The Strandloper

BULLETIN OF THE CONCHOLOGICAL SOCIETY OF SOUTHERN AFRICA

No. 195 APRIL/MAY 1979 Page 1

Our 21st Anniversary

These notes have been taken from a history of the Society compiled by Betty Giles, to whom our thanks for permission to adapt them.

The Conchological Society of Southern Africa was founded by Mrs Leila Kerr, who organised a meeting in Cape Town on May 6th 1958 attended by 24 people. The Society was thus inaugurated with Prof J H Day as President, Mrs Kerr as Vice-President, and Mr C Swaneveld as Secretary and Editor of the monthly circular, the forerunner of the Strandloper.

The circular was published monthly from the start and sent to all members, which enabled them to keep in touch and to benefit from the articles it contained.

By 1961, there were 150 members and the Council decided to co-opt three country members, Mrs H Boswell in the Transvaal, Mr P Elston in Natal and Mr D H Kennelly in the Border. By 1963, the Natal and Border members had established themselves into active groups, and Mr Kennelly and Dr A C van Bruggen had been producing an "Eastern Province and Natal Supplement" to the monthly circular.

Our first special publication was "A Check List from False Bay" by Prof Day in 1961 and others followed at yearly intervals. Dr van Bruggen went as Malacologist to the Natal Museum and Mr Kennelly joined the Museum at East London. Members in all provinces benefited from the knowledge and field work of certain individuals who contributed to the advancement of conchology in South Africa. Apart from Prof Day and Dr K H Barnard in Cape Town and Dr van Bruggen in Maritzburg, all of whom were professionally qualified, a band of dedicated amateurs have continued to fill in the gaps left by the deplorable shortage of scientists in this country. Mrs Clarice Connolly, Mrs Hazel Jefferies, Mrs Helene Boswell, Ken Kennelly, Percy Elston, Les Cock, are some of those whose interest went beyond a mere amassing of a private collection of shells. South African conchology as a science is the richer for their contributions.

By 1968 the Transvaal group was formed, and members here also began to make their presence felt with Messrs A Jenner, D Aiken, E Ralph and Dr van Hoepen all doing very good work to add to the sum of our knowledge of S A conchology. Membership had by this time grown to over 200.

By August 1970 the circular had been transformed, under the editorship of Richard Carlsson, into its present format as the Strandloper magazine. About this time, the passing years took their toll and we lost several good friends in Percy Elston, Prof Dr F A Schilder, D H Kennelly, and in 1972 Mrs Leila Kerr who had been ill for along time.

Nevertheless, the Society continued to share in the advancement of conchology through its contributions to the work of Mr R N Kilburn at the Natal Museum in Pietermaritzburg; to the text of the Purnell book, "What Shell is That?"; to shell displays put on in various cities; and through the encouragement of individuals to study particular families and supply material for classification.

There is today still a shortage of professional conchologists and malacologists in this country, and there is a great need for our members to co-operate in collecting and passing on information to those qualified to use it. It is bad enough that type material has still to be sent out of the country for identification in some instances, but it is altogether disgusting that some collectors have been able by using their wealth, to create artificial scarcity of certain material that should be more freely available, not only to South African shell collectors but also to our museums. Our semi-literate trawler crews are being corrupted and our marine fauna is being exploited to satisfy the avarice of such people.

Happily there is another side to the coin and we can pay tribute to a number of members through whose generosity the country's deposit of scientific material has been enriched: Ray Cruickshank, Bernard Young, Betty and Callum Giles, Clarice Connolly, Don Aiken and Alan Jenner, Mrs Faulkner, Helene Boswell, Maureen Quickelberge, and many, many more.

In this 21st year of our existence, and with Conchology as a science some two hundred yers old, new discoveries are still being made around our coasts, especially by the younger generation of divers who have been getting involved in our branch of marine biology in recent years.

We started 1979 with some 383 members. The Society's future depends on what we members are prepared to put into conchology, not what we want to get out of it. By associating together we have had some successes and made a little progress over the past years. So I think we can rightly say, Happy Birthday to Us and many happy returns of the 6th of May.

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CONIDAE OF SOUTH AFRICA

by V.G. MILLARD & D. FREEMAN

The 21st anniversary of the founding of the C.S.S.A. is being marked by the publication of this illustrated article on the South African *Conidae*. We have attempted to list all the species of *Conus* known from South Africa, and have included Indo-Pacific, endemic, and doubtful species.

In this context we define "doubtful" as:

(a) Doubtful and erroneous records from South Africa;
(b) Additional Indo-Pacific and West African species recorded from South Africa by various writers;
(c) Species which have at any time been recorded from South Africa but can only be established as distinct and correctly named species subject to investigation of the type and taxonomy, and/or examination of the living animal.

As the Indo-Pacific material can always be found in general publications, we are illustrating only the endemic South African species. Any of the endemic species omitted from this present article will be covered in later issues of Strandloper.

We have not attempted to point out all of the errors that we have found in the currently available reference works (see the bibliography at the end of the article). The shells described in the works referred to may therefore not agree in every respect with the illustrations in our Strandloper article.

The shells photographed are not necessarily the most perfect specimens available, but have been selected to illustrate certain significant features within the limitations of the space available. All specimens are shown in actual size. We wish to thank Mr Wessel Dreyer who helped Victor Millar with the photography.

For important information supplied, our thanks also to Clarice Connolly of Cape Town; Pat Dalgarno of Scottburgh; Anne Wilson of Pretoria; Mr Dick Kilburn of Pietermaritzburg; and all those who lent specimens for the illustrations. The typesetting, colour separation and printing have been done by Messrs Swiftset, Unifoto Lithographers and Duikerprint, who have all taken a personal interest in the success of this special issue.

DESCRIPTION OF THE ENDEMIC SOUTH AFRICAN CONIDAE

CONUS ALTISPIRATUS Sowerby 1873

1848 *papillaris* Adams & Reeve non Sowerby
1870 *turritus* Sowerby non Röding 1798
1870 *oltmansianus* Van Lennep
1873 *altispiratus* Sowerby
1875 *gradatulus* Weinkauff
1903 *patens* Sowerby

This species will be illustrated in a later issue of the Strandloper.

DIMENSIONS: Known specimens range from 48 x 23mm to 68 x 35mm
RANGE: From the west coast of the Cape Peninsula to the Agulhas Bank at depths from 40m to 460m.
RARITY: Trawled and thus not readily available, but normally live-taken.
DERIVATION: (Latin) *altus* = high; *spiratus* = spired.
DESCRIPTION: The spire is high and turreted and the shoulder is angular. The shell is creamy white with up to three dark bands. Periostracum thin and yellowish. The low spired form was recorded as *Conus patens* and the coronate forms were called *papillaris.*

CONUS BAIRSTOWI Sowerby 1889

1889 *bairstowi* Sowerby

We are listing this as a separate species although it has been reported that Sowerby's illustration seems to indicate that *Conus bairstowi* is synonymous with *infrenatus,* and Reeve's illustration seems to indicate that *Conus infrenatus* Reeve 1848 is synonymous with *Conus aplustre* Reeve 1843. We feel that this is inconclusive evidence, as it rests on a drawing only and not on the type specimen itself. Moreover, it does not explain the identity of the small Australian shell that is generally recognised as *Conus aplustre,* and which is altogether different from *bairstowi* and *infrenatus.* A poor drawing of *aplustre* could conceivably be confused with *infrenatus* but not with a good specimen of *bairstowi.*

Dr K H Barnard mentioned (Annals of S.A. Museum July 1958) that the Museum had a series linking *infrenatus* to *bairstowi.* A personal examination of the shells in the S A Museum during February 1979 showed no such series and, in fact, emphasized the distinction between these two species.

See colour plate B.
DIMENSIONS: 40 x 23mm
RANGE: From Jeffreys Bay into Transkei.
RARITY: Rare, dead, and mainly very worn.
DERIVATION: Named after either SD Bairstow, a Fellow of the Linnaean Society, or after a wool merchant from Port Elizabeth, partner in the firm of Longworth and Bairstow.
DESCRIPTION: Six to eight well-spaced rows of squarish brown spots on a white or grey or cream ground.

CONUS EUCORONATUS Sowerby 1903

1903 *eucoronatus* Sowerby

See colour plate B.
DIMENSIONS: 45 x 24mm
RANGE: Mossel Bay to Natal at a depth of 160m.
RARITY: Trawled and thus not readily available but normally live-taken.
DERIVATION: (Greek *eu* = well; (Latin) *coronatus* = crowned.
DESCRIPTION: Similar to the high-spired form of *Conus varius* but the coronations are more elongate in *eucoronatus.*

CONUS EUMITOS Tomlin 1926

1926 *eumitos* Tomlin

This might be a form of *Conus textile* Linne 1758 from Natal
DIMENSIONS: 53 x 27mm
RANGE: Natal to Mo[ambique
RARITY: No information
DERIVATION: (Greek) *eu* = well; *mitos* = threaded.
DESCRIPTION: This is a member of the textile group of Cones and resembles *Conus panniculus* Lamarck 1810.

CONUS INFRENATUS Reeve 1848
1848 *infrenatus* Reeve
1853 *succinctus* A. Adams.

Refer to our comments above, on Conus bairstowi and to the notes and illustration on plate B.

DIMENSIONS: 40 x 23mm

RANGE: Jeffreys Bay to Transkei.

RARITY: Frequent beach specimens.

DERIVATION (Latin) *frenatus* = restricted.

DESCRIPTION: The pattern consists of numerous spiral rows of closely spaced brownish dots and dashes over a ground colour which is usually pale fawn in fresh shells, although weathering may produce pale yellow, pink, or violet shells.

CONUS LOHRI Kilburn 1972
1931 *consors* Tomlin non Sowerby
1972 *lohri* Kilburn

This species will be illustrated later.

DIMENSIONS: 40 x 23mm

RANGE: From Hibberdene on the Natal south coast to Baia dos Cocos in Moçambique.

RARITY: No definite information.

DERIVATION: Named in honour of Mr M Lohr of Alberton, Transvaal.

DESCRIPTION: The shape is narrow with straight sides and a low, rounded spire with mucronate apex. The colour is brownish orange with irregular chestnut brown marks on the shoulder slope. Aperture violet, periostracum thin and smooth

CONUS MOZAMBICUS Hwass in Bruguière 1792

There are at present two recognised subspecies, each with synonyms, which we describe separately as follows:

CONUS MOZAMBICUS MOZAMBICUS Hwass in Brugière 1792
1788 *elongatus* Chemnitz (not binominal)
1792 *mozambicus* Hwass
1792 *informis* Hwass
1802 *elongatus* Holten
1848 *caffer* Krauss

CONUS MOZAMBICUS LAUTUS Reeve 1844
1833 *inflatus* (non Sowerby) Marsh & Rippingale
1844 *lautus* Reeve
1927 *aurora* Tomlin & Winslow.

See illustration on Plate A.

DIMENSIONS: *(mozambicus)* 72 x 34mm; 72 x 25mm
(lautus) 35 x 20mm; 40 x 21mm

RANGE: *(mozambicus)* From Luderitz, South West Africa – Namibia. to Still Bay, east of Cape Agulhas.
(lautus): From Cape Agulhas to East London.

RARITY: *(mozambicus)* uncommon but live taken, while rare albino specimens are found on the west coast of the Cape Peninsula.
(lautus) very uncommon and mostly beach specimens only.

DERIVATION: Named after the supposed type locality Moçambique which is now accepted to have been an error. (Latin) *lautus* = magnificent.

DESCRIPTION: *(mozambicus)* Similar in shape to *tinianus* although it tends to be more elongate, and subscalariform shells are not uncommon. The shoulder slope is rounded and generally bears six to eight spiral lirae, although these are sometimes hardly visible. Colours and patterns tend to be typical of certain localities although there is a lot of overlapping. See the colour illustrations on Plate A and the notes on that plate. One form typical of Sea Point on the Atlantic (cold water) coast of the Cape Peninsula has dark and light dots and dashes closely packed in a broad spiral band, sometimes two bands, around the whole body whorl just below the shoulder. Other forms range from an almost uniformly dark brown (Cape Agulhas) or purple, through lighter shades of brown in blotches on a paler ground, often with a pale zone in the middle of the body whorl. The aperture varies in colour from violet in the darker shells to pale brown or white in the other forms.
(lautus) is smaller than the typical mozambicus, as the illustrations on Plate A indicate. While the pattern tends to be distinctive, the colours vary from pale orange to dark brown.
The two subspecies are fairly easy to separate, but Mr Kilburn explains in the Annals of the Natal Museum (Vol 21 (1) of 1971, p52) that the name *lautus* might have to be discarded as the holotype in the British Museum of Natural History is badly worn and faded, and the identification is uncertain. The name *Conus inflatus* Sowerby 1833 was applied to an illustration of this species by Marsh & Rippingale, but the true *inflatus* is probably allied to *Conus conspersus* Reeve and would therefore not be a synonym of *lautus* at all.

CONUS NATALIS Sowerby 1858
1858 *natalis* Sowerby
1892 *natalensis* Sowerby
1903 *gilchristi* Sowerby

See Plate B.

DIMENSIONS: 38 x 20mm but the form *gilchristi* has been known to attain 55 x 29mm.

RARITY: Dead, from Jeffreys Bay to Natal. Living, from East London to the Kei river.

RARITY: Beach specimens are common.

DERIVATION: Named after the type locality of Natal although this should have been latinised to *natalensis*. The form *gilchristi* which was at first thought to be a separate species, was named in honour of Professor J D H Gilchrist of the University of Cape Town who was also Cape Government Biologist and directed the first systematic survey of South African waters.

(Continued on page 4).

(Continued from page 3)

DESCRIPTION: The true *natalis* has fine tent markings arranged in narrow bands of which there can be as many as ten. The *gilchristi* form is almost entirely plain pale violet with occasional small broken patches of tents. Specimens showing all stages of the transition from the typical *natalis* to the extreme *gilchristi* form can be found.

CONUS PICTUS Reeve 1843
1843 *pictus* Reeve
1845 *pictus* Reeve
1911 *beckeri* Sowerby
1932 *pictus* var. *scitulus* (non Reeve) Turton
1932 *pictus* var. *jaspideus* (non Kiener) Turton
See Plate B.
DIMENSIONS: 37 x 20mm.
RANGE: From Jeffreys Bay to Nthlonyane in the Transkei.
RARITY: Rare beach specimens only.
DERIVATION: (Latin) *pictus* = ornate, painted.
DESCRIPTION: Roughly similar in shape to *Conus scitulus* but with a more obviously stepped spire. The colour and markings range from brown and fawn to salmon pink with two transverse bands of dotted lines and blotches on a paler ground. Periostracum not seen.

CONUS SCITULUS Reeve 1857
There are at present three subspecies which we describe as follows:
CONUS SCITULUS SCITULUS Reeve 1849
1848 *jaspideus* (non Gmelin) Kiener
1848 *jaspideus* Kiener (non Gmelin) Krauss
1849 *scitulus* Reeve
1858 *danieli* Grosse (nom nov for *jaspideus* Kiener)
1903 *scitulus* Smith
1937 *scitulus* Tomlin
Note that the *Conus scitulus* of Marsh & Rippingale (1964) is *Conus scitulus simplex* Sowerby; and the *Conus pictus* var. *scitulus* of Turton (1932) is *Conus pictus* Reeve.

CONUS SCITULUS SIMPLEX Sowerby 1857
1857-8 *simplex* Sowerby

CONUS SCITULUS ALGOENSIS Sowerby 1834
1834 *algoensis* Sowerby
1884 *algoensis* Tryon
1848 *algoensis* Krauss
1915 *algoensis* Bartsch
1964 *algoensis* Marsh & Rippingale.
Note that the *Conus algoensis* of Turton (1932) is *C. tinianus* Hwass and Kilburn's reference to *algoensis* Sowerby 1934 in the Annals of the Natal Museum Vol 21 (1) p. 43, should read 1834.
DIMENSIONS: *scitulus:* 26 x 13mm; 32 x 17mm; 36 x 19mm; 20 x 11mm.
simplex: 67 x 33mm; 64 x 29mm; 31 x 14mm; 25 x 14mm.
algoensis: 45 x 22mm; 39 x 20mm; 25 x 11mm.
RANGE: *scitulus:* From Cape Agulhas to Cape Hangklip.
simplex: From Muizenberg to Cape Point.
algoensis: From Table Bay to Kommetjie on the west coast of the Cape Peninsula.

RARITY: *scitulus:* rare but live-taken
simplex: uncommon but live-taken
algoensis: uncommon beach specimens and rare live-taken.
DERIVATION: (Latin) *scitulus* is a diminutive of *scitus* = neat.
simplex = plain.
algoensis = from the supposed type locality of Algoa Bay (Port Elizabeth) which is an error.
DESCRIPTION: All three subspecies have a white ground colour overlaid with dark brown markings which vary according to the subspecies; periostracum thin, yellow and transparent. Colour patterns as follows:
scitulus: brown band below the shoulder and brown zone at the base of the shell, while the white median zone is usually covered with small scattered brown dots.
simplex: the shoulder band is often less prominent than in *scitulus* and merges with narrow brown axial flames.
algoensis: similar to *simplex* except that the axial flames are very much wider and frequently merge to cover the shell, leaving only occasional patches of white ground colour.
Please refer to Plate B and the notes on the Plate.

CONUS TINIANUS Hwass in Bruguière 1792
1792 *tinianus* Hwass
1810 *aurora* Lamarck
1817 *rosaceus* Dillwyn
1833 (?) *tenuis* Sowerby
1848 *loveni* Krauss
1865 (?) *secutor* Crosse
1889 (?) *fulvus* Sowerby
1915 *alfredensis* Bartsch
1915 *lavendulus* Bartsch
1915 *guttatus* (non Keiner) Bartsch
1932 *grayi* (non Reeve) Turton
1932 *elongatus* (non Chemnitz) Turton
1932 *algoensis* (non Sowerby) Turton
1932 *guttatus var. variegatus* (non Kiener) Turton
1932 (?) *kraussi* Turton
1932 (?) *approximatus* Turton
1961 *caffer* (non Krauss) Janus.
See illustrations on Plate A.
DIMENSIONS: 65 x 33mm.
RANGE: From Tongaat, north of Durban, to Arniston near Cape Agulhas.
RARITY: Fairly common.
DERIVATION: (Latin) From the supposed type locality of Tinian Island in the Marianas Group, in the western Pacific, which is an error.
DESCRIPTION: The shape of *tinianus* is more constant than that of *mozambicus;* the shoulder is rounded and the spire moderate; the colour and pattern are very variable, which has given rise to many synonyms.

(Continued on page 9).

DESCRIPTION OF THE PLATES

Plate A Specimens shown 7/8 actual size.

Figs a to l: *Conus mozambicus mozambicus* Hwass in Bruguière

a. False Bay (Buffels Bay) found in 3m of water; dead specimen with periostracum intact; length 74mm is 2mm short of the record for this species.

b. False Bay (Millers Point) found in 3m of water; live-taken, periostracum removed. The broad shape of figs a & b is characteristic of specimens from these two localities.

c. Fale Bay (Cape Hangklip) inter-tidal; live-taken with periostracum removed. Note more slender shape than fig. b.

d. Same locality as fig. c; live-taken with periostracum intact but complete absence of pattern and virtually no shoulder striae.

e. Atlantic coast of Cape Peninsula (Kommetjie) inter-tidal; live-taken with periostracum intact. The broad shape is more typical of False Bay shells; length 72mm.

f. Cape Agulhas; inter-tidal; plain dark brown form is characteristic of this locality.

g. False Bay (Millers Point) a most unusual colour variety with a pinkish animal.

h. Atlantic coast of Cape Peninsula (Cape Point nature reserve) inter-tidal; live-taken albino specimen with periostracum removed.

j. Same locality as fig. h; periostracum partly removed; note slender shape of figs. h to l which marks most specimens from this locality. These are probably the typical *Conus elongatus* of Chemnitz.

k. Same locality as h & j; periostracum removed to show typical colour and pattern of Atlantic shells; note the almost subscalariform shape which occurs fairly often in this species.

l. Atlantic coast of Cape Peninsula (Sea Point) inter-tidal; live-taken with periostracum intact; a rare find from this locality as mostly dead specimens are found.

Fig. m: A remarkable specimen taken from dredgings from Simonstown harbour. Although the pattern somewhat resembles *Conus scitulus simplex*, the shape indicates that it is *Conus mozambicus mozambicus*. This is probably the *Conus informis* of Hwass. The colours would have been dark purplish brown markings on a white ground when fresh.

Figs. n to r: *Conus mozambicus lautus* Reeve.

n. Jeffreys Bay; a colour form sometimes confused with *Conus tinianus* but distinguishable by means of the shoulder striae which are not as numerous or prominent as this in *C. tinianus.*

o. Jeffreys Bay; a dark and fairly fresh dead specimen; this is the form incorrectly identified as *Conus inflatus* in Marsh & Rippingale's Cone Shells of the World, 1964.

p. & q. These are the same as fig. o, but more worn and faded; also from Jeffreys Bay.

r. False Bay. As you can see, this subspecies tends to be smaller than the typical *mozambicus.*

Figs. s to x: *Conus tinianus* Hwass in Bruguière.

All beach specimens from Jeffreys Bay except fig. v which was live-taken from Gonubie to the north of East London.

s. The plain colour could be due to abrasion on the beach, as the nebulous mottling of the other specimens is more typical of this species. The colours range from deep salmon pink through light brown to chocolate.

v. The periostracum differs noticeably from that of *mozambicus* which is smooth. In *tinianus* there are a number of spiral ridges arranged in pairs which are formed by the fibres overlapping and standing upright, somewhat like the hair on the spine of a Rhodesian ridgeback dog. This feature is obviously more conspicuous on fresh specimens.

x. Although I would be inclined, on account of the pattern, to class this specimen as a form of *mozambicus*, the absence of striae on the shoulder seems to indicate that it is *tinianus.* Identifying specimens such as figs. s and x which are both dead shells leaves an uncomfortable amount of room for error. The comments of readers would be appreciated.

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Plate B Specimens shown 7/8 actual size.

Figs. a to e: *Conus infrenatus* Reeve 1848

These are all beach specimens found between Jeffreys Bay and Nthlonyane in the Transkei, and show the effects of weathering. Brightly coloured forms such as the yellow one shown here, tend to be typical of certain localities. Fig c is perhaps the best example of a fairly fresh shell.

Figs. f and g: *Conus bairstowi* Sowerby 1889.

Transkei coast; rare, and usually only badly worn shells are found; somewhat broader than *C. infrenatus;* in the three fairly fresh specimens in the S A Museum in Cape Town, the regularly spaced square spots are a dark purplish borwn.

Figs. h to n: *Conus natalis* Sowerby 1858

All beach specimens found between East London (Gonubie) and Natal; fairly common on the beaches in this area; similar in shape to *C. infrenatus.*

h. The arrangement of the pattern in bands sometimes leads to confusion of this species with *C. infrenatus,* especially in worn specimens; compare figs. a and h.

j. A good fresh dark specimen.

k to m. These specimens illustrate the variation of pattern from the basic *natalis* type to the *gilchirsti* form.

n. The bright pink ground colour is a local variation found at Nthlonyane in Transkei. A yellow form also occurs there.

Fig. o: (?) *Conus bairstowi* Sowerby 1889

This specimen is a dead shell found on the wreck of the Birkenhead off Danger Point to the west of Cape Agulhas by Mr Billy Liltved in March 1979. The colour and pattern are typical of fresh *C. bairstowi* although the shape is narrower. A remarkable discovery.

Figs. p to s: *Conus pictus* Reeve 1843. Beach specimens are found in various stages of weathering from Jeffreys Bay into Transkei. Rare.

Figs. t and u: *Conus musicus* Hwass 1792.

Found alive from Natal northwards through Mocambique.

(Continued on page 8).


PLATE A
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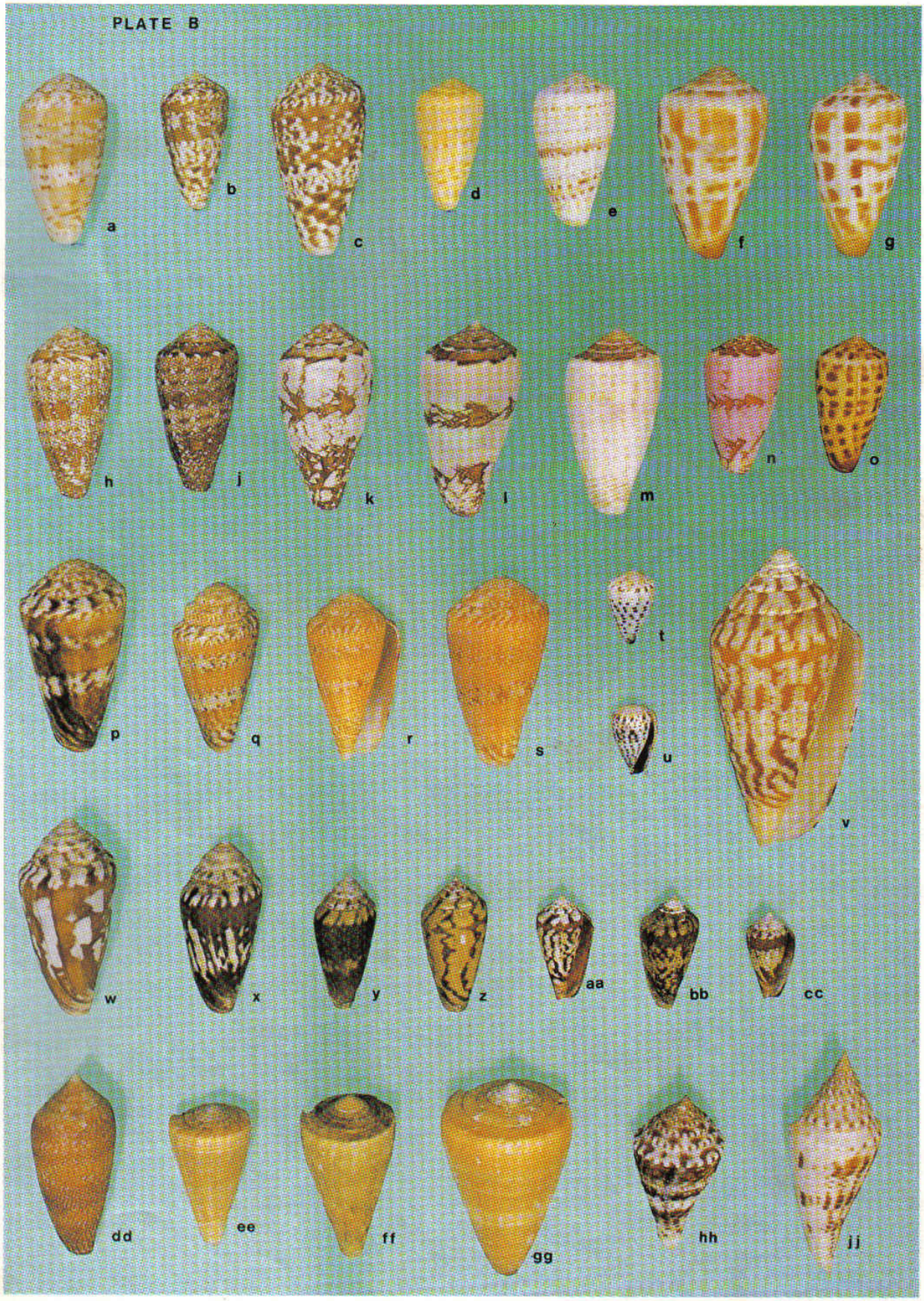
PLATE B
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(Continued from page 5)

Fig. v: *Conus scitulus simplex* Sowerby 1857.

This very large (70mm) specimen was dredged in Simonstown harbour and should be compared with fig. m on Plate A, and with figs. z and aa on Plate B.

Figs. w, x and y: *Conus scitulus algoensis* Sowerby 1834.

w. Atlantic coast of Cape Peninsula (Sea Point); uncommon.

x. Another (dead) specimen from Sea Point with a more regular arrangement of the pale markings in the centre of the whorl. Live specimens are now (1979) being found in this area at 70 ft depth just offshore, which explains why they are so uncommon on the beaches.

y. Atlantic coast of Cape Peninsula (Kommetjie); inter-tidal; live-taken with periostracum intact; very uncommon.

Figs. z and aa: *Conus scitulus simplex* Sowerby 1857.

Two specimens from False Bay (Millers Point to the south of Simonstown); live-taken at 3m depth; periostracum intact in fig. z but removed in fig. aa; note the bright red aperture in fig. aa which occurs in a fair number of specimens; wavy brown markings extend the length of the whorl and the band at the shoulder is sometimes continuous but often interrupted and occasionally absent altogether.

Figs. bb and cc: *Conus scitulus scitulus* Reeve 1857.

The brown band at the shoulder is generally broader and more distinct than in *simplex*, while the vertical wavy lines of *simplex* are here replaced by a scattering of small dots on a white background, sometimes merging into an irregular brown zone at the base of the shell.

bb. Cape Hangklip; this is the eastern end of False Bay and is also the western extremity of the range of this species; inter-tidal; rare; periostracum intact.

cc. Cape Agulhas; the type locality; live-taken; periostracum intact; rare.

Fig. dd. *Conus cholmondeleyi* Melvill 1900.

An uncommon species in the textile group; found in Natal; might prove to be merely a form of *Conus textile.*

Fig. ee. *Conus caillaudii* Kiener 1849.

This beach specimen was found in Natal where it must be regarded as rare; type locality Mauritius; it differs from *Conus quercinus* (fig. gg) in its more slender shape but more especially in the slightly concave shoulder slope which is crossed by crescent-shaped brown marks which are related to stages of growth. Periostracum not seen.

Fig. ff: *Conus typhon* Kilburn 1975.

Live-taken by trawlers off Moçambique; a white shell with an indistinct pale brown area near the base; covered in this specimen by a yellowish, flaky periostracum which stands erect in scales in the hollow of the concave shoulder slope.

Fig. gg: *Conus quercinus* Lightfoot 1786.

This common Indo-Pacific species is shown here for comparison with *caillaudii* and *typhon.* It occurs on the Zululand coast.

Fig. hh: *Conus eucoronatus* Sowerby 1903.

Trawled off Natal (Zululand).

Fig. jj: *Conus orbygni aratus* Kilburn 1973.

Trawled off Natal; differs from the Japanese *orbygni* in the prominence of the nodules on the shoulder. It might be necessary to change the name aratus for technical reasons.

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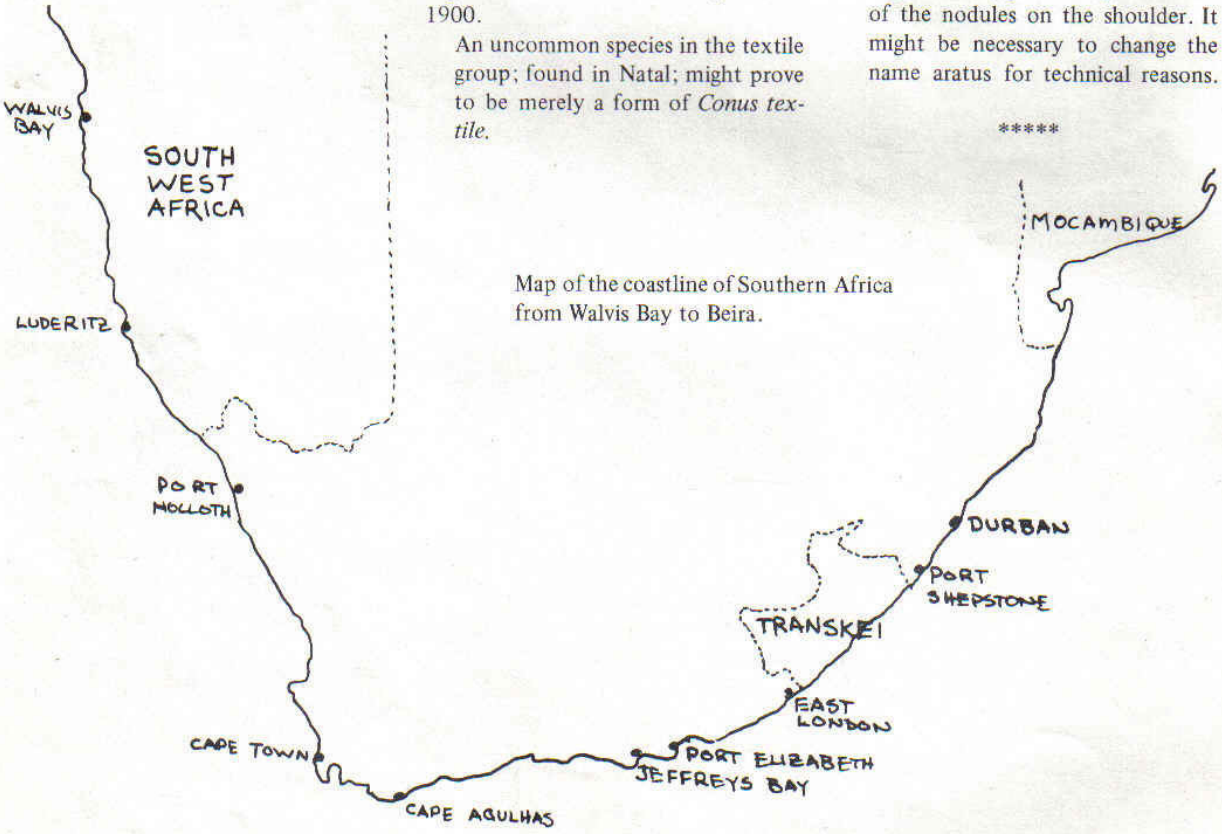

Map of the coastline of Southern Africa from Walvis Bay to Beira.

(Continued from page 4)

CONUS TYPHON Kilburn 1975

1975 *typhon* Kilburn

See Plate B.

DIMENSIONS: 46 x 25mm; 48 x 27mm; 41 x 20mm; 40 x 23mm.

RANGE: Moçambique to the Natal/Pondoland border; offshore to 20 fathoms, and rarely washed up on beaches.

RARITY: Rare

DERIVATION: (Greek) *typhon*=whirlwind

DESCRIPTION: The specimen illustrated in our colour plate does not agree with the author's description of the type which has been recorded as being pale golden brown and covered with a pattern of thin brown spiral lines. The colour of our specimen is derived from the yellow periostracum and there are no lines on the shell, which is plain white with an indistinct darker smudge near the base.

CONUS VISAGENUS Kilburn 1974

1974 *visagenus* Kilburn

It has been suggested by Wagner & Abbott (Standard Catalog of Shells – Vol 3) that this is a synonym of *Conus infrenatus* Reeve 1848. We hope to publish a photograph and full particulars in a later issue of the Strandloper.

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(informis, pictus) December 1966
(algoensis, scitulus) June 1967

*****

TAXONOMY

What essential feature distinguishes one species from another?

A species is a group of organisms which are able to breed with one another but not with organisms in another group. This sounds simple but in practice we do not always know whether one group can or does interbreed with another. Consequently the decision whether two populations are separate species must be based on the knowledge of the classifier.

In the case of shells, it is strictly speaking the animals in the shells that are classified but, of course, the shells are so characteristic of their specific animals that we can usually (but not always) recognise the species from the shell alone. Interesting situations then arise.

Where molluscs deposit their eggs in isolated localities without a planktonic stage after hatching, the young remain in the area where they hatch and distinctly different populations can develop over a long period of time. An instance of this is the distinctly different and locally separated subspecies of *Conus scitulus scitulus, simplex* and *algoensis*, which live in the relatively short stretch of coastline from Cape Agulhas round to Table Bay, but without any overlapping as far as we know. We do not know for certain if there is any interbreeding but the colour patterns of the shells seem to remain distinct in the areas where they occur, so the populations are probably not mixing although they might be able to do this if the physical divisions between the areas could be bridged. Meanwhile the three forms are so obviously related that we feel compelled to call them sub-species until more evidence is available.

A different situation exists in the case of *Conus natalis*, of which we can find a complete series merging from the typical form covered with small "tent" markings, through to the form called *gilchristi* with its plain pale violet ground colour and only occasional small fragmented patches of tent markings. This is therefore regarded as one variable species.

The question can also be asked, why does *Conus mozambicus* not behave like *Conus scitulus?* It occurs around the same stretch of coastline but is far more variable in shape, colour and size and the variations are not nearly so restricted to specific areas although with experience one can often guess where a particular shell was found. I don't know the answer to that question, but the overlapping of areas and intergrading of forms have forced us to regard *Conus mozambicus mozambicus* as one variable species, with *Conus mozambicus lautus* as a recognisable different subspecies, also somewhat variable within its own limits.

*****

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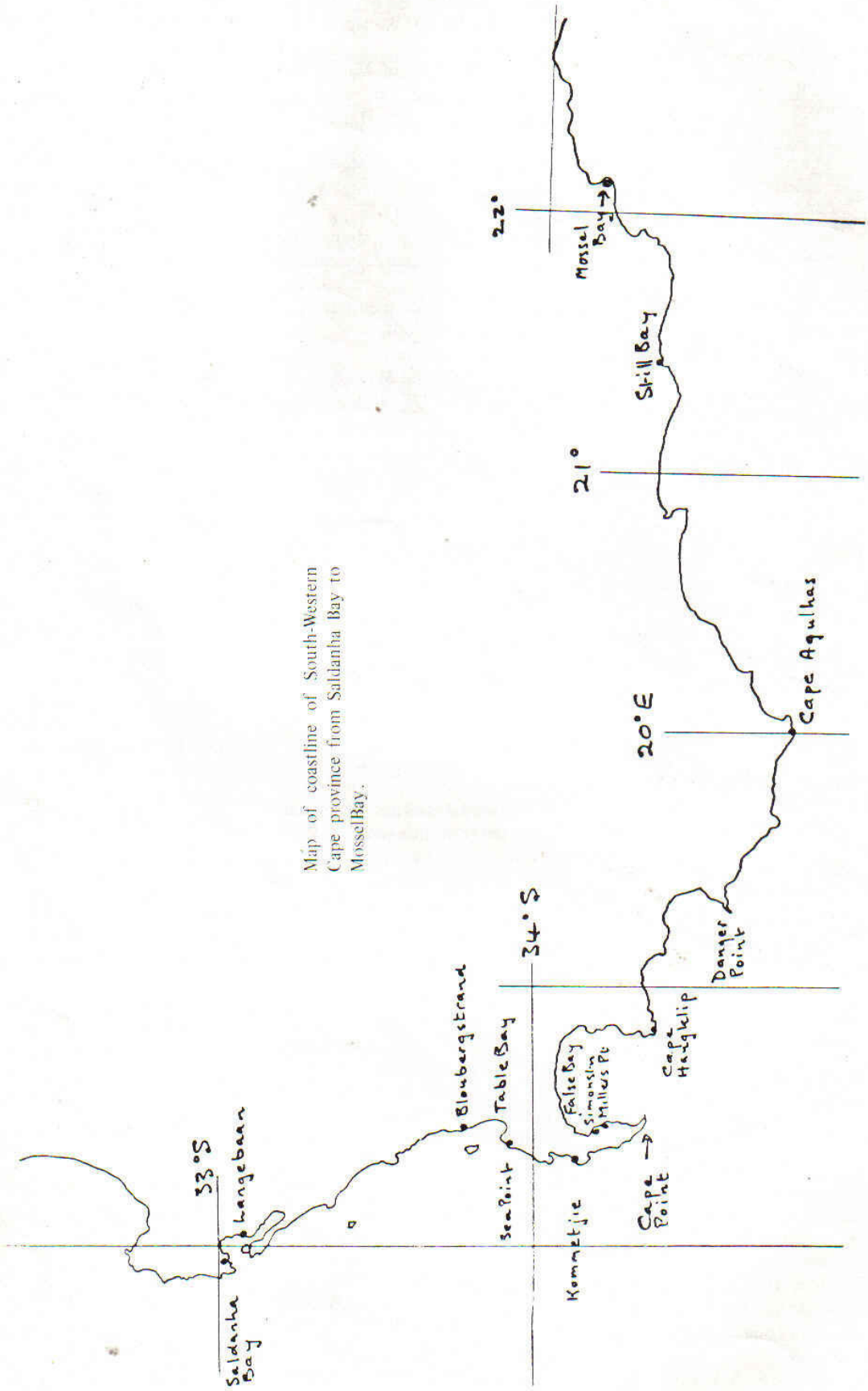

Map of coastline of South-Western Cape province from Saldanha Bay to MosselBay.

LIST OF CONUS SPECIES RECORDED FROM SOUTH AFRICA

Indo-Pacific:

abbas
augur
biliosus
catus
cholmondeleyi
coronatus
eburneus
figulinus
geographus
imperialis
leopardus
lividus
miliaris
namocanus
pennaceus
rattus
terebra
textile
vexillum
zeylanicus
arenatus
betulinus
capitaneus
chaldeus
consors
ebraeus
eximius
flavidus
gubernator
janus
litteratus
miles
musicus
obscurus
quercinus
striatus
tessulatus
varius
virgo

Japan and South Africa:

orbygni
teramachii

Indian Ocean:

caillaudii

Doubtful Records:

africanus
balteatus
comptus
gilvus
lamarckii
marmoreus
nimbosus
plumbeus
spectrum
tulipa
araneosus
bulbus
ermineus
glans
legatus
moreleti
pauperculus
pulcher
striatellus

Endemic South African:

altispiratus
eucoronatus
infrenatus
mozambicus
pictus
tinianus
visagenus
bairstowi
eumitus
lohri
natalis
scitulus
typhon

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THE GENDER OF HALIOTIS

Thanks to Mr Kilburn for confirmation that Haliotis is FEMININE. So please change the endings of the specific names where necessary: *parva, speciosa,* instead of *parvum, speciosum.*

QUESTIONS AND ANSWERS

Michael Cortie has taken time out during a weekend home on leave from his National Service, to let us have some information about butyric acid (refer Feb/March issue). He tells us it is an organic acid in the same family as acetic and formic acid and is responsible also for the smell of rancid butter. It is unlikely to have been the substance found by Dr K H Barnard in his sealed tubes of shells because butyric acid is a liquid between about minus 4°C and plus 163°C. Dr Barnard mentioned crystals. The formula of butyric acid is $CH_3(CH_2)_2COOH$.

*****

SPONSORSHIP OF A SHELLING EXPEDITION

Stephan Spiesser of Port Elizabeth is looking for a sponsor or sponsors to help with the cost of an expedition to South West Africa in July. He and a diving companion will be travelling by Landrover, visiting Luderitz, Walvis Bay, Henties Bay, Cape Cross and any other places along the coast that look interesting. Fuel costs alone would be about R500 and he appeals for help on the basis of:

a) Free sponsorship with no encumbranches for any amount of money;
b) Sponsorship of R250 for which he would offer the first specimen of every species collected to the sponsor;
c) R500 for which the first and third specimens would go to the sponsor.

The exceptions would be any species new to science, which would be handed over to a museum.

Would anyone interested please contact Stephan direct at P.O. Box 13068, Humewood 6013.

Readers with a knowledge of collecting localities in S.W.A. please also contact him.

*****

MARINE AQUARIA

Will members who know anything about these please let the editor have details about how to make them and how to maintain them?

CHECK LISTS OF SHELLS FROM VARIOUS LOCALITIES

We receive lists from time to time of shells found by members at various localities. They can serve a useful purpose but it is essential that they be checked by a reliable and independent person to avoid as far as possible the errors that can so easily crop up. I propose that we might publish a consolidated set of such lists once or twice a year as a supplement to the Strandloper, on condition that the lists are first submitted to a member of your local committee for checking. An alternative suggestion is that members in the various regions should cooperate to produce regional check lists, and these could then be updated once a year as supplements to the Strandloper or special publications. Readers' comments would be appreciated.

*****

STRIAE AND LIRAE

Richard Carlsson adds further wrinkles to my brow with his comments: In Vol 7 of the Veliger of March 1965, a Glossary of terms used in conchology compiled by Winifred H Arnold defines these as follows:

Lirae: Fine raised lines or fine grooves on the shell surface; ornamented with sharp raised treads; marked with parallel grooves or ridges; thread-like sculpture.

Striae: Superficial furrows or very fine lines which cross the surface of the shell in different directions.

Striate: Sculptured with microscopic lines, either longitudinal or revolving; Marked with fine grooves or incised lines.

******

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EXCHANGES WANTED

Mr Guido T Poppe, Floralaan 17, 2510 MORSTEL, Belgium, will buy or exchange Trochidae. He also exchanges shells of other groups and offers material from the North Sea, including deep water species, the Canary Islands and Spain. All letters answered.

Anthony Azzopardi, 339A St Paul Str., Valletta, Malta, offers Mediterranean shells. His main interest is Cypraea, Murex, Conus and Volutes.

Arthur Bassett of Shark Bay, West Australia (no other address given) wants to contact South African shellers.

Mr & Mrs Jean-Pierre Planul, 103 rue St Antoine, 75004 PARIS, France, want to buy or exchange shells.

Yvan Attard, 18 rue Du Reith, 67200 STRASBOURG, France, collects land and freshwater shells and is also interested in Trivia, Cypraea and Ovulidae.

CHANGES TO THE 1979 MEMBERSHIP LIST

New Members:

Miss N A Templer, 40 Eden Rd, Claremont 7700.

Mr R Titterton, 61 Entombeni Drive, Amanzimtoti 4125.

Mr B C Chaplin, P.O. Box 270, Rondebosch 7700.

Miss K Kuhle, 81 Gibson Rd, Wynberg 7800.

Mrs S Silbernagl, Tafelsig 1023, Allen Place, Loevenstein, Bellville 7530.

Mr N E Fenwick, 6 Devon View, Devonshire Hill Rd, Rondebosch 7700.

Miss B A Ellis, 6 Devon View, Devonshire Hill Rd, Rondebosch 7700.

Change of Address:

Mr R Cruickshank, P.O. Box 123, Gordons Bay, 7150

Mrs R Cruickshank, P.O. Box 123, Gordons Bay, 7150.

(Both formerly from Natal).

*****

ROUND THE GROUPS

PORT ELIZABETH: Mr Spiesser reported finding live *Clanculus waltonae* and *Calliostoma africanum* while diving at Jeffreys Bay at 80 ft. Six different species of *Spiidae* were reported from Algoa Bay. The group will be holding identification evenings from time to time.

DURBAN: At the annual general meeting held on 10th February, the following were elected to the committee of this group:

Chairman. . . . . Stan Nevill
Vice-Chairman. . . . . .Bernie Young
Secretary. . . . . .Derick Oosthuizen
Treasurer. . . . . Pat Dalgarno
Scientific Officer Maureen Quickelberge
Committee Members .Les Whatmore and Colin Hanneman.

Members living at or near Port Shepstone on the lower South Coast have been organising meetings and outings locally to compensate for the difficulty of getting to Durban for meetings. Members and visitors wanting to join their activities could contact Messrs G Hyatt or M R Wallace. Refer members' list for their addresses.

PRETORIA: By die vergadering op 9 Januarie het verskeie lede vertel van hul ondervindings gedurende die afgelope vakansietyd. Verdere beplanning van die skou is gedoen, asook reëlings vir toekomstige vergaderings. Thirty-three members attended the February meeting.

EAST LONDON: The group enjoyed their February meeting. Gary Rohland showed the large *Tonna variegata* dived for on the Nahoon Reef, and he and Steven had also found beautiful *Conus natalis (gilchristi)*.

CAPE TOWN: Two dozen members came to the field day at Kommetjie on January 28th and a record crowd of 60 came to the first meeting of 1979 at the Museum on February 12th. The many new members were welcomed and Lynne Everitt's slide and movie show of her shelling holiday in Fiji and the Great Barrier Reef was a great success. A newsletter will be sent to local members in future covering the group's activities in greater detail and at more frequent intervals than the short notes in the Strandloper which will, however, continue.

50 members came to the March meeting and there was a discussion of cleaning techniques and a big display of Cape shells for the benefit of the newer members and the pleasure of the older ones.

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