



Afrivoluta pringlei Tomlin 1947

THE STRANDLOPER

BULLETIN OF THE
CONCHOLOGICAL SOCIETY
OF SOUTHERN AFRICA

NO. 168

DECEMBER 1974

(Re-printed 1980)

GREETINGS: The President, Vice-President, Group Chairmen and the members of the Council wish to take this opportunity to wish all members, wherever they may be, the Compliments of the Season.

May you all enjoy a Happy and Bright Christmas and a Prosperous New Year.

+++++

NOTES ON THE FAMILY PATELLIDAE

by L. Brickhill

Classification:

Kingdom	:	Animal
Phylum	:	Mollusca
Class	:	Gastropoda
Sub-class	:	Prosobranchiata
Order	:	Docoglossa
Super-family	:	Patellacea
Family	:	Patellidae
Genus	:	Cellana, Helcion, Patella

Biology:

Patellidae are hermaphrodite, the younger specimens being male and the older female. Fertilization is external. The embryo hatches twenty-four hours after fertilization. The trochophore is about 0,18 mm in diameter, with a tuft of erect apical hairs and two of ciliated cells around the greatest perimeter of the larva. The cilia beat in a clockwise manner and rotate the top-shaped larva through the water, two days after fertilization the larva is transformed into a pretorsional veliger, and both shell and foot appear. Torsion then begins while the larva is free-swimming. During the next stage of about thirty hours the larva both swims and crawls, and torsion is complete when the larva is 3 $\frac{1}{2}$ to 4 days old, and this marks the end of its oceanic life. The velum does not disappear until the snail has been actively crawling about for three weeks. About this time the operculum is lost.

The shell of the veliger is a right handed coil of scarcely one whorl, but this is soon replaced by the new shell, after which the limpets post larva life continues into the adult.

The members/.....2

The members of the Patellidae have lost both paired gills and breathe by means of a band of gill leaflets arranged around the mantle.

All limpets are herbivores, and feed with the head moving methodically from side to side, and it travels up to 1-1½ metres in search of food. The species shows a remarkable orientation ability, returning to their "home scars" after feeding. Feeding takes place when the rocks and seaweeds are wet. At low tide the species which live higher up the shore cling to the surface by suction, and thus prevent water loss.

The age attained by limpets varies greatly according to the species involved, the food potential of the particular habitat and the zone in which the species lives. Some bigger species are estimated to live up to 15 years.

Members of the family tend to vary greatly in size, shape, sculpture and colour pattern in any one species due to the ecological factors involved. A very reliable guide for identification is the colour of the body of the animal which is constant within a species.

Genus Patella: Linnè

The shells of this genus derive their name from their saucer-shaped shells which resembles a human knee cap or patella. Circlet of gills not interrupted in front. Radula with central plate, three lateral and three marginal plates.

Patella argenvillei: Krauss, 1848

Range: Lüderitzbucht, S.W.A. to Qolora, in the Transkei.

Remarks: This species is more common on the west coast, where it forms concentrated communities in the Cochlear zone.

Description: Large shell, up to 100 mm in length, rather slid oblong ovate, slightly constricted at the anterior end. High, conical, with apex nearer to the anterior end.

Sculpture: Consisting of very numerous, over 100, more or less irregular, flat topped radial ribs with linear interstices, margin finely and evenly crenulate.

Colour of shell: Externally blackish, the rib interstices white. Internally white, dark greyish between the marginal crenulations, muscular impression yellowish brown.

Colour of animal: Sole of foot grey, mud colour. Side of foot black or flecked with black. Dorsal surface of head blue-black. Snout and tentacles bright yellow.

Patella barbara: Linné, 1758

Range: Lüderitzbucht, S.W.A. to Inhaca Island, Mocambique.

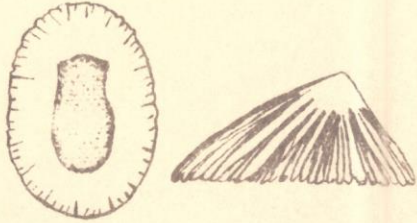
Remarks: A very variable species, is usually found in the Cochlear zone.

Description: Shell rather large, up to 100 mm in length, of moderate height and lighter in its younger stages, tall and coarse thick structures in mature examples. Narrowly to broadly ovate with the apex nearly central.

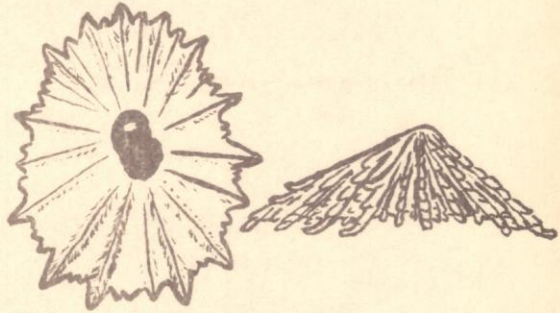
Sculpture: Variable, but always strongly and coarsely radially ribbed, the terminal points corrugating the margin. Radial ribs carinated and of varying strength, from 10 to 20 major and 1 to 4 minor in the interspaces. The whole rendered noticeably scabrous by close set lamellose concentric growth marks. The posterior end of the shell usually has 5 ribs which are much stronger than the rest.

Colour of shell: Externally dull buff to light yellowish-brown. Interior whiteish, often with a narrow pale fawn marginal border. Muscular impression either irregularly blotched with reddish-brown or calloused over with white.

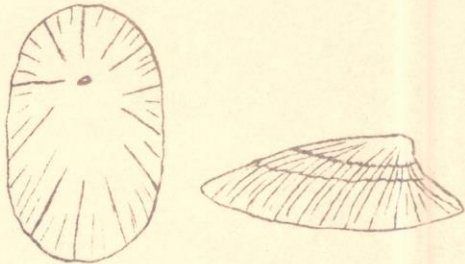
Colour of/..... 4



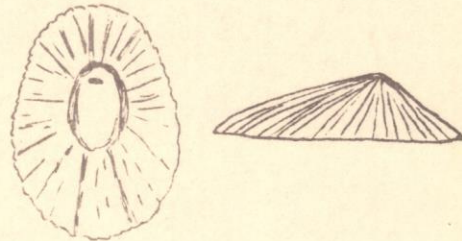
Patella argenvillei (\pm 70 mm)



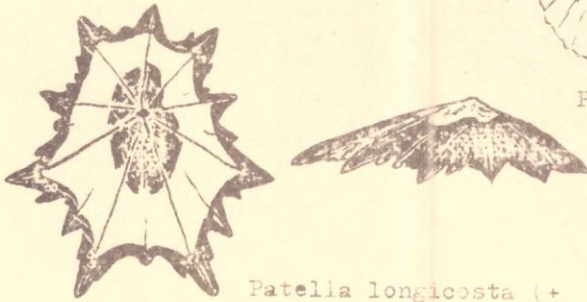
Patella barbara (\pm 50 mm)



Patella compressa (\pm 60 mm)



Patella miniata (\pm 55 mm)



Patella longicosta (\pm 55 mm)

Conckell

Colour of animal: Sole of foot yellow. Side of foot flecked with black.
Junction between the foot and the mantle yellow. Mantle, tentacles and lips are yellow. Head black.

Patella compressa: Linné, 1758

Range: Lüderitzbucht, S.W.A. to Cape Point. Occasionally further east as far as Port Alfred. Also recorded from further afield as St. Helena?, due to drift along with the kelp upon which this species lives.

Description: Shell large, up to 117,5 mm in length. Thin elongate oblong, tall and narrow with parallel sides. The apex a little forward of the centre, curving anteriorly.

Sculpture: Consisting of many numerous rather unequal linear spaced riblets, margin very minutely crenulated, convex at the sides and concave at the ends.

Colour of shell: Externally dull brownish-buff. Internally light pink-fawn, the muscular impression irregularly clouded with whitish callouses.

Colour of animal: The foot, side of foot, mantle, head and tentacles are all dark mauve.

Patella longicosta: Lamark, 1819

Range: Table Bay to Natal.

Remarks: This species occurs commonly in the lower balanoid zone and is easily recognised by its depressed star-shaped shell.

Description: Shell rather large, up to 80 mm in length, solid, depressed, stellate very strongly.

Sculpture: With sharp keel-shaped radial ridges that project well beyond the margin, seven of them much stronger than the rest. Apex at anterior third or submedian.

Colour of shell: Externally dull black when not eroded to a rusty-brown. Internally bluish white with a narrow black margin. Muscular impression yellowish-brown, sometimes with white callouses.

Colour of animal: The foot, mantle, head and tentacles are all uniform yellow.

Patella miniata: Born, 1778

Range: Rocky Point, S.W.A. to Natal.

Remarks: Is found in the upper balanoid zone, and is brown when taken alive, beach specimens are bright pink.

Description: Shell rather large, up to 93 mm in length, strong but relatively thin ovate, slightly elevated in front, rather depressed and with the apex varying between subcentral and the anterior third.

Sculpture: Consisting of numerous radial cords with mostly two radial threads in the interspaces. The ribbing varies in strength and may be almost smooth to sharply imbricated by dense concentric growth threads.

Colour of shell: Externally radially streaked and speckled in reddish-brown to bright pink on a white ground. Internally silvery-pinkish-white with the external pattern showing through strongly. Muscular impression has white callouses, sometimes tinged with orange. Living examples are usually encrusted on the outside.

Colour of animal: Sole of foot grey-mud colour. Side of foot slightly paler. Mantle flecked with purple where cells depositing colour are located. Tentacles purple. Head blue-black, neck pale grey.

(Subspecies of/.....5

(Subspecies of Patella miniata are now recognised. P. miniata miniata Born is found in the Cape area, and P. miniata sanguinans Reeve is found in Natal).

(To be continued).

+ + + + +

THE SIXTH CLASS OF THE PHYLUM MOLLUSCA

by C.M. Skead

Until as recently as 1957 the living molluscs were divided into five classes as follows:-

1. Cephalopoda (octopus, cuttlefish, spirula, nautilus)
2. Amphineura (chitons)
3. Gastropoda (cones, cowries, and other single valve shells)
4. Scaphopoda (tusk shells)
5. Pelecypoda (bivalves)

During 1952, however, the Danish exploratory vessel "Galathea" did some dredging in the Pacific Ocean Near the Mexican Coast. Ten living specimens and two dead shells were brought up that were unknown to scientists. These were found at a depth of 3590 metres (11,400 feet) and their discovery led to the addition of a sixth living class of mollusca in 1957.

At first glance these new shells resembled the well known limpet family. The shell is almost transparent and very fragile, with the apex at the anterior end. Careful dissection showed, however, that the mollusc was not a gastropod and thus could not be a limpet. It has a chiton-like bilateral symmetry in that the mouth and anus are opposite each other and the foot, in the centre has five pairs of otenidia just inside the mantle edge. (Otenidia are flat finger-like filaments). Another chiton-like feature is the eight paired muscle scars.

This new mollusc, about 15 mm in size, was then named Neopilina (new pilina) galathea (after the Danish vessel which first dredged this species).

With regard to the animal, the head is rudimentary with no eyes and very small tentacles, the mouth, anteriorly situated, has labial palps and contains a radula. Unlike the gastropoda there has been no torsion of the different systems at any stage. The gills, muscles, nephridia and reproductive organs are all arranged in pairs. The foot, however, is broad and flat, and the sexes are separate.

Later another species was found near Peru, some specimens at the almost unbelievable depth of 19,200 feet. To date three living species are known.

Neopilina presents many interesting facts. Not only is it the oldest living form of all the known molluscs, but it also seems to form a link between the Annelida (bristle worms) and Mollusca. The Neopilina are very primitive molluscs, possessing some worm-like features; for instance partial segmentation and a gill structure very similar to that of the Annelida.

Neopilina, superficially resembling a limpet, could not be placed in the Gastropoda as its organs are completely different, and although it does resemble the chitons to a certain extent, it did not fit in with the Amphineura either as it has a single shell and not eight plates. The obvious solution was to institute the ancient fossil class Monoplacophora, which class now contains both the well known fossil species as well as the recent living specimens which are so similar to the well known Pilina species.

Monoplacophora, literally translated, means "having one plate", and this class has now ousted the Amphineura from it's position of the "most primitive molluscs".

References/.....6

References:

Henning Lemche, "A New Living Deep Sea Mollusc of the Cambrodevonian, Class Monoplacophora".

Storer's Handbook of Zoology.

Encyclopedia Britannica.

+ + + + +

BULLIA ANCILLAIFORMIS FOUND IN FALSE BAY

by C.M. Connolly

After the storms in August this year I collected some bags of shingle at Strandfontein beach in False Bay. Later, whilst sorting through the grit, I found two poor specimens of Bullia ancillaiformis (E.A. Smith, 1906). The range of this shell is given as from Jeffreys Bay to Port Shepstone. Many years ago I found some poor specimens at Jeffreys Bay and four years ago some very good specimens at Kwelera (near East London), all with good protoconchs.

This shell was first recorded from Natal, and it has not yet been taken alive. It would be interesting to know if any other members know of any other record of this shell having been found in the Western Cape.

For a write-up and drawing of Bullia ancillaiformis readers are referred to The Strandloper No 153, July, 1973, pages 3 and 4.

+ + + + +

Exchanges Wanted:

Mr D.W. Sill, Presso David C. Nilson, Via Della Vecchia Stazione 5, Cagliari, Sardinia, Italy. Would like to contact local members with a view to exchanging.

Mr Chalee Jiaree, 2021 Indra Shopping Centre, 2nd Floor, Ratchaprarop Road, Bangkok, Thailand. Would like to contact local members with a view to exchange.

Mr W. Richter, 795 Biberach/Rib, Lupinstrabe 10, West Germany. Is especially interested in Cypraeidae and Conidae and wants to contact other members with the view to exchange. Can offer shells from the Philippines and Japan.

Miss Y. Koege, 36 Village Way, Yateley, nr. Canberley, Surrey, England. Is particularly interested in Cypraeidae but also wants to build up a representative collection of other families. Would like to contact members with a view to exchange.

+ + + + +

New Members:

Mr P.H. Kemp, 74, 7th Avenue, Roodepoort North, 1725

Mr D.J.C. McLeod, P O Box 55 Port Edward 4295

+ + + + +

Changes of Address:

Mrs J Williams, 3 Oriibi Street, Jeffreys Bay, 6330

+ + + + +

Assistance Wanted :

Mr R Houart, Grand Route 8, 3330 Ezemaal (Neerwinden 1), Belgium, writes as follows:- "I'm a member of the Belgium Malacological Society and collector of sea shells/.....7

shells since 6 years. About 3 years ago I began a serious study of the MURICIDAE of the world (not fossil shells).

I'm writing you for the following thing:

Is it possible to you (and the members of your society) to help me in this difficult work. Without help of others malacological societies I can't make a serious study. I want to know the different species of MURICIDAE already find in your country and each time the correct locality or region where they live.

The study is not including fossil shells, but well all the sub-families of MURICIDAE, including typhinae, thaidinae etc...

Many thanks and very sincerely",

It would be appreciated if members could try and assist Mr Houart in this study. Please contact him direct if you are able to assist.

+ + + + +

Report on a Field Day held by the Eastern Cape Group

At the last meeting of the Group it was decided to hold a field day between Skoenmakerskop and Sardinia Bay, in the Port Elizabeth area, on 17th November. Only a few days before this planned date an article appeared in the local morning paper, Eastern Province Herald, that according to the Government Gazette the 6,7 kilometre coastline between Skoenmakerskop and Bushy Beach to the west, which includes Sardinia Bay, had been declared South Africa's first sea reserve. Fishing, bait collecting and any other activities that disturb sea life have been banned along this stretch. The reserve stretches from the spring tide high water mark to one kilometre out to sea.

When five members and their families turned up at Skoenmakerskop on the 17th it was decided to try to make an inventory of live shells found along this stretch and to limit collecting to dead beach shells only. Just before we set out the patrolling officer of the Port Elizabeth Divisional Council was spotted and we told him of our plans, with which he was quite happy.

It was about one hour before low tide. Skies were overcast, a moderate south-westerly blew and it was cool but not unpleasant. Unfortunately a heavy sea was pounding the rocks and we had to do our shelling near the beach in shallow waters. There was no question of using the diving equipment that had been brought along.

Mrs Watters had once before catalogued the species she had found on this part of the coast when conditions were more favourable. Combining her list with what we found this time the preliminary list of living species found in this reserve is as follows: Patella cochlear, P. argenvillei, P. oculus, P. granularis, P. longicosta, Helcion pectunculus, Helcion pruinosus, Burnupena cincta, B. lagenaria, Oxysteles sinensis, O. tigrina, O. variegata, Turbo cidaris, T. sarmaticus, Nerita albicilla, Cynisca granulosa, Thais dubia, Siphonaria capensis, Lienardia grayi, Littorina knysnaensis, Assiminae sp., Thecalia concamerata, Acanthochiton garnoti.

There are of course many, many more species to be found. Dead shells on the beach are ample proof of this. In due course we hope to extend the above list and make it available to any interested parties.

At one p.m. we were back at the cars with the feeling that we had done something useful.

The beach shelling was not very good. It was near to spring tide and the sea had washed the beaches pretty clean. Mrs Watters had the best find: a very good Cypraea amphitales Melvill. Apart from all the above mentioned shells at least another 60 species were found on the beach. Some in good, others in poor, condition

+ + + + +

Around the/.....8

Around the Groups

Transvaal Group, Johannesburg. Our meeting of 18th October was attended by 29 visitors & members. The Chairman, Mr Adam welcomed Mr & Mrs Gordon Verhoef, who were on a visit from Cape Town, Mrs Wilson & Mr Smith, from Pretoria, & Professor Schoombie of R.A.U.

Mrs Adam & Mr Cortie were asked to report back on their respective week-away trips in early October. Michael, determined to find a live Cypraea carnea for his new aquarium, managed just that on the Natal South Coast. Other live shells which he found were Cypraea annulus, Conus musicus, C. lividus, Cymatium clandestinum, Thais capensis, Natica marochiensis, Peristernia leucothea, and large Bulla ampulla, in a swimming pool. Bobby & Jimmy Adam, shelling in west Pondoland, were able to add a few new species to their aquarium. Live shells found included Cypraea annulus, C. helvola, Conus ceylanensis, C. coronatus, C. ebraeus, C. lividus, C. miliaris, Bursa rosa, B. granulata, Strombus mutabilis, Mitra litterata, Columbella turturina, Pyrene filmerae, Peristernia fuscotincta, P. leucothea, & two Pteropurpura uncinarius, the first live specimens found in that area. Three different species of Nudibranchs, yet to be identified, were also found and, the Cherry on the top was, a dead but perfect, near-black Cypraea tigris measuring 121,4mm. This is larger than any they have found in Mocambique.

Mr Verhoef was our guest speaker and many a foot started to itch when he showed us films of the Maldives Islands, the Seychelles, diving in Guam and meeting shell personalities in Hawaii, Guam & San Francisco - notably Dr Burgess, Mr Clover & Mr Summers. It was a privilege for us to be the first to see Gordon's newly-processed slides showing live Cypraea algoensis, C. gondwanalandensis and Triviella aperta which he had found the previous week whilst diving at the wreck of the "Birkenhead". The preserved shells were on display & we were lost in admiration. At the close of the meeting the Chairman congratulated Mr Verhoef on his films & his "firsts" & asked members to express their appreciation of the evening's talk in the customary fashion. It need hardly be said that this formal request was, under the circumstances, totally superfluous.

.....

Natal Midlands Group, Pietermaritzburg. Only thirteen members & visitors attended our November meeting. A general account of the characteristics & biology of the Epitoniidae was explained & illustrated by Mr Kilburn. Illustrations of species of the Epitonium feeding on sea anemones, & of their spawn were exhibited. Specimens of some of the larger South African species were circulated & discussed. Mention was made of the extensive collection of these shells made from Durban Bay dredgings by Mr Bernard Young of Durban. This contains nearly thirty species new to South Africa. Well done Mr Young.

.....

Border Group, East London. With apologies from one there were six members at our November meeting. The Chairman opened the meeting by thanking the Secretary (& his private secretary) for a very interesting newsletter that had been sent out last month. It was agreed that after our picnic on 1st December, we would collect at the Museum Hall at 2.30 p.m. & start off by going through the museum reference collection, & whilst tea was being served we would exchange our Christmas presents.

Mr Brickhill then gave a short talk on the Haliotidae. It was interesting to note that all five South African species are to be found around East London. Mrs Armstrong pointed out that the E. midae is found at Coffee Bay, on the Transkei coast. This extension of range was noted. One of the shells, E. spadicea, taken

alive at/.....9

alive at Haga Haga measured 95mm long and Mr Brickhill claimed it to be a record for this species. The other members felt, however, that they all had bigger shells of this species. It would be interesting to hear if any one had a bigger specimen. Mr Brickhill also showed beach specimens of H. parva and H. speciosa from East London. Mrs Latigan then went on to review the biology of the species and then showed some of the overseas specimens. Miss Jackson and Mrs G Palmer commented that some of our South African species and some Australian ones looked almost identical. Name changes soon? We hope not.

Mrs Armstrong produced a Xenophora sp. of about 50 x 50 mm found at Yellow Sands. Unfortunately all its collection had been knocked off. However, this, plus all the Haliotidae, were recorded on our Checklists.

.

Eastern Cape Group, Port Elizabeth. Eight members and two visitors, with apologies from a further two, attended our November meeting. Our Chairman, Mr McLachlan opened the meeting with a special word of welcome to the visitors and Mrs Watters, who had recently returned from an overseas trip.

Mrs Watters informed the meeting that the Museum had asked for suggestions as regards the showcases of shells. Mr McLachlan will contact the museum and ask for further information.

The Chairman then moved to the discussion of the order Opisthobranchiata. He indicated the place of this group among the other orders of Gastropods and gave a short talk on its characteristics. On the morning of the meeting Mr and Mrs McLachlan and Mr Graeve had collected specimens of Nudibranchs and Aplysia at flat rocks and then on to Mac Arthur bath, which they found conveniently empty. Thanks to this stroke of luck it was no trouble at all to find live Akera soluta and Philine aperta. All these specimens were shown at the meeting and Mr McLachlan dissected an Aplysia to show the organs of this fascinating animal.

Tea was taken and the shells that members had brought along were admired. Mrs Watters showed shells she had collected during her trip to the British Isles. Mrs Ball had received a box of colourful shells from California, in exchange for local species while Elizabeth Gibson showed an enormous sea-urchin from Cornwall. Mr Graeve reported the find at Summerstrand of a good Nerita polita; the last find of this species - at the same locality - dates back quite a few years.

Mrs Hoogonhout, at Jeffreys Bay, had phoned to say that she could not come to the meeting but mentioned that she had been given a Babylonia papillaris, from the stomach of a Daggerhead, by a fisherman.

At our next meeting, to be held on 7th December, Mr Ludick will give a talk on "Diving and Collecting at Mauritius", illustrated with slides. The family for discussion will be Cypraea. On 17th November a field day will be held at Skoenmakerskop (See report published on page 7).

.

Minutes of a meeting of the Society held on 26th November 1974.

In the absence of both the Chairman and Secretary, Mr Carlsson took the chair and opened the meeting with a word of welcome to all present. Apologies for absence were received from seven members. Mr and Mrs Giles, who had had to go to Johannesburg sent their greetings.

The minutes of the previous meeting as published in the November New Letter were taken as read and approved. There were no matters arising.

The Chairman announced that, following normal practice, there would be no meeting in December and that the next meeting would be held on 28th January. It was also

reported that/.....

reported that there had been a spate of new books on shells during the last week. Two or three of these were devoted to shell craft, another two dealt with the history of shells and collecting and one was a very good reference book. On display were "Seashell Parade" by A Gordon Melvin, a book of fascinating facts, pictures and stories, and the "Encyclopedia of Shells" by S Peter Dance. This book covers well over 2,000 species and has over 1,500 colour photographs. It is hoped that reviews of these books will be published soon.

Mr Verhoef reported on his finding of live Cypraea gondwanalandensis and C.fusco-rubra whilst diving in 65 foot of water off Danger Point. These two specimens were on display and we congratulate Gordon on this find. Mrs Fuller reported that she had just returned from a visit to Port Elizabeth where she was able to attend the meeting of the Eastern Cape Group, she brought their greetings to the Cape Town members. Mr Carlsson reported on a shelling trip to Melkbosstrand and described the damage done to the rocks pools by fishermen looking for bait. This plunder was witnessed at the time of the last visit to that locality smoo four years ago and the effects are all too noticeable in the form of barren rock pools.

There being no further business Mr Carlsson proceeded to give a brief summary on the characteristics of the shells on display, the Columbelloidae and the Buccinidae.

After the break for tea and cake, supplied by the members, two films "The Tides" and "The School by the Sea" were screened. In closing the meeting Mr Carlsson thanked Mr Hart for obtaining the films and Mr Verhoef for acting as projectionist, and extended to all members the compliments of the Season.

+ + + + +