giving the shell a somewhat spinose appearance. Spire whorls with 2 spiral cords. Siphonal canal short, broadly open, bearing 2 shallow spiral cords. Colour uniformly white.

Trophon jucundus Thiele, 1925

Figs 7, 28.

Trophon jucundus Thiele, 1925: 169, pl. 18, fig. 13

TYPE LOCALITY: Agulhas Bank 35 deg.16'S, 22deg. 26'7 E, 155m

DISTRIBUTION: Agulhas Bank to Port Elizabeth.

SIZE: 11.1 mm

REMARKS: This species is not typical of **Trophon**. It has a smooth protoconch of 1¾ whorls and a globulous and large shell. Ochre to brownish in colour.

Trophon sansibaricus Thiele, 1925

Figs 10, 11, 29.

Trophon sansibaricus Thiele, 1925: 170, pl. 18, fig. 17

TYPE LOCALITY: St. 245 (Sansibar-Kanal, 463 m)

DISTRIBUTION: Transkei to Zanzibar Channel.

SIZE: 3,9 mm

REMARKS: Spines of typical **T. sansibaricus** are somewhat longer, but this is not a real specific difference. The syntypes, which all have 4 whorls and are probably not adult shells, present the same spiral and axial ornamentation and have a same larval shell consisting of 1½ rounded and smooth whorls.

Trophon acceptans Barnard, 1959

Figs 8, 9, 30, 44, 45, 50.

Trophon acceptans Barnard, 1959: 202, figs 40(d), 43(b) in part.

Trophon sp. Houart, 1987: 34, figs 12, 31, 46.

TYPE LOCALITY: Cape Point E. 3/4 N., 36 miles off shore, 630 fthms.

DISTRIBUTION: 33 deg. 36'S, 16 deg. 15'E and 34 deg. 42'S, 16 deg. 54'E in depths from 1 097 and 3 255 m.

SIZE: 47 mm

REMARKS: **T. acceptans** has been confused with **T. cossmanni** because of the lack of mature material to study. **T. acceptans** shows a comparatively shorter siphonal canal, a broader last whorl and numerous axial lamellae than **T. cossmanni**. Observation of larval shell and animal would be welcome to support this separation.

Trophon miopectos Barnard, 1959

Figs 12, 31.

TYPE LOCALITY: 34 deg. 27'S, 25 deg. 42' E, 256 fthms.

DISTRIBUTION: Known only from type locality.

SIZE: 3,9 mm

REMARKS: It was originally compared with **T. denseplicatus** Turton, 1932 and **T. gemmulatus** Turton, 1932 which have proved to be two turrids. It has very little in common with either. It may be compared with **T. sansibaricus** Thiele, 1925. The holotype of **T. miopectos** was found dead, with blunted lamellae and a broken siphonal canal,

and although it has a more elongate protoconch than *T. sansibaricus*, a more rounded first whorl and more numerous axial lamellae on the last whorl, I hesitate to treat it as a separate species. Finally, I accepted these differences as important enough to separate it from *T. sansibaricus*; but of course, examination of more material may prove later that they are conspecific. The shell is whitish with a slightly elongated protoconch of 1/2 whorls.

Trophon pulchellus Schepman, 1911
Figs 13, 14, 36.

Trophon pulchellus Schepman, 1911: 339, pl. 21, fig. 2

Trophon johanthellei Barnard, 1959: 206, fig. 44(b)

TYPE LOCALITY: *T. pulchellus*: Sta. 159, 0 deg. 59'1 S, 129 deg. 48'E, Hal-mahera Sea, 411 m in coarse sand. *T. johanthellei*: off East London, 400–450 fthms.

DISTRIBUTION: Known only from type localities.

SIZE: 16 mm

REMARKS: The type material of *T. johanthellei* is badly damaged but it was possible to compare both species only with the help of the protoconch and the first teleoconch whorls. I could not separate them on any major feature; both have the same frilly appearance with laminate varices and same paucispiral, rounded protoconch. The two have been tentatively synonymised.

Trophon pistillum Barnard, 1959
Figs 15, 33.

Trophon pistillum Barnard, 1959: 206, fig. 44(f)

TYPE LOCALITY: Off Cape Natal (Durban) 440 fthms.

DISTRIBUTION: Known only from the type locality.

SIZE: 4.1 mm

REMARKS: The type of this species is also badly damaged, fortunately the protoconch, although separate from the body, could be located and examined. The last whorl bears 4 nodulose spiral threads and numerous axial lamellae. The protoconch is paucispiral with 1 1/4 of 1 1/2 rounded whorls (somewhat broken). No similar species could be found.

Trophon purdyae Houart, 1983
Figs 16, 34, 35.

Trophon purdyae, 1983: 449, figs 1, 4–6

TYPE LOCALITY: Eastern Cape Province: trawled between Jeffreys Bay and Port Elizabeth.

DISTRIBUTION: Known only from the type locality.

SIZE: 25 mm

REMARKS: This species was originally compared with two South African muricids: *Nucella wahlbergi* (Krauss,

1848) and *Ocenebra sperata* (Coss-mann, 1921). It differs from *Nucella wahlbergi* by its rounded axial ribs, more shouldered whorls, smaller size, and denticulate aperture. (Irate form *N. wahlbergi*); moreover, radula and operculum of *N. wahlbergi* is typical *Nucella*-like. It differs from *O. sperata* in having more shouldered whorls, shallower axial ribs, smaller and more elongate protoconch, and its radula.

Trophon barnardi Houart, 1987
Figs 17, 18, 37.

Trophon barnardi Houart, 1987: 37, figs 17, 18, 37, 49

TYPE LOCALITY: Off Cape St. Blaize; ex pisce.

DISTRIBUTION: Cape St Blaize to Transkei (Port Grosvenor) mostly in sand, from 95 to 500 metres.

SIZE: 10.2 x 4.2 mm (holotype)

REMARKS: Barnard considered this species to be a juvenile of *T. acceptans*. The shell is small for the genus, elongate and fusiform, aperture ovate and broad. Columellar lip smooth, completely adherent to the shell. No visible anal notch. Outer lip and inner side of the outer lip smooth. Spire high and acute, consisting of 1 1/2 to 2 glossy and conical nuclear whorls and 4 to 5 elongate sharp axial lamellae, second 10 to 11 and the last 8. No other axial sculpture. Spiral sculpture consisting of numerous microscopical striae not always visible; otherwise smooth. In very few specimens additional sculpture consists of 5 to 6 smooth cords, most apparent on the axial lamellae and giving them a frilly appearance. Siphonal canal smooth, moderately long and broadly open. Colour uniformly milky white, sometimes light brown.

Trophon similidroueti Houart, 1989
Figs 42, 48, 49.

Trophon similidroueti Houart, 1989: 50, figs 3, 9, 10 table 1

Trophon sp. cf. *droueti* Barnard, 1963a: 438, fig. 7 (b)

TYPE LOCALITY: South Atlantic Ocean off Cape Town, 34 deg. 36' S, 17 deg. E. 2 743–3 218 m.

DISTRIBUTION: Known only from the type locality.

SIZE: 10–11 mm

REMARKS: Shell medium-sized for the genus, fusiform and fragile. Spire high with 1.5 protoconch whorls and 4 elongate teleoconch whorls. Protoconch large and roundly elongate. Suture impressed. Last whorl convex and elongate, bearing 20 to 22 low axial lamellae, partially obscuring suture of whorls and 4 to 5 low, shallow spiral cords crossing the axial lamellae. No spiral sculpture on shoulder. Spire whorls with numerous axial lamellae and 2 to 3 cords. Aperture ovate. Columellar lip

smooth and adherent; outer apertural lip thin and smooth. No apparent anal notch. Siphonal canal medium-sized, straight and broadly open, bearing termination of axial lamellae. Colour greyish-white covered by a thick and whitish intritacalx, with microscopical axial striae. Operculum and radula not examined.

Trophon melvillsmithi Houart, 1989
Figs 40, 41, 46, 47,

Trophon melvillsmithi Houart, 1989: 52, figs 1, 2, 7, 8, 13.

TYPE LOCALITY: Northern Namibia: South of Kunene River 18 deg. S, 11 deg. 23'2E 400m, particulate black mud.

DISTRIBUTION: Known only from the type locality.

SIZE: 5.8 to 7.3 mm in length

REMARKS: Shell small and elongate. Spire high with 1 3/5 protoconch whorls and 5 slightly shouldered teleoconch whorls. Protoconch rounded and smooth with obsolete terminal varix. Suture impressed. Last whorl convex, elongate and shouldered, bearing 12 to 14 slightly laminate or rounded axial ribs; lamellae more apparent on the shoulder. Spiral sculpture of 4 very shallow cords, mostly visible between the axial ribs. No spiral sculpture on the spire whorls. Aperture ovate. Columellar lip smooth, entirely adherent; outer apertural lip smooth. Anal notch obsolete. Siphonal canal short medium-sized broad and broadly open, straight or slightly bent to left and smooth. Colour milky white, aperture glossy white. Operculum very small, elongate and narrow, with apical nucleus.

Apixystus kilburni Houart, 1987
Figs 20, 21, 38.

Apixystus kilburni Houart, 1987: 39, figs 20, 21, 38, 50

TYPE LOCALITY: Transkei, off Rame Head, 31 deg. 50'7S, 29 deg. 28'5 E, 150–160 m sponges. Dredged Meiring Naude, 1982.

DISTRIBUTION: Known only from the type locality.

SIZE: 8.5 x 5.9 mm (holotype.)

REMARKS: Shell moderately large for the genus, fragile. Aperture rounded. Columellar lip erect and smooth. No visible anal notch. Outer apertural lip and inner side of outer lip smooth. Spire high, consisting of 1 1/2 glossy and rounded nuclear whorls and 4 1/2 angulate and shouldered teleoconch whorls. Suture impressed. Spire whorls and last whorl bearing 7 to 8 laminate, webbed axial lamellae and 3 barely visible spiral cords, one on the shoulder, second on the anterior part of the last whorl and third, very shallow, just above the siphonal canal. Where the spiral cords cross the axial lamellae they give rise to

short open, spiny projections. No other sculpture except axial growth lines. Siphonal canal short, moderately large and open, recurved slightly backwards. Colour translucent white to light brown.

Apixystus transkeiensis Houart, 1987

Figs. 22, 39.

Apixystus transkeiensis Houart, 1987: 40, figs 22, 39, 51

TYPE LOCALITY: Transkei, off Nthlon-yane River. 32 deg 17'5S, 29 deg. 3'9E, 130 m, coarse brown sand; old calcareous fragments. Dredged Meiring Naude, 1982.

DISTRIBUTION: Known only from type locality.

SIZE: 5,1 x 3,2 mm (holotype)

REMARKS: Shell medium-sized for the genus, fragile. Aperture rounded. Columellar lip erect anteriorly and briefly adherent to the shell posteriorly, narrow and smooth. No visible anal notch. Outer apertural lip and inner side of apertural lip smooth. Spire high and acute, consisting of a paucispiral protoconch of 1½ to 2 shouldered and angulate nuclear whorls and 3 to 3½ rounded, laminate teleoconch whorls. Suture impressed. Last whorl bearing 9 to 11 frilly axial lamellae. Where the spiral cords cross the axial lamellae they give rise to short, open spiny projections. Spines on anteriormost spiral ridge strongly bent downwards. Siphonal canal moderately long, open, slightly bent backwards. Colour white.

Apixystus sp.1 Houart, 1987

Fig. 23

Apixystus sp.1 Houart, 1987: 41, figs 23, 52

TYPE LOCALITY: Same locality as **A.kilburni**.

DISTRIBUTION: Known only from type locality.

SIZE: 4,1 mm (juvenile)

REMARKS: A juvenile with 1½ nuclear whorls and only 2¼ teleoconch whorls, somewhat related to **A. kilburni** although having a twice as large and flat a protoconch and more pronounced spiral sculpture. It is considered as a possible new species.

Apixystus sp.2 Houart, 1987

Apixystus sp.2 Houart, 1987: 41

TYPE LOCALITY: Same as **A.sp.1**.

DISTRIBUTION: Same as **A.sp.1**.

SIZE: 5,8 mm (damaged.)

REMARKS: A frilly somewhat damaged specimen which also closely resembles **A. kilburni**; although having a similar protoconch, it has a stronger spiral sculpture, 9 to 10 axial lamellae and longer spiny projections. This may be only a variant of the new species but the specimen is in too poor a condition to be certain.

DOUBTFUL SPECIES

Cominella acutispira Sowerby, 1921 — possibly a form of **Nucella dubia** Krauss, 1848) **Trophon sp.** Thiele,

1925 — is most probably an undescribed species. It may only be compared with **Trophon sansibaricus**. **Trophon denseplicatus** Turton, 1932 — is not a Muricidae but most probably a Turridae. **Trophon gemmulatus** Turton, 1932 — is not a Muricidae but is most probably a Turridae.

Trophon ornatus Turton, 1932 — has the protoconch of a Turridae, cf. **Acro-bela acus** Barnard, 1958. **Trophon subglobosus** Turton, 1932 — stated that this was a 'doubtful genus'. It is not a **Trophon** or a Muricidae. **Trophon beatum** Barnard, 1969 — this shell was described from a specimen from False Bay and the type can no longer be found. It was suggested that the shell could have been named as something else which makes it nigh impossible to locate. It seems that it should be included in the Turridae.

REFERENCES

HOUART, R., 1987: Revision of the Subfamily Trophoninae (Mollusca: Gastropoda: Muricidae) in Southern Africa, with description of four new species. APEX. Informations scientifiques de la Societe Belge de Malacologie. Vol 2(2) April, 1987.

HOUART, R., 1989: New data on the Trophoninae (Gastropoda: Muricidae) in Southern Africa with the description of two new species. APEX. Societe Belge de Malacologie. Vol 4(3). October, 1989. (P)

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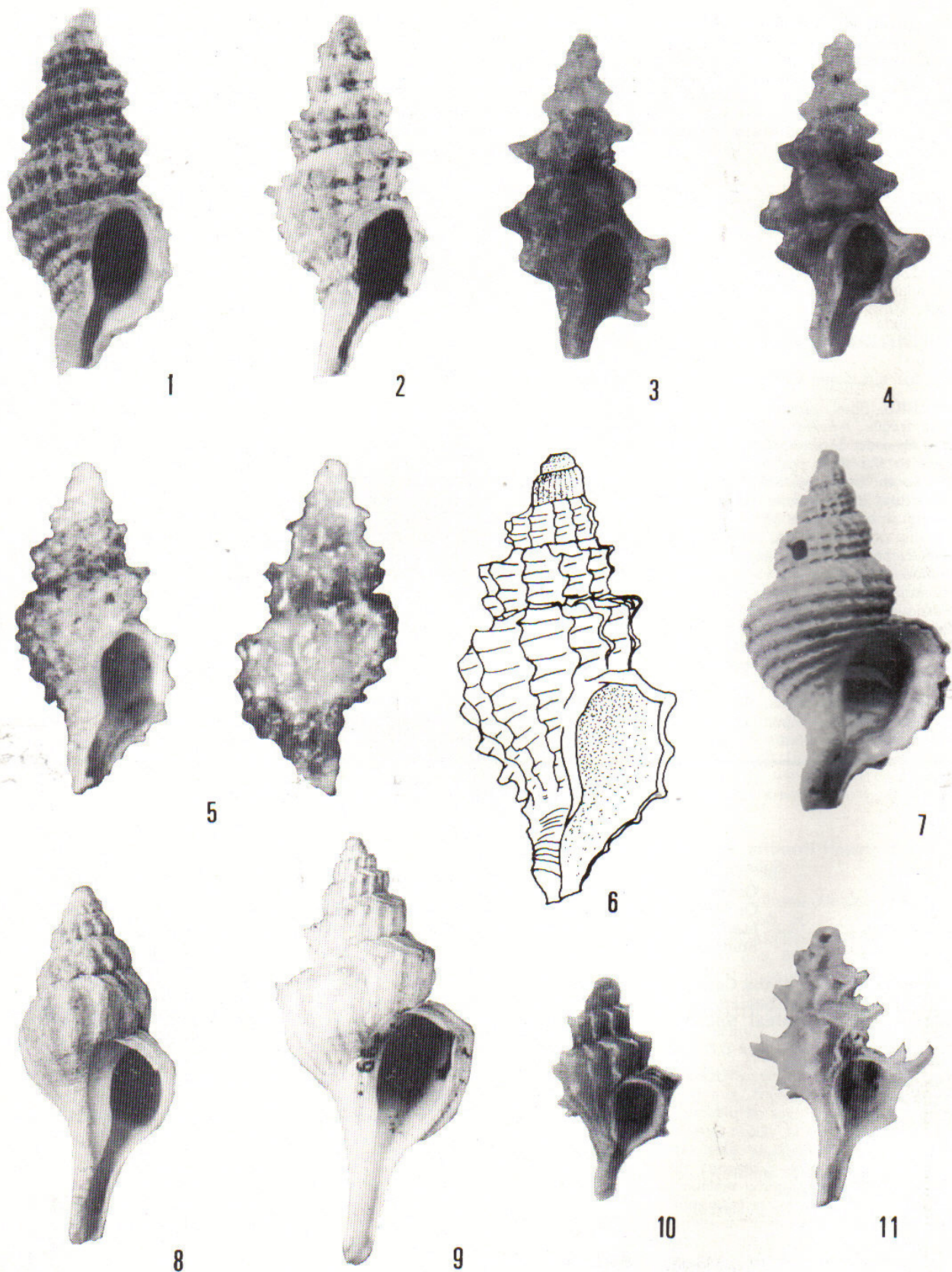
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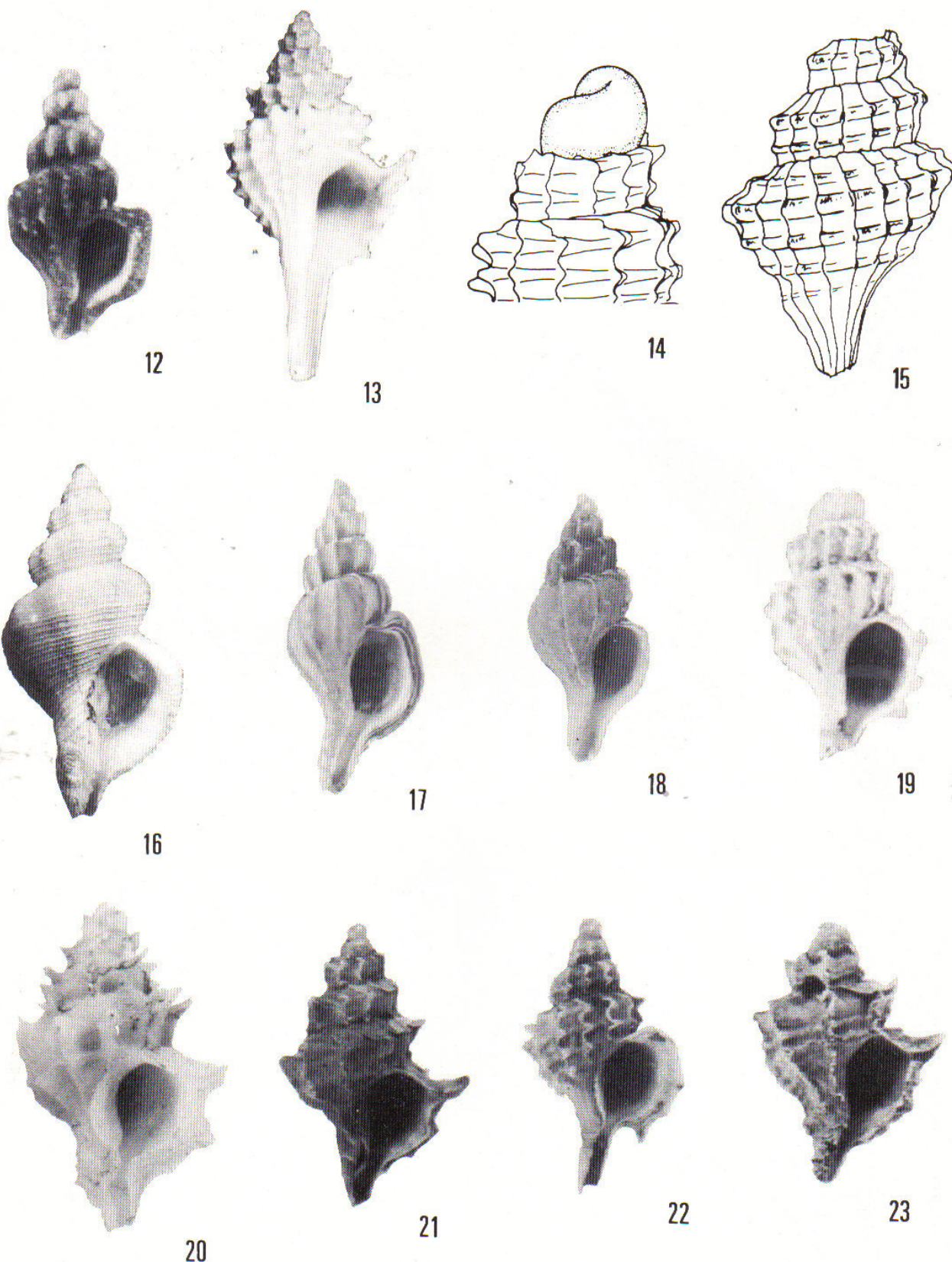
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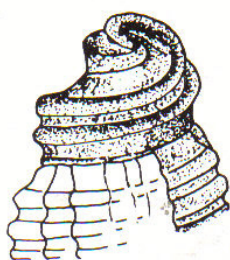
1. *Afritrophon kowieensis* (Sowerby, 1901). NM B900 (7 mm). 2. *Afritrophon agulhasensis* (Thiele, 1925) Syntype ZMB. (7.1 mm). 3. *Afritrophon insignis*(nO (Sowerby, 1900). NM A649 (6.5 mm). 4. *Afritrophon insignis* (Sowerby, 1900). (6.1 mm). 5—6. *Afritrophon inglorius* Houart, 1987. NM C7868 (5.5 mm). 7. *Trophon jucundus* Thiele, 1925. (10 mm). 8. *Trophon acceptans* Barnard, 1959. Holotype SAM A3449. (19.6 mm). 9. *Trophon acceptans* Barnard, 1959. NM7999. (34.5 mm). 10. *Trophon sansibaricus* Thiele, 1925. NM C5873. (3.6 mm). 11. *Trophon sansibaricus* Thiele, 1925. Syntype ZMB. (3.9 mm).



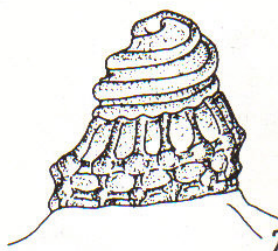
12. *Trophon mioplectos* Barnard, 1959. Holotype SAM A8631. (3.9 mm). 13. *Trophon pulchellus* Schepman, 1911. Syntype ZMA. (16 mm). 14. *Trophon pulchellus* Schepman, 1911. SAM A8842. (4.1 mm). 15. *Trophon pistillum* Barnard, 1959. Holotype SAM A8842. (4.1 mm). 16. *Trophon purdyae* Houart, 1983. Holotype NM B4770/T2667. (25 mm). 17. *Trophon barnardi* Houart, 1987. Holotype NM A4403. (10.2 mm). 18. *Trophon barnardi* Houart, 1987. Paratype NM C4060. (7 mm). 19. *Trophon* sp. (Thiele, 1925). ZMB. (3.2 mm). 20. *Apixystus kilburni* Houart, 1987. Holotype NM C1898. (9.5 mm). 21. *Apixystus kilburni* Houart, 1987. Paratype NM C1236. (6.5 mm). 22. *Apixystus transkeiensis* Houart, 1987. Paratype NM C5861. (4.9 mm). 23. *Apixystus* sp. NM C1236. (4.1 mm).



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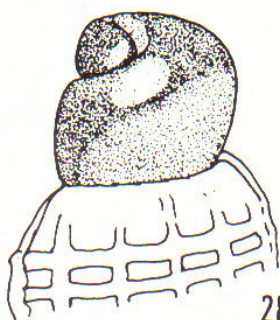
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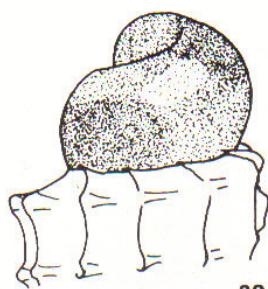
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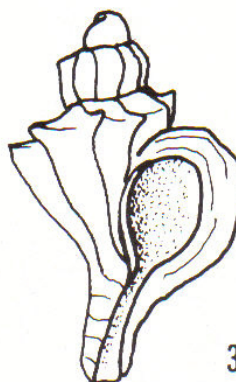
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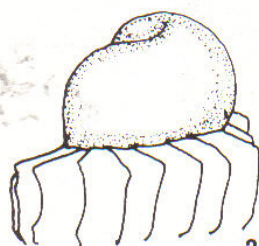
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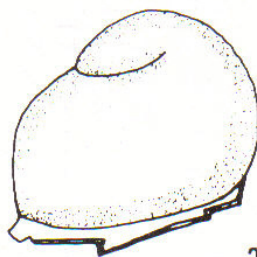
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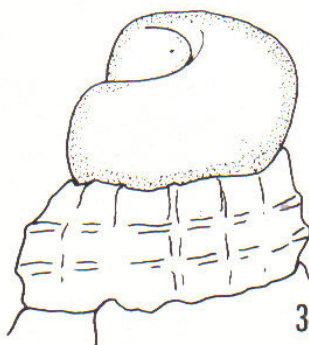
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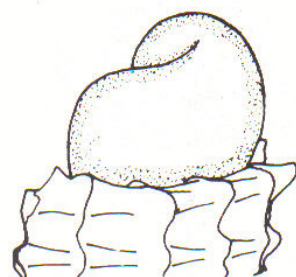


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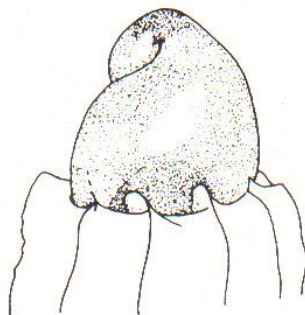


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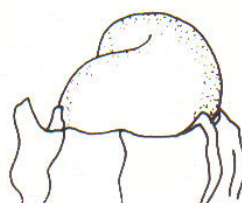
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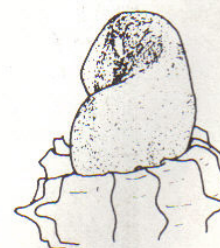
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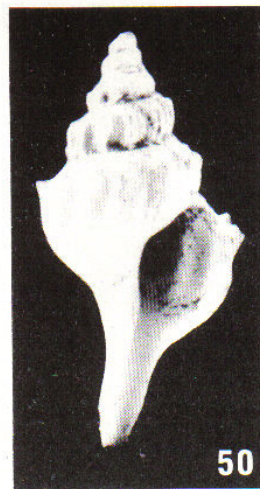
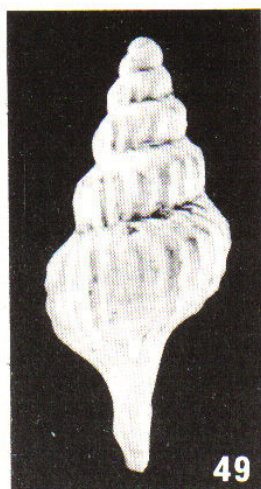
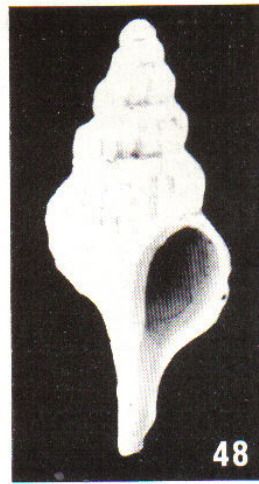
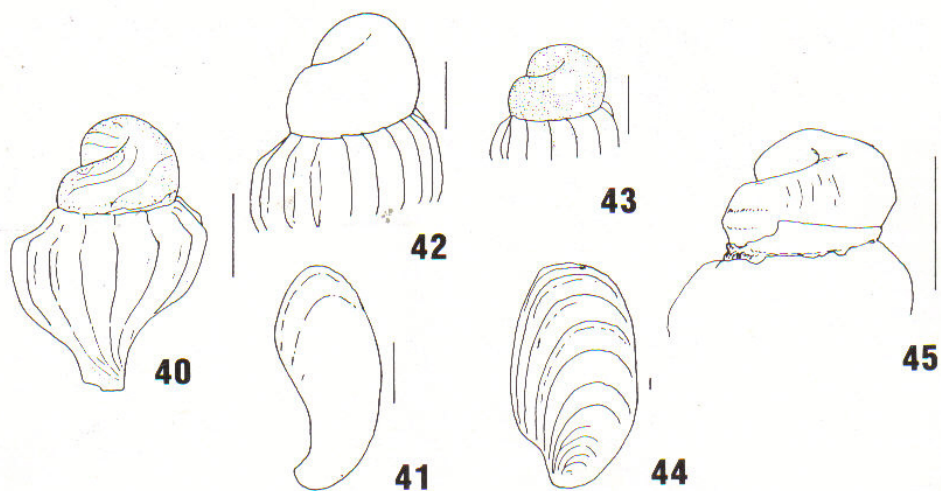


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24. *Afritrophon kowieensis* (Sowerby) (x33). 25. *Afritrophon agulhasensis* (Thiele) (x33). 26. *Afritrophon insignis* (Sowerby) (x33). 27. *Afritrophon inglorius* Houart (x33). 28. *Afritrophon jucundus* Thiele (x34). 29. *Trophon sansibaricus* Thiele (x38). 30. *Trophon* sp. (?juvenile *Trophon acceptans* Barnard) (3.2 mm). 31. *Trophon mioplectos* Barnard (x37). 32. *Trophon* sp. Thiele, 1925 (x28). 33. *Trophon pistillum* Barnard (x38). 34. *Trophon purdyae* Houart (x24). 35. Radula of *Trophon purdyae*. 36. *Trophon pulchellus* (x33). 37. *Trophon barnardi* Houart (x39). 38. *Apixystus kilburni* Houart (x27). 39. *Apixystus transkeiensis* Houart (x36).



40. *Trophon melvillsmithi* (1.7 mm) NM E524/T72. 41. Operculum *Trophon melvillsmithi* (5.7 mm) NM E524/T 72. 42. *Trophon similidroueti* Houart. SAM A9866a. 43. *Trophon droueti* Dautzenberg, 1889. IRSNB IG 10591. 44. Operculum *Trophon acceptans* Barnard. (ex SAM A9811). 45. *Trophon acceptans* Barnard, 1959. SAM A9701. 46. *Trophon melvillsmithi* Houart. NM E525/T71. (7.3 mm). 47. *Trophon melvillsmithi* Houart. NM E524/T72 (7.3 mm). 48—49. *Trophon similidroueti* Houart. Holotype SAM A9866a (11 mm). 50. *Trophon acceptans* Barnard. SAM A9701 (10.6 mm). 51. *Trophon droueti* Dautzenberg. INRSB IG 10591 (16 mm).

THE MOLLUSCAN FAUNA OF AFRICA'S GREAT LAKES

PART V: LAKE CHAD

by Kenneth Brown

Lake Chad lies in the west of the 2 500 000 square kilometre Chad basin on the southern border of the Sahara desert. The lake fluctuates in area between 10 000 and 25 000 square kilometres, and has lain in this basin since the Cretaceous period and has not altered significantly since then as a result of earth movements, but only as a result of climatic changes.

Although lying in a closed basin which is subject to an intense evaporation rate of 90%, the lake water is fresh. One widely accepted reason for the lack of salinity in the lake is found in the soils beneath and beside the lake which favour subterranean seepage of water of the lake. It has been established that the soil allows water to seep outwards from the lake, and that salinity increases in the direction of this flow. The soil is apparently acting as a filter and absorbing the saline content of the lake. Another reason for the freshwater nature of the lake is that lake water continuously seeps into the desert sands to the north and east, being areas having the highest saline content. The salinity of this seepage is about 10 times greater than that which comes from the river inflow, and thus much salt is removed from the lake by a relatively small volume of water. Maximum salinity even in the north of the lake exceeds 1 part per thousand.

There is evidence that the lake has expanded and contracted greatly in the past. At its largest, the lake known as Mega-Chad was some 400 000 square kilometres in size, approximately 5 times larger than the present Lake Victoria. A very dry period is also apparent from the presence of partially flooded desert sand dunes in the north and east of the lake. The lake is fed from the Cameroon, the Adamaoua highlands in the southwest and the Bongo massif and highlands of the Central African Republic in the southeast, primarily by the Chari and Logone rivers. The overall average rainfall over the lake is 300 mm/annum, which is only a small fraction of the 2 000 mm/annum evaporation rate. The maintenance rainfall of the Adamaoua plateau. In some years the volume of the inflow has almost equalled the total volume of the lake.

The lake is approximately 7 m deep and much of the lake shore is fringed with vast reed beds.

The northern and eastern portions of Lake Chad consist of untold small bays and waterways between partially sub-

merged sand-dunes. When the level of the lake rises seasonally these waterways are flooded and extend inland, but subsequently become isolated pools and evaporate completely when the lake's level again recedes. Swamplands and vast reed beds occur in these areas of partially submerged dunes, for it is here that the water is shallow enough for the major swamp plants to take root.

The shallowness of the lake results in its waters being well circulated and aerated, and there appears to be no anoxic water in the lake. The sediments of the lake appear to consist of mud, clay, a type of pseudo-sand and peat. Dejoux 1 recorded 6 species of molluscs in the southern basin, each in its characteristic substratum. Thus he found the bivalves *Corbicula africana* and *Pisidium pirothi* in the sandy layers, whilst the prosobranch snails *Melanoides tuberculata* and *Cleopatra cyclostomoides* are found in the muddy areas and the bivalves *Byssanodonta parasitica* in the clay sediments.

Molluscs are absent in the north end of the lake, but nevertheless comprise 75-90% of the total benthic faunal population of the lake. Approximately 30 endemic species of fish exist in the Chad basin, but only one from the lake itself, possibly due to the ecological uniformity of the lake. No endemic species of any other faunal group, including molluscs, has been found in the lake, and this may be due to the recent isolation of the lake, the relatively few habitat-types available, the matured and well differentiated original fauna from which the lake derived and environmental instability caused by the dramatic water level fluctuations 2. The poverty of fauna is not, however, due to the lake being a remnant of Lake Mega-Chad since sub-fossil lacustrine deposits in other parts of the now-dry Chad basin yield the same suite of species that now lives in the lake.

The overall faunal composition of the lake can only be explained by assuming recent connections with the Niger and Congo basins whose upper waters share the same watershed as the present inflowing rivers into the Lake Chad, as well as with the Nile, although more than a thousand kilometres of desert separate them.

The first molluscs recorded from the lake were collected by Dr G. Rohlfis and were reported on by von Martens in 1877 3. Later, various French explorers brought back collections and in 1935

Germain gave an account of these 4. McMillan & Pain collected more recently and published a survey on the lake's molluscs in 1974 5.

The following species are enumerated by McMillan & Pain as occurring in the lake:

1. *Bellamya unicolor* (Oliver)
2. *Pila wernei* (Philippi)
3. *Gabiella neothaumaeformis* (Germain)
4. *Gabiella tchadiensis* Mahdahl-Barth
5. *Gabiella senariensis* (Kuster)
6. *Cleopatra bulimoides richardi* Germain
7. *Cleopatra cyclostomoides tchadiensis* Germain
8. *Melanoides tuberculata* (Miller)
9. *Lymnaea natalensis* (Krauss)
10. *Biomphalaria pfeifferi* (Krauss)
11. *Biomphalaria stanleyi* (Smith)
12. *Biomphalaria ruppellii* (Dunker)
13. *Biomphalaria sudanica tetragonostoma* (Germain)
14. *Biomphalaria tchadiensis* Germain
15. *Anisus tilhoi* (Germain)
16. *Anisus chudeaui* (Germain)
17. *Gyraulus costulatus* (Krauss)
18. *Segmentorbis angusta* (Jaeckel)
19. *Bulinus globosus* (Morelet)
20. *Bulinus marensi* Germain
21. *Bulinus truncatus rohlfisi* (Clessin)
22. *Bulinus forskali* (Ehrenberg)
23. *Ferissia eburnensis* Binder
24. *Succinea patentissima* Pfeiffer
25. *Veronicella gaillardi* Germain
26. *Caelatura aegyptiaca tsadiana* (von Martens)
27. *Pisidium landeroini* Germain

The following article in this series will deal with Lake Albert.

REFERENCES

1. Dejoux C. Lauzanne L. and Leveque C., 1969: 'Evolution qualitative et quantitative de la faune Benthique dans la partie est due lac Tchad.'
2. Beadle L. C., 1974: 'The Inland Waters of Tropical Africa.' p. 166, 172.
3. Von Martens, E., 1877: 'Untitled notes on the Molluscs of Lake Chad' — Sber ges naturf freunde Berl p. 242.
4. Germain, L., 1935: 'La faune malacologique du lac Tchad et les Pays Bas du lac Tchad' — Arch. Mus. Hist. nat. Paris (6)12: 389-400.
5. McMillan, N. F. and Pain, T., 1974: 'A survey of the Molluscs of Lake Chad, Central Africa' Rev. Zool. Afr.: 311-328. (P)

PRESIDENTIAL REPORT FOR 1989

In this report I shall again leave the discussion of society statistics in the far more capable hands of the director and shall instead deal with some of the more important publications on molluscs, relevant to southern Africa, that have been received since my last report (or overlooked in previous reports!)

BEU, A.G. & MAXWELL, P.A., 1987.

A revision of the fossil and living gastropods related to *Plesiotriton* Fischer, 1884 (Family Cancellariidae, subfamily Plesiotritoninae n. subfam.) *New Zealand Geological Survey Paleontological Bulletin* 54: 1—140. shows that a number of species previously placed in *Colubraria* are actually cancellariids. Two such genera occur in southern Africa: (a) *Tritonoharpa* with species *antiquata* (Reeve, 1844) is recorded from Zululand, and new species *T. indoceana* and *T. boucheti* are described from Mozambique; (b) *Africotriton* new genus, contains mostly South African species, namely *A. crebriliratus* Sowerby, 1903) and *A. fictilis* (Hinds, 1844) from the Agulhas Bank, and new species *A. kilburni*, *A. petiti* and *A. multinodulatus*, from the Transkei slope. Most of southern African material used in this study was collected during the Natal Museum's benthic survey.

DUSHANE, H. 1988.

Hawaiian Epitoniidae [part]. *Hawaiian Shell News* 36(12): 14. shows *Epitonium confusum* Smith, 1890), recorded from Durban, as a synonym of *E. (Depressiscala) umbilicatum* (Pease, 1869).

HARASEWYCH, M.G., POMPONI, S.A. & ASKEW, T.M., 1988

Spongivory in pleurotomariid gastropods. *Nautilus* 102(3): 92—98. Observations from deep-water submersible and study of gut-contents show that members of the family Pleurotomariidae feed by rasping holes in sponges.

FERNANDES, C. & MONTERIO, A., 1988

A new subspecies of *Conus pennaceus* Born, 1778, from south Mozambique. *Publ. Ocas. Soc. Port. Malacol.* 10: 19—22. The lilac coloured form that occurs on Bazaruto Island is described as *Conus pennaceus bazarutensis*.

HERBERT, D.C., 1988

A new species of *Priotrochus* from south-east Africa. *Annals of the Natal Museum* 29(2): 503—507. *Priotrochus irus* is a little trochid which not infrequently washes up (in faded state) on Natal south coast and at Mzamba.

HERBERT, D.C., 1988

Observations on the southern African fissurellids *Cosmetalepas africana* and *Machrochisma africana*. *Annals of the Natal Museum* 29(2): 491—501. Observations on living specimens and scanning electron micrographs of the radula are presented.

HOUART, R., 1989

Descriptions of two new species of the genus *Chicoreus* from southern Africa. *Veliger* 32(1): 60—63. *Chicoreus fosterorum*, a distinctive pure white species with pink apex, is deep-dived off Natal south coast, and occasionally washes up on the beach at Mzamba. *C. zululandensis* is a deeper water species dredged by the Natal Museum off Zululand.

KILBURN, R.N., 1988

Turridae of southern Africa and Mozambique. Part 4. Subfamilies Drilliinae, Crassispirinae and Strictispirinae. *Annals of the Natal Museum* 29(1): 167—320. This paper deals mainly with the species that in the past have been reported from South Africa as '*Drillia*'; 23 genera of 71 species (42 new) are covered.

LAMPRELL, K., 1987

Spondylus. Spiny Oysters of the world. *Leiden: Bachuys*. 84pp, 30 colour plates. Although the Spondylidae contains some of the most beautiful of bivalves, their enormous variability and lack of a definitive guide to species has long made their identification difficult (to well nigh impossible). In the light of this, Kevin Lamprell's book will be welcomed by all. Certainly, with its aid I was able to pin a name on a number of unidentified species in the Natal Museum collection. Nevertheless one would wish for larger, more detailed photographs, showing many more variations, and improved species-definitions would also be helpful. Also, at least some of his synonymies and identifications appear to be incorrect. Nevertheless its general usefulness renders this book a must for the serious collector.

MARSHALL, B.A., 1988

Thysanodontinae: a new subfamily of the Trochidae. *Journal of Molluscan Studies* 54: 215—220. This new subfamily is distinguished by its unique radula of long, barbed teeth (the most slender of any gastropod). Genus *Herbertina* (named in honour of Dai Herbert) is a new South African group, containing two species, *eos* and *cognata*, which were originally dredged by the Natal Museum from the research ship *Meiring Naude*.

PONDER, W., 1987

The anatomy and relationships of the pyramidellacean limpet *Amathina tricarinata*. *Asian Marine Biology* 4: 1—34. The cap-shaped molluscs of the genus *Amathina* have previously been classified in the Hipponicidae or Trichotropidae, but anatomy shows them to be related to the Pyramidellidae but in their own family Amathinidae.

W.F. & VOKES, E.H., 1988

A revision of the Indo-Pacific fossil and recent species of *Murex s.s.* and *Haustellum*. *Rec. Australian Mus. Suppl.* *: 1—160. recognizes *Haustellum* as a full

genus, distinguished from true *Murex* by lacking a small lip tooth, and by anatomy. From our region they record *Murex brevispina brevispina*, *Haustellum fallax* (as a subspecies of *Haustellum haustellum*) and *H. purdyae*.

VOKES, H.E., 1988

A new subgenus of Crassitellidae from Natal. *Annals of the Natal Museum* 29(2): 533—536. '*Crassatella*' *burnupi* Lamy, 1920, a striking bivalve that is occasionally dived on Aliwal Shoal, must now be called *Eucrassatella (Crassasulca) burnupi*.

WAREN, A. & BOUCHET, P., 1988

A new species of Vanikoridae from the Western Mediterranean, with remarks on the northern Atlantic species of the family. *Bolletino Malacologico* 24(5—8): 73—100. The genus *Macromphalus*, of which *Couthouyia*, is a synonym, is transferred from the Fossaridae to the Vanikoridae. [Three species of *Couthouyia*, namely *incerta* (Turton, 1932), *pasithea* Kilburn, 1977, and *mzambana* Kilburn, 1977, have been described from South Africa.] *Rissoa? macrostoma* Thiele, 1925, from the Agulhas Bank, is placed in a new vanikorid genus *Talassia*. (Q)

GROUP NEWS

PORT ELIZABETH

The group took part in the Nature Conservation Exhibition in August. A sinistral *Turbo sarmaticus*, *Marginella piperata*, *Volvarina zonata* were all found by members, whilst Amanda van Niekerk found *Polinices tumidus* of unusual size for that part of the world. Amanda van Niekerk and Fred Graeve gave their services to the Port Elizabeth Museum and helped update and sort their collection of over 2000 shells. Amanda assembled a reference collection for the museum of 291 species which will be used for educational purposes.

DURBAN GROUP

The new Committee was elected as follows:

Barbara Fouche : Chairman.
Maureen Purdon: Vice-Chairman.
Olive Peel : Secretary.
Dawn Brink: Treasurer
Val van der Walt : Scientific Officer
Brian Botha : Librarian
Andy Keppie : Bring and Buy Officer.
The Durban Group was to entertain Aurora Richards of Papua New Guinea for a week in December and entertained two visitors from the island of Reunion, Dr and Mrs Michel Dumond.

SOUTH COAST

The group continues to meet every month when interesting subjects are discussed. (Q)

A SHELLING HOLIDAY IN SOUTH WEST AFRICA / NAMIBIA

by Olive Meyer.

During 1987 my husband and I spent a glorious holiday touring Namibia — a wonderful, interesting land of contrasts and beauty. The tour bus passed right alongside the ocean between Walvis Bay and Swakopmund, where the enormous sand dunes reach down to the sea. The bus stopped at this point to allow passengers to take photographs of the dunes, but I, naturally (despite the other occupants of the bus thinking it a bit odd) dashed off in the other direction to the sea shore and scooped up a bagful of shells, seaweed, brachiopods and anything else I could lay hands on, promising myself that I would be back for a longer visit one day.

I found the shells, etc. most interesting but from what I could ascertain, very little was known about the fauna of this area, and this really whetted my desire to find out more. With quite a bit of persuasion I talked my ever-patient and accommodating husband into spending our next year's holiday in Namibia, or to be more exact, Swakopmund.

So, during October last year, we set off for a shelling/fishing/sight-seeing holiday in that great country. Suffice it to say that the sight-seeing was done extensively along the coast and very little in the hinterland!!

A full eight days was spent in the pursuit of shells, covering a distance of approximately 160 kilometres, from Paalt-

jies, near Walvis Bay to Mile 72 (just south of Cape Cross). Very few shells were found from Swakopmund northwards to Cape Cross; in fact, most of the beaches visited (those which were accessible by normal car, that is) were devoid of shells, or perhaps only one or two species were found beached. These beaches were mainly long, sandy stretches.

The majority, and the greatest variety of shells were found, however, over a stretch of approximately 3 kilometres, south of Swakopmund. This needless to say, was one of the very few rocky beaches in the area. Altogether about 35 species were found, which is not much for an 8-day shelling session.

A check-list of the shells found is as follows:

Donax serra, Perna perna, Semimytilus allosus, Ostrea sp., Lutraria sp., Arca sp. (fossil), Tapes corrugata, Dosinia lupinus orbigny, Petricola bicolor Macoma spp. (2), Helcion dunkeri, Patella miniata form safiana, Patella oculus, Patella granatina Patella granularis, Siphonaria capensis, Crepidula porcellana, Tricollia capensis, Natica vittata, Marginella walvisiana, Bullia digitalis, Bullia callosa, Bullia laevisissima, Demoulia ventricosa, Nucella squamosa, Nucella variegata, Nassarius signatus, Nassarius plicatellus, Burnupena limbosa, Anachis kraussi form kitchingi Brachiopoda discinisca tenuis. (Q)

The volume begins with sections entitled foreword, contents, preface, acknowledgements, abbreviations, and materials and method. A 31-page introduction covers the following: external and internal morphology, with exquisite anatomical drawings; developmental biology and biogeography; higher systematics; generic subdivision; systematics of endemic southern African taxa; and predation. Species accounts form the body of this book — 50 pages on Cypraeidae, 52 on Ovulidae, 45 on Triviidae. Eighteen of the 65 **Cypraea** species recorded from southern African waters are discussed in detail, as are 44 ovulids, 28 **Trivia**, and **Erato**. Tables 2 and 3 list all Cypraeacean and Velutinacean taxa known from this region, showing the first southern African

record and the southernmost distributional limit. Two **Cypraea**, 4 ovulids, and 4 **Trivia** are treated and figured, but not identified as to species.

Based on current knowledge of the morphology of included species, the genus **Cypraea** is used for all members of the Cypraeidae. Several genera are recognized in the Ovulidae, and only the genera **Trivia** and **Erato** constitute the Triviidae/Three species of ovulids are transferred to different genera and nine specific names in Ovulidae are listed as

synonyms. Greater interest in the Cypraeidae is reflected in the fact that living animals are known for all 18 species except **C. cohenae**, **C. cruckshanki**, and **C. lisetae**, while the animals of many fewer species of Ovulidae and Triviidae are known.

Each species account includes data on the living animal, shell, natural history, distribution, and discussion. Differences between related species and variation within a species are indicated, and individual maps clearly show the range of each species. Dorsal, ventral, and lateral photos are provided of each **Cypraea** and many ovulid and **Trivia** species, but only dorsal and ventral views are shown for **Erato**.

Collectors of these popular mollusc families are sure to find this is a book well worth obtaining. Seldom enough do we get to see and study about the animals of the shells we collect, and in this volume we have both superb photography and excellent science. These are only a few, very minor, typographical errors, and while this reviewer would have preferred to have a more complete literature citation with the species accounts and to have had type specimens illustrated wherever possible, the absences do not detract from the outstanding quality and usefulness of this book. This volume is a tribute to the many collectors and scientists who have shared information contained herein, and will serve to encourage others to make similar contributions to malacology.

Walter Sage, New York.

COQUILLAGES DE LA REUNION ET DE L'ILE MAURICE by Jean Drivas & Maurice Jay; Times Editions/Les Editions du Pacifique 422 Thomson Road, Singapore 1129

Hard cover; size 135 x 190 mm; 159 pages; introductory text in French, describing habitats, shell forms and anatomy with interesting colour illustrations; 58 colour plates of text figures with facing pages of scientific Latin names; there is a full index of scientific names at the end. Thirteen major gastropod families are illustrated with colour photos of the highest quality. Mitres and Fasciariids are particularly well covered, as are the Muricids. Seven plates of bivalves are a welcome inclusion. Each plate indicates at what scale the shells are shown, i.e. life-size, half-size or double life size. The large number of species illustrated (850)

makes this handy book most useful for identifying many of the widely distributed Indo-Pacific shells that collectors acquire. The book is not easy to obtain, but a good book store should be able to order it from the publishers. The price would be in excess of R40, but a meal for two at a good restaurant would cost you more than that, so it's probably worth it.

DF Cape Town. (Q)

BOOK REVIEW

COWRIES AND THEIR RELATIVES OF SOUTHERN AFRICA — A STUDY OF THE SOUTHERN AFRICAN CYPRACEAN AND VELUTINACEAN GASTROPOD FAUNA by William Rune Liltved. 1989. 208 pp., 60 line illustrations, more than 550 colour photos. Seacomber Publications. \$65, plus \$4 UPS or \$7 surface overseas.

One of the most beautifully and lavishly illustrated shell books produced in recent years, this volume provides the first account for the shell collecting public of the anatomy of members of the gastropod families Cypraeidae, Ovulidae, and Triviidae. Building on the data recorded in **Sea Shells of southern Africa** (Kilburn & Rippey, 1982) and **Cowries of the World** (Burgess, 1985), Liltved gives a fascinating glimpse of the variability of endemic southern African **Cypraea** and describes and pictures all members of the Ovulidae and Triviidae known to inhabit this region. Table 1 lists important radular and anatomical characters of these families, showing that Cypraeidae and Ovulidae are closely related, as are the Velutinidae (more commonly known as Lamellariidae) and Triviidae (including Triviinae and Eratoinae).

EDITORIAL

Strandloper

The Cone Strandloper seems to have depleted all enthusiasm for further issues. This is not actually so, there are a few interesting items in the pipeline. These will be published in one of the two Strandlopers that will be published yearly from now on. Costs have risen to such an extent that it is not possible to publish at the standard to which we have grown accustomed. This will mean that there will be one black and white publication and one colour Strandloper per year. I hope that I will be able to get the next colour issue ready for the next AGM which will be held on Saturday, 5th May, 1990. The AGM issue will probably have the part of the Murexidae, *Murex*, *Chicoreus* and *Haustellum*.

Honorary Membership

Laurie Smith of Pretoria, and the Vice-President of the Society has been granted Honorary membership of the CSSA for his tireless endeavours to promote conchology in South Africa. Congratulations Laurie.

Back Issues of Strandloper

The last issue of Strandloper featuring the Conidae of South Africa is available at R5 (\$5 for overseas members) which is inclusive of postage. These and any other back numbers are available from Markus Lussi, 15 Longwoods Drive, Durban North, 4051, South Africa.

Correspondence

I received a letter from Amarilio Ramalho, Avenida de Portugal 18-A, 2765 ESTORIL, PORTUGAL. The errata list will probably answer most of your questions. It has been suggested that the 'new' *Conus* sp. (fig. 19a,b) is probably a variation of either *Conus gradatulus* or a similar species. There will probably be much gnashing of teeth before the dust settles on this subject. The photographs in the Cone Strandloper were taken by William Liltved of Cape Town and Gerald Smith of Durban. You could

contact them through the secretary of the society.

Conus gilvus Reeve, 1849 is not a South African shell, although Reeve recorded the type locality as Saldanha Bay, South Africa. Walls (1979: 514) says that the species is easily identified from Reeve's figure. He further says that it has often been confused with *Conus nielsenae* mO from Australia and *Conus tinianus* from South Africa and was synonymised with them. Walls compared *Conus gilvus* with *Conus concolor* and *Conus frigidus*. Walls compared specimens of *Conus gilvus* from Solomon Islands and New Guinea and said that the specimen was to be found in the Western Pacific in moderately deep water. It is interesting to note that subsequent to the Cone Strandloper there were reports of *Conus frigidus* Reeve, 1848 having been found off South Africa.

Mr Ramalho also requires photos of live Cone animals for his files. If you are able to assist him he would welcome a letter from you. (Q)

ERRATA FOR STRANDLOPER 225

Pages 6 and 7 are transposed.

The text on the page numbered '7' follows on from page 5, referring to *Conus litoglyphus* and the top of the page numbered '6' follows on from the end of number '7' referring to *Conus mozambicus*.

The note at the top of page 8 follows on from the end of the page numbered '6' referring to *Conus rattus*.

The description of plate 36, illustrating *Conus natalis* should read as follows: *gilchristi* form — upper left; lower left and centre. *Natalis sensu stricto* — upper centre and right; and lower right. Plate 34 illustrates the living animal of *Conus berdulinus* and not *Conus lohri* as stated in the text.

The author of the Achatina cartoon is Javier Sellanes of Uruguay, South America. (Q)

KARNEKAMPIA: A NEW GENUS IN THE PECTINIDAE

A new genus has been proposed for four species in the Pectinidae, based partly on the micro-sculpture of the valves. Writing in *BASTERIA* (Journal of the Netherlands Malacological Society) Vol 50, No 1—3, 1988, pp 41—44, H P Wagner lists the following species:

sulcatus Moller, 1776 from Northern Europe; *bruei* Payraudeau, 1828 from the Mediterranean & N W Africa; *alicei* Dautzenberg & Fischer, 1897 from the Azores to Namibia; *gilchristi* Sowerby III, 1904 from South Africa. The species *alicei* was formerly referred to the Genus *Manupecten* while the others were in *Chlamys*. The new Genus *Karnekampia* is distinguished by the presence of hollow ribs on the left valve, and a sculpture of tubercles. The sculpture in *Chlamys* is lamellose, i.e. it consists of layers of overlapping scales, while in the Genus *Manupecten* there are also tubercles but these are restricted to the auricles. (Q)

HAVE A DATE

We know how important the author, and especially the dates of publication are, in establishing the validity of specific names of shells.

The great authors of the 18th and 19th centuries published most of their descriptions in specially commissioned volumes with fixed dates, in contrast to most of today's taxonomic work which appears in scientific papers in series, spread over a number of years. This means that the earlier authors have tended to be associated with the specific dates of their major publications, whereas the various descriptions published by modern authors are connected with various dates and different publications.

We therefore have become fairly familiar with some of the combinations of names and dates of the more famous authors that we associate with the well-known species in the major families. For instance, if someone says *Turbo sarmaticus*, one almost automatically adds Linn 1758.

Here are some names of authors we know, and a handful of dates for you to chew on. See if you can match them correctly. No prizes, but the correct answers can be found elsewhere in this issue:

1. Brugiere
 2. Broderip (Volutes)
 3. Dillwyn
 4. Kiener (Cones)
 5. Gmelin
 6. Solander (in Lightfoot)
 7. Melvill
 8. R^{nding}
 9. Swainson
 10. Tomlin (Marginellidae)
- 1822; 1792; 1917; 1825; 1798; 1817; 1887; 1879; 1786; 1791. (Q)

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ARE THE "NEW" GENERIC NAMES RELIABLE?

by D H Kennelly

In common with shell collectors and students of mollusca everywhere, I have become rather bewildered at the fearful and wonderful increase of new generic names during the past thirty years. This "infection" appears to have started with the larger genera, such as *Cypraea* and *Conus*. It has now spread, and practically every one of the old genera, and even the smaller ones with few species, has been split and new generic names published. Fortunately this situation has now roused some scientists to action and investigations are in progress.

I have before me a copy of a new publication, "The Cowry", Vol 1, Part 1, Dec 1960, edited by Lt Col R J Griffiths of Cornwall, England, who specialises in the Cypraeidae. In this small publication, there is a chapter headed "Genus", from which I append the following enlightening extract:

"Early taxonomists created genera for one or two groups. Then intermediate

forms complicated the position, and it was found necessary to name fresh genera to cover them. The result in recent years has been a riot of new generic names, which has served only to complicate nomenclature and to confuse collectors.

"This increase in genera is shown for the 170 or so species of Cypraeidae in the following table:-

Author	Year	No of Genera
Reeve	1845	1
Thiele	1931	8
The Schilders	1938	26
Iredale	1939	40
Steadman & Cotton	1946	61

"Even on study of the shell alone, many collectors became doubtful of the use and even of the existence of this large number of genera. Then in 1959 Alison Kay published the results of her study of the anatomy of about 60 species of the Cypraeidae. She found no dissimilarity between the anatomy of species in the

various "genera". More than that, the only anatomical feature showing pronounced difference through all the species examined, cut right across the existing genera. Her conclusion was that the genera established on shells alone were incorrect, and should be discarded. With this, the editor [i.e. Col Griffiths] wholeheartedly agrees.

"Of course this does not mean that further work will not lead to the establishment of some reliable genera. It simply means that no such evidence has so far been found, and that it is best at present to use the generic name *Cypraea* for all species of Cypraeidae."

In view of the foregoing, it is obvious that the new generic names now in vogue (which split the older well known genera) may well all be discarded for the time being, as causing unnecessary complication and confusion. The time has come for the whole question to be gradually investigated, genus by genus, and reports of the findings published.

Then collectors will know which names may be accepted as correct. (Q)

FIBONACCI NUMBERS

Fibonacci Numbers are a sequence of figures derived from the sum of the previous two numbers in the sequence. For instance, 1, 2, 3, 5, 8 and 13 are Fibonacci Numbers.

If you are wondering what on earth this paragraph is doing in a conchological magazine, read on:

The symmetry and proportions found in nature happen to reflect the same regularity that Leonardo Fibonacci identified 600 years ago in his sequence of numbers.

If you count up the spirals in a sunflower head, you will find that they add up to a Fibonacci Number. Likewise, the proportions by which the whorls of sea-shells increase in size are also examples of the same formula.

So Mathematics and Conchology can find common ground in enjoying the same basic beauty, even if we sometimes look for it in different places. (Q)

MONOGRAPHS OF MARINE MOLLUSCA

Readers might be interested to know that this important series of monographs, previously published by *American Malacologists Inc* under Dr R Tucker Abbott, will be continued by *Trophon Corporation* under a new Editor In Chief, Dr Rdiger Bieler of the Delaware Museum of Natural History. There is an editorial board and an international panel of consulting editors.

We have written to the publishers for information about the next number (No 4) by W O Cernohorsky, which was due in December 1989, and was to deal with the Mitridae and Vexillidae.

If you want to be put on their mailing list, we suggest that you write to the publishers:-

Trophon Corporation
8911 Alton Parkway
SILVER SPRING MD 20910
U.S.A. (Q)

ANSWERS TO AUTHORS AND DATES:

1. Bruguire, 1792
2. Broderip (Volutes), 1825
3. Dillwyn, 1817
4. Kiener (Cones), 1879
5. Gmelin, 1791
6. Solander (in Lightfoot), 1786
7. Melvill, 1887
8. R¹/₂ding, 1798
9. Swainson, 1822
10. Tomlin (Marginellidae), 1917

DECEASED

It is with regret that we heard of the passing of Mrs Pat Palmer of East London. Pat joined the society in 1975 and was made an honorary member of the Boarder shell club. Pat was chairman of the Boarder shell club from 1975 to 1976 and secretary until 1980.

We were sad to hear that Mrs Laura Evans of Port Alfred passed away on the 12th March, 1989. She joined the society in 1966 and arranged displays in the Port Alfred museum. Laura is survived by her husband, a son and four grandchildren and a daughter in England.

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