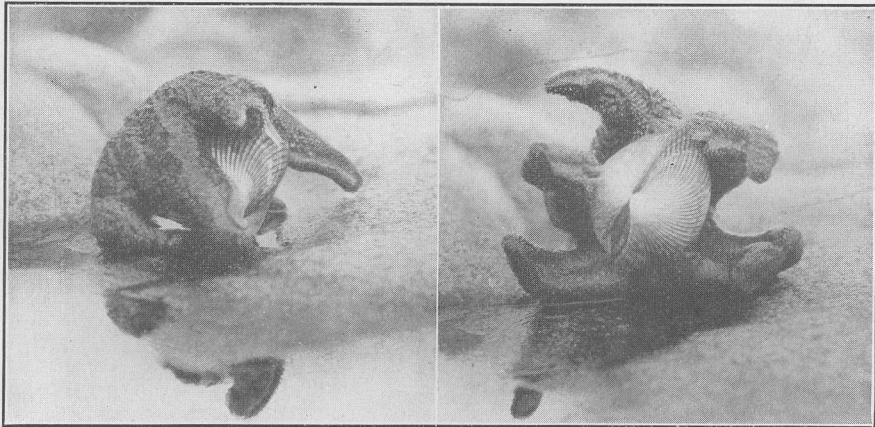


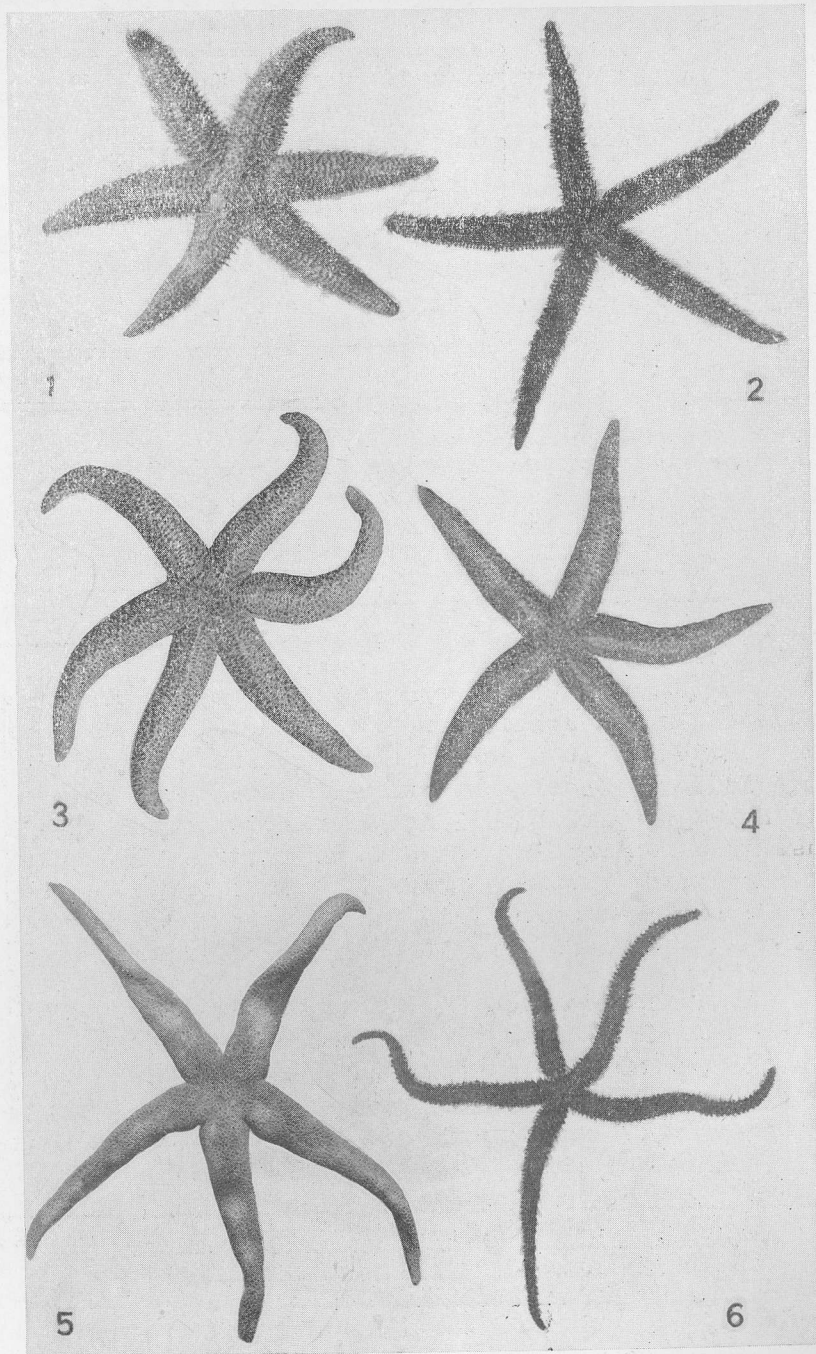
The
**VICTORIA
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COMMON STARFISH OPENING COCKLE.



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The Victoria Natural History Society

The December monthly meeting was held in the Reading Room of the Provincial Library on Tuesday, 11th. This meeting was well attended and two items of local interest were discussed at length. The first dealt with the proposed liberation of the gray squirrels in Beacon Hill Park, and it was the consensus of the meeting that these animals, if released, might cause a great deal of damage to nesting birds. Mr. Downes explained that owing to the similarity of the climates of Victoria and England the gray squirrels might thrive and spread and become a pest in the lower part of the Island as they had done in England. The meeting then decided to go on record as being adverse to this liberation, and to forward a copy of the resolution to the Office of the Game Commissioner.

The other item of interest was brought up by Mr. Christiansen in connection with Swan Lake. Apparently in this area there is a considerable amount of shooting although it is a closely settled district. The lake itself is noted for its bird life and many uncommon species use it as a stopping place in migration. The area should, according to the members of the Society, be set aside as a bird sanctuary. This was left to the Committee to find what steps are necessary to have this area reserved.

As it had come to the attention of the program Committee that Mr. Richard F. Corless, known as the "Flying Prospector" was in town for a few days, with some striking slides and films of Northern life, arrangements were made at short notice to postpone the scheduled address, and to have him present his pictures. This move proved to have been amply justified.

The first set of slides were taken on the Alaska Highway, in the neighbourhood of the Liard River and Teslin Lake. The pictures showed, and the speaker testified to the permanent quality of the bridges and the highway work in general. Most interesting were the hot springs occurring in this district, in whose future development Mr. Corless showed no uncertain faith.

Following the still pictures there were a number of films in colour. The first showed a series of really remarkable close-ups of animals, including such shy subjects as Mountain Sheep, Beaver, Otter, Cariboo, Moose, Mallard and Trumpeter Swan, together with some really productive fishing. The high spot of the reel was an uncomfortably close shot of a mother grizzly with her cub. Mr. Corless stated that she came within five feet of him as he lay on the ground, and neither he nor she seemed quite sure what would happen next.

There followed a series of camping and prospecting scenes from the Chilcotin country. This district, said Mr. Corless, is due for a tremendous mining boom in the near future.

The last film was a record of a prospecting trip to the Yukon, which Mr. Corless shared with that famous Northern character, Sam McGee. The speaker disclosed what might have become a rare case of poetic justice when he related that years after his "literary death" Sam McGee was shooting the rapids of the Yukon with Robert Service, and threatened to avenge his "cremation" by drowning the poet. The film closed with a shot of Mr. McGee washing the last pan of gravel of his life.

L. Colin Curtis.

BIRD NOTES:

During the past year quite a number of very interesting items relating to our local birds have been recorded by members of the Society, and for the benefit of the other members, a few of the more outstanding observations are recorded in the following pages.

On page 109 will be found a tabulation of the ducks in Beacon Hill Park, taken by Mr. E.F.G. White over a period of many weeks. It shows the approximate number of the different species on the given dates and gives an idea of the time these different species migrate to their winter quarters. If many returns are obtained from the bird-banding project that is being undertaken, it may be possible to determine the breeding locality of the birds that winter here.

An immature female Barn Owl, shot at Cowichan Bay, Oct. 15th, 1945 by Mr. Alfred Frett of Duncan was sent in to the Museum Collection. Although one or two individuals have been known to be present in the Cowichan Bay area during the past three years or so, this apparently is the first specimen taken on Vancouver Island. There are a few records from the Mainland in the last few years from the Fraser Delta and one bird, apparently shot by a hunter, was picked up on Sea Island by Mr. H. Middleton of Vancouver.

Two records of Pelicans being seen in the district have been recorded. One by Mrs. Jefferson at Prospect Lake, the other on Oct. 15th by Cadet R. Lanning at Esquimalt Lagoon.

A Lutescent Warbler was killed by a cat on the feed table in Mr. H. G. Wyatt's garden. This was on March 24th, which is exceptionally early for these birds.

A Solitaire was seen in Oak Bay by Mr. F. Scott-Mason on May 3rd.

On May 13th Mr. Clay and Mr. Meugens saw one Lesser Canada Goose and one White-fronted Goose on Quick's Pond. They were feeding and flying round together.

Mr. T.A. Airey reports that a pair of North-west Coast Herons tried to build in the trees on Gonzales Hill, but materials were scattered by Crows. Someone shot one of these birds through the bill. It later faded and died.

On April 29th Mr. Clay observed three flocks of Western Willits containing 8, 25, and 17 birds. They were passing off shore at the Oak Bay Golf Course; flying fast and calling.

Mr. J. O. Clay reports seeing a Slate-coloured Junco among a flock of Oregon Juncos in Beacon Hill Park this fall.

On June 17th Mr. Clay and Mr. Redfern visited the Lewis Light and noted 8 Baird's Cormorant nests on the framework of the light. A hole was found on the steel drum where all-too-many sea-birds had met their fate in past years. The Department of Transport were notified and the necessary repairs made quickly.

During a visit to Horne Lake on July 13th Mr. Geo. Winkler saw a pair of Hooded Mergansers with 12 young.

On September 25th Archdeacon Collison saw a large flock of some 40 birds circling high up over Victoria. Owing to height and distance these could not be definitely identified but were thought to be Eagles. The following day Mr. A. W. Jones and Mr. Meugens saw a flock of 28 birds over the Gorge Vale Golf Course, they came in from the East in pairs at about 300 feet and, catching an updraught over the course, soared to a height of about 2000 feet and then sailed south. By the breadth of wing and shortness of neck there is not much doubt that these birds were American Rough-legged Hawks.

A partial albino Blue Grouse was recently brought to the Museum by Mr. Pat Little of Parkview Ave., Victoria. In general, the colour is a light buff, the feathers of the back having darker bands but almost white ends; the underparts are slaty grey marked with white; the tail is chocolate brown with a definitely marked terminal band of grey. The bird was taken at Forbes Landing on September 16, 1945.

SWANS AT LAKEHILL

The acquaintance of most of us with swans is limited to our visits to city parks, where the beautiful and stately birds lead lives of almost complete domesticity. Therefore the sight of even a few wild swans is a truly outstanding event, but one which the writer has been privileged to witness on more than one occasion.

On November 3rd, 1933, three young birds came to rest on the flood-formed lake in Lansdown Field, and we were close enough to distinguish their reddish-brown bills, classifying them as juveniles.

To witness a large flock in noisy migration is a thrilling episode in the life of a bird student, and even those who take only casual interest in the subject are attracted by the spectacle.

On October 30th last, in mid-morning, we heard what we presumed to be the goggle of a flock of geese over Swan Lake. In a moment the birds approached, and we realized that we were indeed witnessing a rare sight as eighty swans flew overhead, sweeping in group formation above the trees and back to the Lake; then overhead again, lower this time, in groups like planes in manoeuvre, forming odd patterns, criss-crossing, one group above another. A third time they swept up from the Lake, now so low we could clearly see their great, black feet pressed against their snowy underbodies, or lowered slightly as if doing duty as rudders. All this time the birds kept up a high-pitched, excited calling, though not the whistling one would expect from whistling Swans, which these appeared to be.

Later we learned from Mrs. C.H. Pendray, who has lived on the hill overlooking Swan Lake for twenty years, that this was the first time she and her family had seen more than small groups--quite probably the same small groups I had observed on Lansdowne Field.

Before the arrival of the large flock described above, the Pendray family noticed nine swans alight on the Lake, followed in a few minutes by perhaps twenty more; then came the big flock, circling over the water, calling continuously. But it was about fifteen minutes before they took off and headed south in the wake of the others.

D. Gordon Cox,
Falmouth Road,
Lakehill.

AGGRESSIVE RED-WINGS

For several successive years a number of Red-winged Blackbirds have been nesting in Beacon Hill Park and vicinity and during the past season they have attracted more than usual attention due to the rather startling behaviour of several male birds.

A small colony of the birds in question were nesting in and around the thick groves of broom just east of the old deer pen during the past season. In this area the broom grows in dense, isolated clumps on ground overrun with creeping bent grass. Except for a small trickle of water in the lowermost section the nearest water is the duck pond some two hundred yards west. In this vicinity a lone male Red-winged blackbird appeared to take upon himself the chore of driving away all intruders who ventured off the road which passes within a few yards of this area. This particular bird apparently stood watch atop the broom clumps where, from the road, he could be easily seen and heard uttering the characteristic short, sharp clucks and whistle so characteristic of the species. The passerby, however, who innocently approached the forbidden ground occasionally found himself attacked from behind by this bird who swooped down in a most menacing manner. If the bird was not warded off by upraised arm it would actually strike the head of his "enemy" a sharp blow with his claws. The usual procedure was for the bird to wait for his victim to be off guard or moving away, at which time the bird would swoop down within six inches of the trespasser so close that the rush of air through the wing and tail feathers could be clearly heard. If this did not hasten retreat, the bird's next attack often consisted of a blow on the head. At least three persons, Dr. Kenneth DeP. Watson, Mr. H.H. Hornby and Mr. E.M. Hardy have reported such attacks which have actually drawn blood. Visits to the area by Museum staff members also resulted in similar attacks by presumably the same bird.

No other instances of aggressive behaviour of Red-winged blackbirds appear to be known. It should prove interesting if similar occurrences take place next season.

G. Clifford Carl, Prov. Museum.

Ducks at Beacon Hill Park

	Mallard	Widgeon	Pintail	Green Wing Teal	Greater Scaup	Shoveller	Canvas Back	Mallard & Pintail Hybrid	Wood duck
Oct. 8th	150	65	5	-	-	1	-	1	-
Oct. 13th	150	75	3	2	-	1	-	-	-
Oct. 14th	150	75	8	3	-	5	-	-	-
Oct. 17th	150	75	2	4	-	-	-	1	2
Oct. 20th	200	100	2	1	-	-	-	1	-
Oct. 25th	200	125	3	19	1	1	-	1	-
Oct. 31st	200	300	-	-	1	1	5	1	2
Nov. 7th	200	300	-	-	-	-	4	-	-
Nov. 12th	200	300	2	-	2	1	5	-	-
Nov. 20th	225	300	-	1	-	-	6	-	-
Nov. 25th	225	300	-	-	3	8	13	-	-

Note: The illustrations of cerambycid beetles appearing in the December number of the Victoria Naturalist were originally published in the Annual Reports of the Provincial Museum for 1925 and 1926.

STARFISH

The phylum Echinodermata to which the Starfish belong is very well represented in the waters of the Pacific Coast, and the forms illustrated on the front and back covers of this issue are amongst those most likely to be encountered. In addition to the Starfish, proper, which form the class Asteroidea, the phylum includes several other classes, all of which are locally represented, as follows:

Class Ophiuroidea, or Brittle Stars

Class Echinoidea, Sea Urchins and Sand Dollars

Class Holothurioidea, Sea Cucumbers - the Trepang of Oriental commerce.

Class Crinoidea, Sea Lilies or Feather Stars.

Members of the last-mentioned class are mostly sessile, but all the others are wandering forms.

The eggs of starfish are very small, averaging about a one hundred twentieth of an inch in diameter, and are ejected into the sea where they are fertilized by free-swimming sperms from other individuals. Two days after fertilization, the larval form appears as an oval body consisting of many cells and equipped with numerous minute hairs or cilia. This stage is called the blastula. Shortly, a cavity forms in one end, forming a primitive digestive tract, and the larva feeds upon minute living forms in the water. For a short time the larva is bilaterally symmetrical, but then, first internally, then externally, it develops five radial sets of organs, and becomes radially symmetrical.

The starfish is often described as having an exoskeleton, but this is not strictly true, as the spiny plates which give the phylum its name are actually buried beneath the surface of the animal, and project through the dermis. They are separate from each other, and allow for a limited range of movement. The arrangement and shape of the various plates differ with the species, and offer a convenient basis for classification.

The underside of each of the rays or arms bears a groove, lined with hundreds of tube-feet, protected

from injury by a double row of spines which can be folded inwards. The tube-feet terminate above in little bulbs, so that each resembles a miniature, old-fashioned motor-horn. They lie along, and are connected with, radial canals, which in turn are outgrowths of a circular ring-canal surrounding the mouth. From the ring-canal, a short calcified tube leads to a seive-plate or madreporite in the dorsal surface. The entire system provides for circulation of sea-water bearing oxygen to the parts of the body. The tube-feet are capable of exerting a high degree of suction, and are also extensible, and thus provide locomotion, as the animal can extend them in groups, attach them to the substratum by suction, then shorten them, and so pull the body slowly along.

The nervous system is simple, and consists of a nerve ring around the mouth, from which three radial nerves run down each arm to the tip, where there are an eyespot and a short sensory tentacle which appears to respond to chemical stimuli. In addition, there are cells sensitive to touch all over the outer surface.

The mouth of the starfish is found on the lower surface of the central disc, immediately below the stomach which occupies most of the disc. In the upper part of each arm is a pair of digestive glands which communicate with the stomach. There is a small anus on the dorsal surface, which is almost non-functional. The starfish is carnivorous, and lives very largely upon clams, which it opens by maintaining a steady pull with relays of tube-feet until the adductor muscles of the clam are exhausted, whereupon the starfish extrudes its stomach through the mouth, partly digests the soft body of the clam in situ, and then retracts the whole within the disc.

Oyster beds are sometimes devastated by invasions of starfish, and at one time oystermen attempted to make war upon them by cutting up every starfish they caught, and throwing the pieces overboard. They found, however, that this only made things worse, as the starfish has remarkable powers of regeneration by which an individual which has lost a whole ray can grow a new ray to replace it, while a detached ray can grow four new ones and become a whole new individual.

The starfish has little economic value on the credit side, but if taken in sufficient numbers it forms excellent fertilizer, as the calcareous plates supply lime in addition to the usual nitrogenous products resulting from the decay of the softer parts.

Different species are found at different depths. Those which are found on beaches in summer usually retire to deeper water in winter time.

<u>No.</u>	<u>Species.</u>	<u>Key to Plates</u>	<u>Dia.</u>	<u>Summer Habitat</u>
<u>Order Forcipulata</u>				
<u>Family Asteriidae</u>				
1.	Lepasterias hexactus (Stimpson)		2 $\frac{3}{4}$ "	Deep water
2.	Stylasterias Forreri (Loriol)		16"	" "
3,4.	Evasterias Troschelii (Stimpson)		12"	Beaches
6.	Stylasterias Forreri, syn. Orthasterias leptolena (Verrill)		18 $\frac{3}{4}$ "	Deep water
8.	Pycnopodia helianthoides (Brandt)		19 $\frac{1}{2}$ "	Low tide
11.	Pisaster brevispinus (Stimpson)		17"	Deep water
<u>Order Spinulosa</u>				
<u>Family Echinasteridae</u>				
5.	Henricia laeviucula (Stimpson)		11"	Beach
<u>Family Solasteridae</u>				
7.	Solaster paposus (Linnaeus)		6"	Deep water
9.	Solaster Dawsoni (Verrill)		8"	Low tide
10.	Solaster Stimpsoni (Verrill)		8 $\frac{1}{4}$ "	" "
<u>Order Phanerozoma</u>				
<u>Family Luidiidae</u>				
12.	Luidia foliata (Grube)		17 $\frac{1}{4}$ "	Deep water

The starfish illustrated on the front cover is the common purple star of our coast Pisaster ochraceus. All illustrations of starfish in this issue are kindly loaned by the Art, Historical and Scientific Association, of Vancouver, through Mr. T.P.O. Menzies of the City Museum.

L. Colin Curtis.

NOTES FROM THE MUSEUM

Pseudoscorpion and housefly

An unusual case of predation was brought to our attention by Mr. E. Russell of Alderley Road, Royal Oak, who noted that certain houseflies appeared to be carrying small creatures attached to them. Thinking they might be disease-carriers he captured a few for identification. They proved to be pseudoscorpion, small scorpion-like arachnids, about one-eighth inch long, which feed on small insects. Apparently these creatures also attack houseflies, clinging to the victims with their pincers and sucking beak and riding with them until the flies drop with exhaustion.

Virginia Rail

This elusive bird is more often heard than seen but a line on its habits recently observed has indicated one way of obtaining a sight of it if patience is exercised.

The margin of Lost Lake V.I. bears a heavy growth of the Yellow Water Lily the leaves of which stand up from a foot to eighteen inches above the water level. Among these the rail hides and feeds. The first indication of its presence is a quiet "flop" as if something had fallen into the water. This noise was found to be caused by the rail as it jumped or fluttered from one leaf to another, for it was seen feeding on the numerous insects that haunt such places. Its progress among the lily leaves can be gauged by a series of "flops" at irregular intervals, even if the bird cannot be seen.

NOTICE OF MEETINGS

1946

MONTHLY MEETING

Tuesday
Jan.8th

Provincial Library Reading Room
Speaker: Mr. W. H. Warren
"Exotic Trees of Victoria"

GROUP MEETINGS

Tuesday
Jan.15th

Botany - - - - - Archdeacon Connell
At Miss Spencer's home. 1040 Moss Street

Tuesday
Jan.22nd

Geology - - - - - Mr. W. Mathews
Mineral Exhibit Building, Superior St.

Tuesday
Jan.27th

Ornithology - - - - - Mr. Theed Pearse, of
1513 Laurel Lane. Courtenay, B.C.
The home of Mr.E.C.Hart situated next
to the water tower just off St.Charles St.

Tuesday
Feb.5th

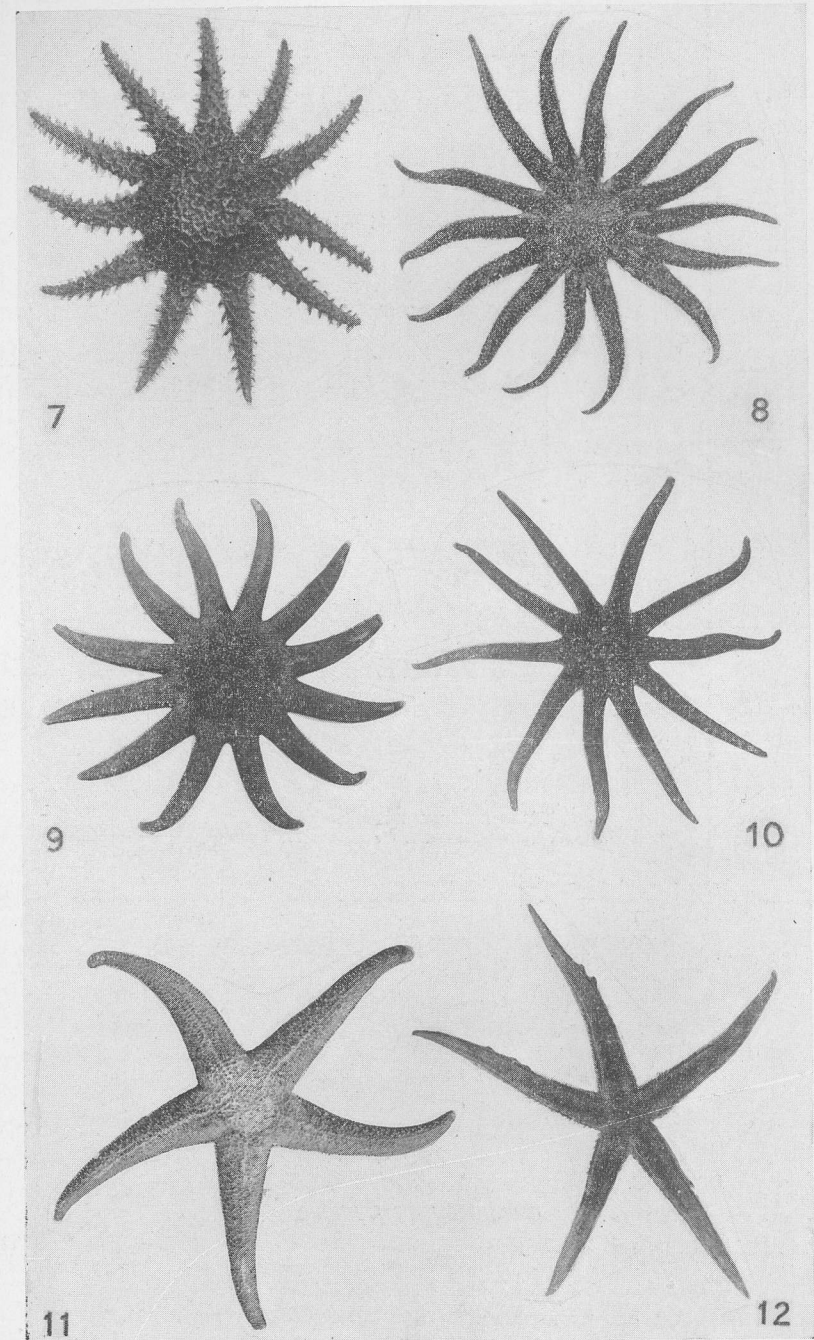
Zoology - - - - - Dr. Clifford Carl
At Dr. Carl's home, 1039 Rockland Ave.

Junior Group Meetings

The Junior Naturalists will meet in the
Provincial Museum as follows:

- Saturday, January 12th, 1946
- Saturday, January 19th, 1946
- Saturday, January 26th, 1946
- Saturday, February 2nd, 1946
- Saturday, February 9th, 1946

The group will meet at 10 a.m. on these
dates and an outdoor or indoor programme will be
arranged according to weather.





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Annual Subscription: Single, \$2.00; Family, \$3.00; Junior, \$1.00.

NOTICE OF NEXT MEETING

The next meeting of the Society will be held in
PROVINCIAL LIBRARY, PARLIAMENT BUILDINGS
at 8 p.m. on Tuesday, 8th January, 1946