



Afrivoluta pringlei Tomlin 1947

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THE FAMILY CYMATIIDAE IN SOUTH AFRICA.

by R.N. Kilburn

Part 4. The subfamily Cymatiinae.

This article will deal with the genus Cymatium, probably the most popular group among collectors. In view of the relatively large number of species to be discussed, it is convenient to divide them up into subgenera, which will be dealt with one by one. References are listed in part 2 of this series.

Subgenus Cymatium Rüd., 1798.

Shell very large, body whorl triangular, varices very strong and angular; operculum small, with apical nucleus.

Only one in South Africa, namely Cymatium ranzani (Bianconi, 1851). This species was "lost" for over a century and was only recently rediscovered. (cf. Emerson & D'Attilio, 1962). Officially it is now known to range from Pakistan down the African coast to just South of Port Mocambique. I have, however, examined specimens from Bazaruto Island and Inhambane, and have personally found two juveniles at Durban; an adult specimen, said to have been found at the latter locality has also been seen. All living specimens found so far have been taken by skindivers. It is a large species, some 200 mm in length, and may easily be recognised by its resemblance to Cymatium tigrinum (Broderip) from the Panama region. The Natal Museum as yet does not possess an adult of this species.

Subgenus Monoplex Perry, 1811.

Shell moderately large, with strong spiral sculpture; columella with a series of characteristic white ridges on a chocolate-brown ground; operculum with an apical nucleus.

Cymatium parthenopeum parthenopeum (von Salis, 1793) is a widely distributed form, occurring in the Mediterranean, West Africa, and Australia, as well as South Africa, with related subspecies in Japan and Central Western America (Beu, 1970a). In South Africa it ranges from False Bay to Mocambique. It is a very distinctive species on account of its size (length 108mm) and columella markings, although juveniles, which have a different shape and

lack/

lack a columella callus, may cause difficulty (this state was figured by Barnard (1951 : pl.10,fig.1) as "Cymatium cutaceum").

C.p. parthenopeum lives chiefly buried in sand among rocks or in crevices, from low tide down. In Australia it feeds on simple ascidians and bivalves (Laxton, 1970a).

Subgenus Cabestana Röd., 1798.

Shell medium-sized to moderately small, strongly sculptured, siphonal canal short, base with a distinct umbilicus, columella callus white, almost smooth; operculum with subapical nucleus. Mainly warm temperate species, all South African forms apparently endemic, except one.

C. doliarium (Linn., 1767) is the commonest South African Cymatium, ranging from South West Africa to Zululand. Although the name originally used by Linnaeus was "dolarium", Dodge (1957:179) has pointed out that this is an obvious typographical error or lapsus calami, and that an emendation to doliarium is warranted under the international rules. It has two forms, the typical one with low spire and strong spiral cords, and the high-spired form africanum (A.Ad., 1854), with strong axial nodules and obsolete spiral sculpture. Intermediates between the two are abundant. The africana form shows an obvious affinity to Cymatium cutaceum (Linn., 1767) from the Mediterranean, and it is interesting to note that Pasteur-Humbert (1962:71) records doliarium from Morocco, France, Portugal, the Canaries, etc.; This suggests that cutaceum may also prove to be dimorphic, and that the South African and Mediterranean populations may in fact belong to a single polytypic species.

Both forms of C. doliarium live chiefly among large solitary tunicates (Pyura or "red bait"), or under rocks in the vicinity of tunicate colonies, on which they probably feed. Length 91 mm (forma Africana), 52 mm (doliarium).

Cymatium Klenei (Sowerby, 1889) is another fairly common species, although really fresh shells are rare. It is easily distinguishable on account of the very angular varices and shoulder nodules. Although live specimens have been reported, the animal has never been examined. It ranges from False Bay to Durban, but has also been recorded from Delagoa Bay. Length 57 mm.

Cymatium labiosum (Wood, 1828) is a small squat species with cancellate sculpture, not uncommon in Natal, and ranging south to Jeffreys Bay, although it is rare in the southern part of its range. It is an Indo-Pacific species, but also occurs in the Caribbean. It appears to be occasionally known by local collectors as tabulatum (Menke), a very different Australian species. All specimens seen by me have been empty shells, save for one alive taken many years ago by H.C. Burnup. In India it is said to live among muddy stones in 2 - 5 fathoms. Length 31 mm.

Cymatium durbanense (E.A. Smith, 1899) is apparently endemic to Southern Africa, ranging from Jeffreys Bay to Santa Carolina Island (Mocambique). It looks something like a dwarf parthenopeum, save for the feebly ridged, white columella and the spiral ridges which have a finely "milled" appearance. It lives under rocks and in silted crevices along the infratidal fringe. Length 32 mm.

Subgenus Septa (Perry, 1810)

Spire high, siphonal canal short, columella strongly plicate; often brightly coloured, particularly the aperture; operculum with apical nucleus. South African forms have an Indo-Pacific

range/

range, reaching Natal. Live among rocks.

Cymatium pileare (Linn., 1758) is moderately common in Natal and reaches eastern Pondoland. The aperture is characteristically deep red in colour. It lives chiefly infratidally under rocks or in crevices, especially where there is a layer of muddy silt. According to Houbrick & Fretter (1969) it feeds on bivalves. C.pileare also occurs in the Caribbean. Length 97 mm.

Cymatium aquatile (Reeve, 1844) is closely allied, and is regarded by many as a synonym of pileare. It occurs occasionally in Natal, but is definitely rarer. It differs in the orange to flesh-coloured aperture, the lower spire, and the coarser, more nodular sculpture. Length 70 mm (Mocambique).

Cymatium rubeculum (Linn., 1758) is even rarer in our waters; it ranges from Zululand to Sezela. It's bright orange or red ground colour is characteristic, although other colour variations occur elsewhere. Habitat preferences resemble those of pileare. Length 50 mm.

Cymatium gemmatum (Reeve, 1844) is a drab little shell in comparison, being creamy-white in colour throughout. It reaches at least as far south as Park Rynie. It lives under dirty rocks at and below low tide level, and according to Houbrick & Fretter (1969) preys on other gastropods. Could also be included in subgenus Gutturium, Length 46 mm.

Subgenus Gutturium (Mörch, 1852).

Medium sized to small, resembling Septa, but with a moderately long, slender siphonal canal; operculum with apical nucleus, Indo-Pacific.

Cymatium muricinum (Röding, 1798) is the largest of the subgenus, distinguishable by the unusually extensive white columella callus and the orange-brown interior. It reaches Durban, and lives under rocks on clean or muddy sand. It feeds on bivalves (Houbrick & Fretter, 1969). Spawning has been described by Boullaire (1953). Length 60 mm.

Cymatium vespaceum (Lamarck, 1822) is a small species (length 34mm) resembling gemmatum in shape, but varying from fawn to blackish-brown in colour. It reaches Kelso, and prefers much the same habitat as gemmatum. Length 35 mm.

Cymatium gracile (Reeve, 1844) is a rarer shall than vespaceum, but is commonly confused with it. It can be distinguished by its finely cancellate sculpture and by the presence of single teeth (not paired as in vespaceum) on the outer lip; in colour it is greyish brown. It reaches at least as far south as Durban. The only live one that I have found was clinging to a sunken branch among marine grasses on Inhaca Island, Mocambique. Length 40 mm.

Cymatium gallinago (Reeve, 1844) is a larger, coarser shell than the foregoing, with a wider spire and sharp nodules around the shoulder. It is pure white throughout, except for traces of orange blotches on the varices. It lives at and below the infratidal fringe, chiefly buried in muddy sand. It reaches Durban. Length 65 mm.

Subgenus Cymatriton Clench & Turner, 1957.

Very similar to Septa, but spire slightly distorted and operculum with a central nucleus.

Only one species, C.nicobaricum (Röding, 1798). This is another Indo-Pacific form, reaching Durban, where it lives among rocks at

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and below low tide level. It is a greyish-white shell, with an orange aperture. It preys on other gastropods, (Houbbrick & Fretter, 1969). Length 74 mm.

Subgenus Ranularia Schum., 1817.

Medium sized, pear-shaped shells with a long slender siphonal canal and a moderately low, conical spire; operculum with a lateral nucleus. Five Indo-Pacific species live in Natal; they are sand dwellers.

Cymatium moritinctum (Reeve, 1844), often miscalled cynocephalum (Lamarck, 1822), is the commonest of the subgenus. It is readily identifiable by its rich reddish- or orange-brown colour, and by the characteristic purplish-brown blotch in the parietal region. Sculpture varies somewhat, the form with weak axial ribs having been separated as caribbaeum Clench & Turner, 1957 (the species occurs in both the Indo-Pacific and Caribbean regions). In Natal it ranges south as far as Port Shepstone, and possibly further. I have seen it in South African collections incorrectly identified as retusum Lamarck, 1822, a very different species. C. moritinctum lives infratidally, buried in sand among rocks. Length 63 mm.

Cymatium pyrum (Linn., 1758) is much rarer, although a few have been found at Durban. It differs from moritinctum in its uniform orange colouration, and in the absence of a parietal blotch. It should be noted that Dodge (1957:120), after a detailed investigation, decided that the name pyrum has been incorrectly applied to the present species; if he is correct a name change will become inevitable. Length 67 mm.

Cymatium encausticum (Reeve, 1844) is perhaps the rarest South African species, and I only know of three specimens having been found, all by H.C. Burnup, at Durban. It is distinguishable by the very thick flesh- or salmon-coloured columella callus, which extends over the ventral side as far as the last varix. Length 52mm.

Cymatium moniliferum (Adams & Reeve, 1848) is another rarity, with a graceful reddish-fawn shell, a very long siphonal canal, a white aperture, and most characteristic, a channelled suture. A few have been found in Durban Bay. Length 59 mm.

Subgenus Linatella Gray, 1857.

Somewhat Tonna-shaped, with well-developed spiral sculpture; no varices, but outer lip reflexed, canal short; operculum with nucleus near lateral margin, growth lines concentric. Sometimes given full generic status.

Cymatium cingulatum (Lamarck, 1822), an Indo-Pacific species, has been found at Durban, although rather rarely. The soft parts are needed badly for study. Length 58 mm.

Subgenus Gelagna Schaufuss, 1869.

Similar to Linatella, but canal longer, aperture smaller, and lip thicker.

Cymatium clandestinum (Lamarck, 1816) is more abundant than the last, although the soft parts are also unknown. It has been most often found in the Port Shepstone-Eastern Pondoland area, which forms the southern limits of its range. South African shells are uniformly golden fawn, in comparison with the typical Indo-Pacific form in which the spiral cords are chocolate-brown. The periostracum behind the lip, when submerged, forms a flowing tangle of silky golden threads. Said to live in silt under rocks, low tide to 12 fathoms. Length 40 mm.

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OVAMBOLAND'S GREEN SNAIL : PILA WERNEI (PHILIPPI, 1851)

by K.J. Fuller

Specimens of this shell were obtained during a trip to Ovamboland on 6th August, 1971. Flying was over for the day and I managed to bribe my flying colleagues into joining me on a snail hunt. The reward was to be a beer for every live specimen found.

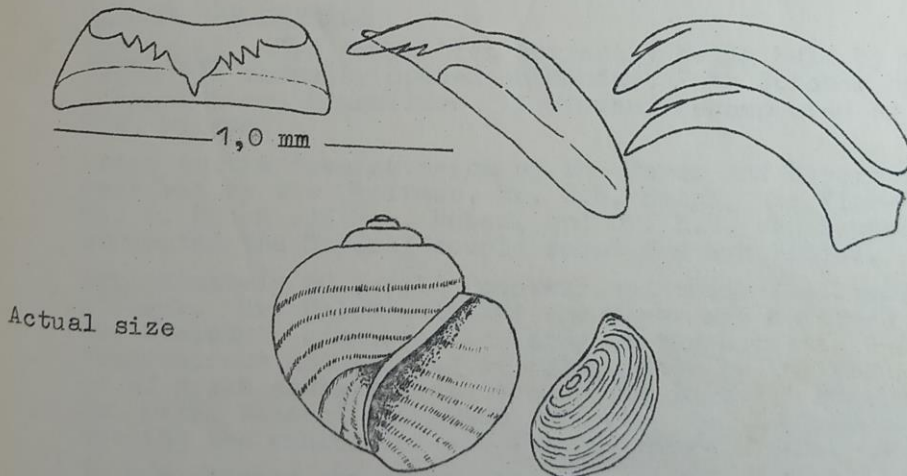
A pan near the Ondangua landing strip was the selected collecting site. The water was muddy and stagnant and is apparently connected by underground waterways with the Kunene River.

There were numerous empty shells in evidence but digging in the mud failed to reveal any live specimens. What the turbulence did produce was an undescribably unpleasant smell which caused us to change our tactics.

We now began to pull clumps of reed grass towards the shore and "dredged" behind the moving clumps with long branches. This wet and muddy procedure caused a great deal of hilarity among the collectors and sad puzzled stares from the local Ovambu onlookers. The derisive quacks from the large duck population added to the general hysteria but enough live shells were found to justify calling a halt; quite apart from the respectable amount of beer owing to my helpers.

On the more serious side I must note that the so-called "Green Snail" is only at best a dirty olive colour and seems to vary from brown to grey depending on the locality. The shell is globular with evenly convex whorls and a short spire. The operculum is corneous.

The genus is oviparous and the eggs are laid in large masses. Like most freshwater molluscs they are herbivorous. They are well equipped to deal with the extreme conditions encountered in their



Actual size

habitat as they have a respiratory cavity, the right half of which is a gill and the left half functions as a lung. This no doubt accounts for their ability to survive in a hostile environment.

The illustrations were drawn by D. Aiken and are published as they may be of interest.

Changes...

Changes of Address.

Mrs. J. Pearce, P.O. Box 52, Hibberdene, Natal.
Mrs. E. Dale, 10 Ellendale, Gus Brown Road, Warner Beach, Natal.
Mrs. M. Hanbury, The Rest Home, Abelia Road, Kloof, Natal.
Prof. & Mrs. J. Mallory, 26 Hamilton Road, Plumstead, Cape.
Mrs. P. Beuster, 8 Grey Street, Kensington, Randburg, Transvaal.

New Members.

Miss S. Jonsson, Girls Collegiate School, Clarendon,
Pietermaritzburg, Natal.
Mrs. S.M. Sutherland, P.O. Rosetta, Natal.
Mrs. C. Windridge, c/o Provincial Architect, P.O. Box 659, Cape
Town.
Mr. & Mrs. G.A. Hyatt, 3 Sandown Woodhouse, 142 West Street,
Sandown, Sandton, Transvaal.
Mr. J.A. Wannenburg, 2 Inverness Flats, 2 Prior Crescent,
East London.

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Exchange Wanted.

Mr. J.A. Wannenburg, 2 Inverness Flats, 2 Prior Crescent, East
London wants to exchange with overseas members, is
especially interested in the Australian Cowries.
Miss H. Eker, Rt. 1, Box 778, Sanibel Island, Florida, 33957 USA.
Wants to exchange or buy South African shells. Is interested
in live taken Mitridae, Conidae, Volutidae, Strombus and
Latiaxis.

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Around the Groups:

Transvaal. The exhibition currently being held by the Transvaal
Group was formally opened on Monday, 25th October by the Mayor of
Johannesburg, Councillor Alf Widman, accompanied by the Mayoress
Mrs. Widman.

Prior to the opening ceremony the Mayor and Mayoress were
received by the Chairman, Mr. E.H. Ralph, the Vice-Chairman,
Mr. R. Ruben and Mrs. Ruben, and Dr. E.H. van Hoepen, who then
conducted the Mayoral couple round the exhibition.

Approximately 60 people (members and their families) were
present. Mr. Ralph welcomed the Mayor and Mayoress and spoke of
the Society's aims, particularly in the scientific field. The
observations and sharing of information by individual members can
be of great assistance to scientists in their continual research.
Mr. Ralph thanked the Mayor for doing the Society the honour of
opening the exhibition and for the great interest shown.

In his address the mayor noted the work of the Society and spoke
about pollution, with particular reference to pollution of the
sea. Although this was already happening it had not reached the
proportions attained on land. He himself was active in support
of any body devoted to anti-pollution and he urged members to
give thought to contributing and adding their efforts to the
growing numbers of people concerned with reversing the present
trend.

While refreshments were served members were introduced to
Councillor and Mrs. Widman with Master K. Needham receiving
special recognition as our youngest member.

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It is not possible here to describe in detail the splendid exhibits, but acknowledgements must be made to the following who gave so much of their time and who loaned specimens from their private collections:

Mrs. M.E. Adam, Mr. D. Aiken, Mrs. H. Boswell,
Mrs. L. Evans, Mr. K. Fuller, Mrs. B. Hooper,
Mr. A. Jenner, Mr. M.E. Lohr, Miss M. Mains,
Mr. J. Orr, Mr. J. Polack, Mr. E.H. Ralph,
Mr. R. Ruben and Dr. E.H. van Hoepen.

Special mention must be made of Mrs. Helene Boswell's magnificent display of rare shells, and Mr. John Orr's fascinating tank containing live *Cypraea*.

The Group is indebted to the Exhibition Committee, namely Mr. R. Ruben, Dr. E.H. van Hoepen and Mr. J. Polack, whose enthusiasm and drive made the exhibition possible. Also to Mr. V. Meneghelli for his assistance in the art work and display and for providing 1500 copies of the excellent brochure.

The exhibition which is being held in the foyer of the Johannesburg Public Library will continue until 13th November. It is arousing a great deal of public interest and it is hoped that the Society will gain new members as a result.

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Eastern Cape. Our first Field Day held on 7th August, at Jeffrey's Bay, was a huge success. After the miserable weather that we had been having Saturday dawned bright and clear. Arrangements had been made to enable us to camp in the caravan park for the day. We had a record turnout - 9 members plus families - making a total of 17. It was a pleasure to meet Mrs. Lewis and family who are now living in Port Elizabeth. We welcome them to our Group. We did appreciate Prof. and Mrs. Gledhill bringing Irvy all those miles from Grahamstown. There were no rare finds that day; nevertheless we all enjoyed the company, the braai, and later the splendid tea at the home of Mrs. Hoogenhout. We regret to say that this was Peggy Beuster's last meeting with us before moving to the Transvaal.

Eight members and one visitor attended our "get-together" at Mrs. Farrell's home on 2nd October. We welcomed Flo Ball, Henri and José White to our Group and know that they will be an asset to us. We had a great time examining all Mrs. Farrell's "treasures" brought back from her recent holiday to Inhaca Island. Elizabeth Meyer brought some "Isle of Man" shells. Fiona Maule received yet another parcel of shells from the "shell shop in London," amongst them a beautiful *Cypraea argus* Linné. She also displayed a box of Australian shells that she had received in exchange. Henri White showed his most recent finds from Algoa Bay, and what we saw makes us think he must have x-ray eyes?

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Natal Midlands. An extremely interesting talk was given by Mr. Kilburn on *Littorina* at our October meeting. Do we give a thought to those minute shells encrusting the rocks of the intertidal zone as we pass or clamber over them en route to our favourite shell hunting sites? Do we realise that there are only 80 species of this family on our coast? It is possible, therefore, with a reasonable amount of effort to acquire a complete set of

specimens/

specimens of these little shells. What motivates the collector? Is it the aesthetic attraction of his favourite specimens; is it the secret desire to discover that rarity which may perpetuate his name; or is it the desire to possess what the other fellow has not got. Whatever the motive may be; and even if the members of our Group do not feel that the Periwinkle is worthy of a place in any collection, Mr. Kilburn's talk is bound to provoke a second look at the intertidal zone of our coast.

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Durban & Natal Coast. Our meeting of October 24th, took the form of a field day in the Umtwalumi area of the Natal South Coast. There were 9 members present, accompanied by families, and the outing turned out to be one of the most successful held for many a long month. The weather, which had been atrocious on the previous day was ideal and we had a picnic after "shelling". Numerous species were found, both live and "beach" and within five minutes of commencing the search, Mrs. Muller found a very fine live specimen of Charonia pustulata, measuring some 160 mm. This was quickly followed by other finds.

Space does not permit the publishing of the list of shells found. Editor.

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Border. Nine members were present at our October meeting, with apologies from two. Mrs. Gillmer took the Chair and welcomed all present. The minutes of the previous meeting were read. It was noted that a letter had been received from Mrs. Connolly stating that she had sets of postcards (shells) for sale at 87 cents per set. A letter had also been received from Mrs. Roscoe in Mocambique saying that shelling in Mocambique waters had been stopped. Owing to the promised talk on the marginella family having been delayed we were not able to study this family as fully as we had expected.

Minutes of the Meeting of the Society held on 26th October, 1971.

The twenty five members present were welcomed by Prof. J. Mallory, who extended a special word of welcome to Professor Brown, our guest speaker for the evening. Apologies were recorded as having been received from Mrs. Kerr, Mr. Kapp, Miss Leers, Mr. & Mrs. Watt, Mr. Hart and Mr. Gentle.

The minutes of the previous meeting, having been published in Circular No. 134, were taken as read and confirmed.

The Secretary reported that she had received a pamphlet advertising a new book on Australian Shells. This book, called Australian Shells by B.R. Wilson and K. Gillett, illustrates and describes 600 species of Marine Gastropods from Australian waters. There are 106 colour plates, 21 line drawings and 12 black and white photos. The cost of this book is Australian dollars \$12-95 excluding postage, and is published by A.H. & A.W. Reed, 51 Whiting Street, Artarmon, N.S.W., 2064, Australia. The Society will not be accepting orders for this publication. If members wish to obtain copies they must either order direct from the publishers or through a dealer.

Mrs Carlsson/

Mrs. Carlsson then gave the second of the series of short talks on shells. This talk was on the structure of sea shells and like the first in the series was based on the Radio talks given by Mr. Kilburn some years ago.

Professor Brown then kept us all enthralled with his fascinating and informative talk on the genus *Bullia*. He described how he had been able to examine the blood stream of these sandy shore scavengers and how, by means of x-rays, he had been able to solve the mystery of how gastropods retracted into and emerged from their shells. He also spoke on the acute sense of smell of these animals which enabled them to find food.

All agreed that this had been a very interesting meeting and that it had been well worth the effort in braving the ravages of "The Cape Doctor", which was making life very unpleasant.

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MEETINGS:

The next meetings of the Society and Groups are:

Society - Cape Town. Tuesday, 30th November, 1971 in the Lecture Hall of the S.A. Museum, Queen Victoria Street at 8.15 p.m. Baroness M.-S. van Redwitz will show slides and give a talk on Mauritius. Shells for display and discussion will be those from East Africa and/or Mauritius. Please bring only a few of your most colourful.

Transvaal Group - Johannesburg. No meeting in November or December.

Natal Midlands Group - Pietermaritzburg. Saturday, 4th December, 1971 in the Board Room of the Natal Museum, Loop Street at 2.30 p.m. Demonstration of extraction and mounting of radulae.

Durban & Natal Coast Group - Durban. For details please contact Mr. Young, 81 Palm Bay, 46/50 St. George's Street, Durban.

Border Group - East London. Sunday, 28th November, 1971 in the Lecture Hall of the East London Museum, Oxford Street at 3 p.m.

Eastern Cape - Port Elizabeth. For details please contact Mrs. Watters, 4 Molsonder, 10th Avenue, Summerstrand.

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Contributors are reminder that the deadline for the submission of articles and notes for publication is the first of each month. Group secretaries are requested to forward their notes as soon as possible after their meetings together with details of the following months meeting.

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SECRETARY/LIBRARIAN.

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TREASURER/EDITOR.

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