PROVINCE OF BRITISH COLUMBIA

REPORT

OF THE

PROVINCIAL MUSEUM

OF

NATURAL HISTORY

FOR THE YEAR 1924

PRINTED BY
AUTHORITY OF THE LEGISLATIVE ASSEMBLY.

VICTORIA, B.C.:
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1925.

To His Honour WALTER CAMERON NICHOL,

Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

The undersigned respectfully submits herewith the Annual Report of the Provincial Museum of Natural History for the year 1924.

WILLIAM SLOAN,

Provincial Secretary.

Provincial Secretary's Office,

Victoria, B.C., February, 1925.

PROVINCIAL MUSEUM OF NATURAL HISTORY,

VICTORIA, B.C., February 19th, 1925.

The Honourable William Sloan,

Provincial Secretary, Victoria, B.C.

SIR,—I have the honour, as Director of the Provincial Museum of Natural History, to lay before you the Report for the year ended December 31st, 1924, covering the activities of the Museum.

I have the honour to be,

Sir,

Your obedient servant,

FRANCIS KERMODE,

Director.

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DEPARTMENT *of the* PROVINCIAL SECRETARY.

The Honourable WILLIAM SLOAN, *Minister.*

J. L. WHITE, *Deputy Minister.*

PROVINCIAL MUSEUM OF NATURAL HISTORY.

Staff:

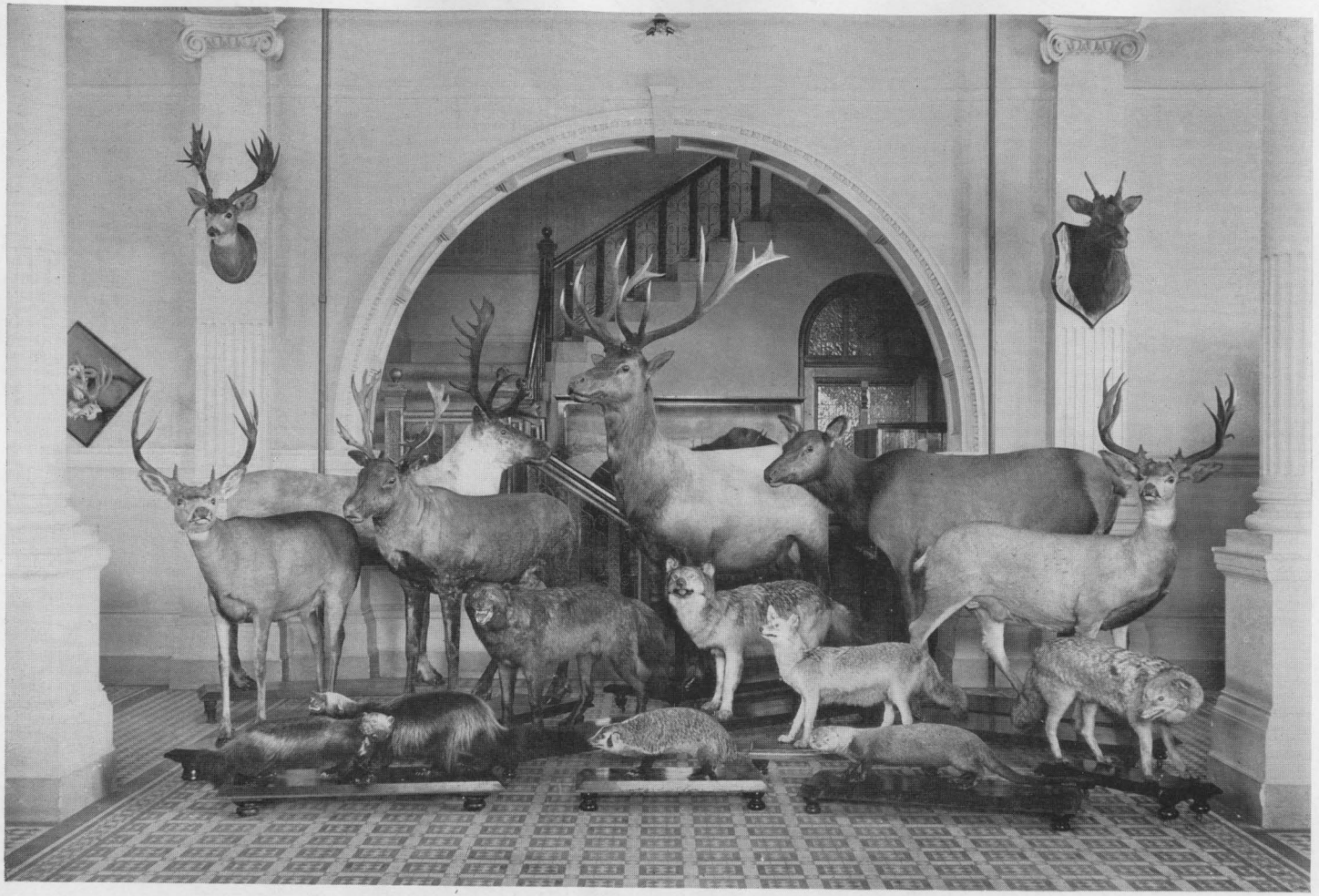
FRANCIS KERMODE, *Director.*

WINIFRED V. REDFERN, *Recorder.*

REGINALD W. PARK, *Attendant.*

GEORGE A. HARDY, *Assistant Biologist.*

EDWARD A. COOKE, *Attendant.*



MAMMALS IN PROVINCIAL MUSEUM, VICTORIA, B. C.

REPORT *of the*
PROVINCIAL MUSEUM OF NATURAL HISTORY

FOR THE YEAR 1924.

OBJECTS.

(*a.*) To secure and preserve specimens illustrating the natural history of the Province.

(*b.*) To collect anthropological material relating to the aboriginal races of the Province.

(*c.*) To obtain information respecting the natural sciences, relating particularly to the natural history of the Province, and diffuse knowledge regarding the same.

ADMISSION.

The Provincial Museum is open, free, to the public daily throughout the year from 9 a.m. to 5 p.m. (except New Year's Day, Good Friday, and Christmas Day) ; it is also open on Sunday afternoons from 1 p.m. to 5 p.m. from May 1st until the end of October.

VISITORS.

The actual number of visitors whose names are recorded on the register of the Museum is 29,204. This does not by any means give the total number of visitors throughout the year, as not only have more visitors been noticed, but the attendance of school classes has greatly increased, while the classes from the Normal School have used the collections considerably in regard to making drawings in connection with their nature-studies. The following figures will give some idea of those who recorded their names during the months of: January, 1,197; February, 1,123; March, 1,018; April, 1,220; May, 1,792; June 2,776; July, 6,153; August, 7,049; September, 2,522; October, 1,549; November, 1,336; December, 1,469.

ACTIVITIES.

This year the personnel of the staff has been altered owing to the resignation in January of Mr. W. R. Carter, who for six years had been the Assistant Biologist, in which capacity he showed great interest and did excellent work. His resignation was accepted with regret.

He was succeeded in April by Mr. G. A. Hardy, who was selected by the Civil Service Commission from the numerous applicants as the most qualified person for the position. Since joining the staff, Mr. Hardy, in addition to other work, has taken up marine zoology (*see* page 13), a branch of science which has needed special and experienced attention for some time, particularly with reference to the invertebrates.

In the interval between the resignation of Mr. Carter and the appointment of Mr. Hardy, Miss V. Trenchard was appointed temporary stenographer in the office, while the Herbarium work was carried on for the time being by Miss W. V. Redfern.

In the early part of the year the work of rearranging the Herbarium was completed, and the new botanical room on the main floor in the south-east corner of the Museum opened to the public.

This attracts a great deal of interest, as previous to the new arrangement there was no display of the wild flowers, only the specimens in the herbarium cases being available. When the new room was planned it was realized that a permanent exhibition of plants, easily accessible to the general public, would be greatly appreciated, particularly by the school-teachers and children.

All the herbarium cases and the exhibition frames are made of fir and three-ply cottonwood and were constructed on the premises, special care being taken to have them dust and insect proof.

The main collection in the herbarium cases may be examined at any time upon application at the office.

A full and detailed account of the botanical work for the year is contained in the special report on page 16.

The transferring of the Herbarium to its present position left space in the office for the very large collection of books and pamphlets which hitherto had, for lack of accommodation, been stored in the basement.

These were all classified and arranged on the shelves under their various subjects ready for cataloguing. This will take much time and care, as it is proposed to make a dictionary card catalogue of the Museum library. A good beginning was made, but owing to the discontinuance of our temporary help it is far from completed. It is hoped, however, as time and opportunity permit, to complete this card catalogue, thus rendering these invaluable pamphlets and monographs more readily referable than any other system.

The room in which the pamphlets were stored is now used as a laboratory, and is being equipped with the necessary reagents, etc., for the preservation of the more delicate forms of animal life. We have here, also, conveniences for the pursuance of photography, for which there is ample scope in the course of museum-work.

With such a small staff it is impossible to do as full justice to the various departments of science in our Province as could be desired. It is intended, however, to give each section as much attention as possible in the most practical way, funds considered, and therefore a period of time is to be devoted to each group successively. In this way it is hoped eventually to bring together a collection which will be reasonably representative of the flora and fauna of the Province.

Anthropology, ornithology, mammalogy, and entomology have had the most attention for a number of years and are now fairly representative of the Province. Those sections which especially appeal to the public, and therefore about which inquiry and material are constantly being made or received, must of course have the greater share of our time. Botany might be stressed as an instance of this, although when all departments have been brought up to a proportionate standard it will be easier to give an equal portion of time to each. It is considered that in this way the moneys made available by Legislature are being expended in the best possible manner consistent with economy.

In accordance with the above policy, it has been deemed advisable for the present to devote less time to the entomological work, which for some years has been under the supervision of Mr. E. H. Blackmore, who has accomplished a great deal of work in the systematic arrangement of the collections. In the meantime Mr. Blackmore has kindly offered to give whatever assistance he can in continuation of his previous work.

The Department has requests from time to time from larger museums, particularly in the United States, for the loan of specimens for comparison, and is glad to accede to these requests whenever possible. We also wish to express our thanks to the museums who have at various times kindly examined and determined specimens.

During the visit to Victoria of the British Association for the Advancement of Science, on August 25th and 26th, the Museum was honoured by the presence of Professor Balfour, Professor Darcy Thompson, Dr. J. Heslop-Harrison, Sir Charles Parsons, Dr. F. C. Shrubsall, Professor Ashworth, Mr. Garfitt, and many others, who displayed keen interest in the collections. The Museum was kept open in the evening by permission of the Honourable the Provincial Secretary, Dr. J. D. MacLean. On the following day the Director and Dr. C. F. Newcombe, accompanied by a party of these gentlemen, visited the old village-sites at Cadboro Bay of the aboriginal inhabitants of this country, also the old reservation at Esquimalt.

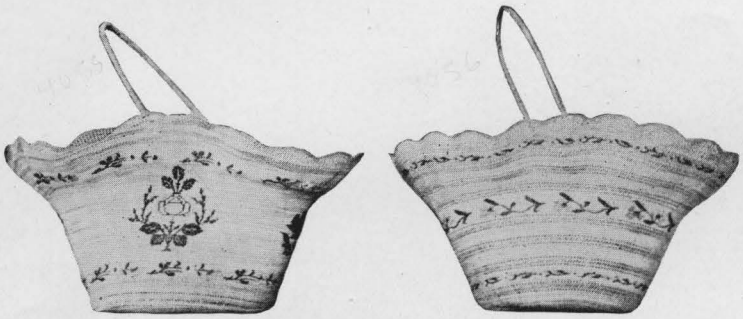
Mr. Harry S. Swarth, of the Museum of Vertebrate Zoology, University of California, who had been on a collecting-trip in Northern British Columbia (Atlin), on his return to Victoria gave an interesting illustrated lecture on "The Apache Trail." This was held in the Museum under the auspices of the Natural History Society of British Columbia.

ANTHROPOLOGY.

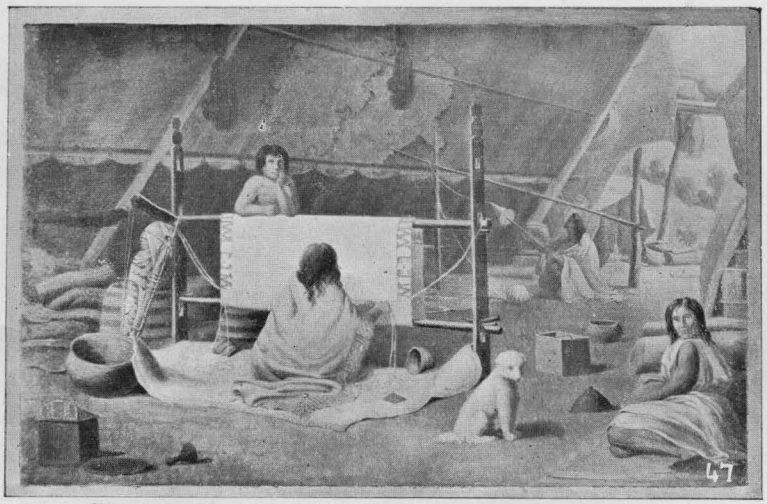
In the early part of January, 1924, through the kindness of Mr. J. Murray, J.P., the Department was fortunate in securing from Mrs. Kitty White, an aged Indian woman who has lived near Sooke, V.I., for many years, several valuable anthropological specimens, made especially for her long ago.

A special trip was made to Sooke by Dr. Charles F. Newcombe, the well-known authority on the West Coast Indians; Mr. J. L. White, Deputy Provincial Secretary, and the Director of the Museum to see these masks which Mrs. White wished to donate to the Government in return for its kindness to her.

The masks are unique examples of their kind. Except for one or two damaged specimens of the West Coast type, there are no others in the Museum. One of these masks is a large one, No. 4051, a more or less human likeness, with eyes that can sleep or wake, worked by



Attu Baskets. From Attu Island, Aleutian Group. (See Page 9.)



Blanket

Basket-making. Victoria, Vancouver Island. Reprint from Anthropological Guide, 1909.

strings at the wearer's will. The other four, Nos. 4050, 4052, 4053, and 4054, are smaller, and two resemble the heads of birds. They are beautifully made, the carving might have been done by a modern workman with modern tools, and when the implements the maker used are considered, his skill must be regarded as marvelous. The colours on them are clear and vivid, looking as fresh as the day they were painted.

The story of how she came by them is very interesting and rather sad. She was born up in the north of the Island, but when quite a young girl was stolen away and taken to a settlement just above Port Renfrew. Her family could find no trace of her and for years she was lost. Then her brother came down the coast, probably hunting, and found her. So overjoyed was he to see her again, he stayed while he carved for her a big wooden mask and one small one for each of her children.

These she has kept ever since, in the shed at the back of her house, in a wooden box, which is itself a relic, made by her great or great-great grandfather, and estimated to be nearly two hundred years old. This box was also presented to the Museum.

Inspector Thomas W. Parsons, of the Prince Rupert Division, Provincial Police, has donated to the Department two spoons, made from the horn of mountain-goat, No. 4045 and No. 4046, which came from Old Hazelton; a stone axe-head, No. 4047, from Fort George, and a whalebone ceremonial baton, No. 4048, from Clayoquot. We appreciate very much the interest Inspector Parsons has shown for many years in securing anthropological and other specimens for the Provincial Museum.

Two very fine Attu baskets, Nos. 4055 and 4056, were purchased and presented to the Museum by Mr. Nels S. Lougheed, of Port Haney, in March, and are the only two of their kind in the Museum.

The Indians of Attu Island, one of the outlying islands of the Aleutian chain, without doubt make baskets of the finest weave of any of the American Indian tribes. This tribe was not at any time very numerous and has dwindled to comparatively few natives on Attu Island, and with them the art of making these baskets will pass out. Therefore we are very fortunate and appreciate being presented with these valuable baskets before they become altogether unobtainable. Those made of recent years generally find their way into curio-trading stores and are eagerly bought by tourists and other private individuals. Owing to this fact and their scarcity, very few of these baskets are on exhibition in the public museums.

The Aleuts frequently use for their warp stems of wild rye or other grasses, in which the straws are split, or a pair used, and the two halves pass upward in zigzag form. Each half of a warp is caught alternately with the other half of the same straw and with the half of the adjoining straw, making a series of triangular instead of rectangular spaces. In these two the weave is of open mesh and looks like hemstitching.

A small collection of Indian curios was purchased in May from Mrs. John Irving, and these had been in her possession for a number of years. They consisted of: Three carved paddles, Nos. 4057, 4058, and 4059, the first of which is inlaid with abalone; one rain-hat of plain cedar-bark, No. 4065, Nootka type, from the west coast of Vancouver Island; one coat, No. 4060, from the northern coast, made from the breasts of birds; another coat, No. 4061, made from the skins of caribou; two pairs of beaded mocassins, Nos. 4062 and 4063; and one pair of gauntlets, No. 4064.

Mr. R. A. Cumming, of South Vancouver, presented an Indian arrow-point, No. 4066, and a stone sinker, No. 4067, found at Jericho Beach, Point Grey, Vancouver, B.C.

BRITISH COLUMBIA WHITE BEAR (URSUS KERMODEI).

A live specimen of this white bear was taken in August, 1924, and sent to Victoria by the Game Conservation Board. This is the first live specimen known in confinement and is in Beacon Hill Park, Victoria, B.C. When captured it was approximately six months old.

It is interesting to note that this bear, the description of which has been criticized by a number of scientists for several years, sustains Dr. Hornaday's theory that it is an entirely new species and not an albinistic form of any other species of bear. Except for the head, which is a little more yellowish than the other parts of the body, it is a creamy white throughout; the iris is brown and the claws are white. It is now twenty years since this species was first described. A number of specimens have been taken and are to be found in museums throughout North America and other parts of the world.

The late Dr. J. A. Allen, of the American Museum of Natural History, New York City, wrote an article (Bull. Am. Mus. Nat. Hist., Vol. 26, Art. 16, pp. 233–238, April 17th, 1909) on two specimens which were secured for that Museum. These specimens were in the fall coat, and all specimens that have been seen by the Director of the Provincial Museum, the majority of which were in the spring coat, did not appear to have nearly as much of the orange-buff colour which is mentioned in Dr. Allen's article.

A new white bear from British Columbia was described by Dr. W. T. Hornaday in the Ninth Annual Report of the New York Zoological Society, January 10th, 1905, and is herewith appended, also a list of specimens and known captures to date.

"During the past twenty years naturalists have been surprised by the discovery in North-western America of new species of mammals so large and so conspicuous that it seemed strange they had so long remained unknown. The finding of the white mountain-sheep, glacier-bear, and several new forms of caribou and mountain-sheep have strongly emphasized the fact that the great North-west contains many regions as yet wholly unexplored by naturalists and scientific sportsmen.

"Indeed, it may truthfully be said that in Northern British Columbia, Alaska, and Yukon Territory zoological explorations have only fairly begun. There are vast regions, containing we know not what new animal life, which have been practically untouched by the zoologist. Excepting the territory drained by the Stikine River and a few of its smaller tributaries, Northern British Columbia is, to scientific collectors and students, a land almost unknown, and therefore it is an inviting field for exploration.

"In November, 1900, while making an examination of the skins of North American bears that were to be found in Victoria, British Columbia, the writer found a very strange specimen in the possession of Mr. J. Boskowitz, a dealer in raw furs. The skin was a creamy-white colour and very small. Mr. Boskowitz reported that it had come to him from the Nass River country, and that he had previously received four or five similar skins from the same locality.

"Although this skin was of small size and had been worn by an animal no larger than a grizzly cub one year old, its well-worn teeth indicated a fully adult animal. Believing that the specimen might really represent a new ursine form, it was purchased and held for corroborative evidence. In view of the multiplicity of new species and subspecies of North American bears that have been brought out during the past ten years, it is not desirable to add to the grand total without the best reasons for doing so.

"Four years have elapsed without the appearance of a zoological collector in the region drained by the Nass and Skeena Rivers, and further evidence regarding the white bear of British Columbia was slow in coming. At last, however, the efforts of Mr. Francis Kermode, Curator of the Provincial Museum at Victoria, have been crowned with success, in the form of three skins in a good state of preservation. They represent two localities about 40 miles apart. The four specimens now in hand are supplemented by the statements of reliable persons regarding other white-bear skins which have been handled or seen by them and were known to have come from the same region.

"Following the route that a polar bear would naturally be obliged to travel from its most southern haunt in Bering Sea to the Nass River, the distance is about 2,300 miles. But the teeth of these specimens show unmistakably that they are not polar bears.

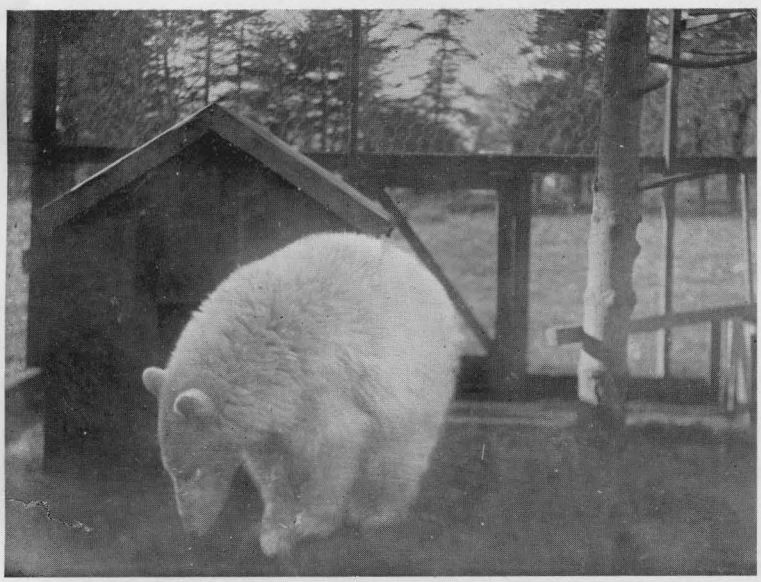
"There is not the slightest probability that albinism is rampant among any of the known species of bears of North America, and it is safe to assume that these specimens do not owe their colour to a continuous series of freaks of nature. There is no escape from the conclusion that a hitherto unknown species of white bear, of very small size, inhabits the west-central portion of British Columbia, and that it is represented by the four specimens now in hand. In recognition of his successful efforts in securing three of these specimens, the new species is named in honour of Mr. Francis Kermode.

"URSUS KERMODEI, SP. NOV.

"*Inland White Bear.*

"*Type* (No. 1), a flat skin, owned by the Provincial Museum, Victoria, of an adult female; teeth and claws present, but without cranium. Locality, Gribble Island, Western British Columbia, lat. 53° 25′, long. 129° W.

Ursus kermodei, Beacon Hill Park, Victoria, B.C. Photographed August, 1924, about 6 months old.



Ursus kermodei, Beacon Hill Park, Victoria, B.C. (same specimen). Photographed December, 1924.

"*Other Specimens.*—No. 2, a flat tanned skin of a very old specimen, purchased in Victoria, and locality given as 'the Nass River.' Nos. 3 and 4 are the filled-out skins of two cubs, about the size of black-bear cubs six months old. They were obtained on the Kitimat Arm of Douglas Channel, about 75 miles inland from the western shore of Banks Island, British Columbia, and belong to the Provincial Museum, Victoria.

"*Description of the Species.*—This is a bear of small size, much below the dimensions and weight of the average black bear (Ursus americanus). In general appearance its skin is like that of a long-furred and particularly handsome polar bear. Its colour is clear, creamy white, with no trace of brown, black, or any other dark colour. In the type specimen, on the upper neck and head and on the forelegs, the yellowish creamy tint is well defined. The hair is all white down to the roots, and on the entire animal there is not one brown or black hair.

"The ears are very small and the hair upon them is short and rather straight.

"The pelage of the type specimen is very long, fine, abundant, and in places of silky softness. The hair grows in tufts, and both in quality and manner of growth it distinctly resembles the pelage of the Alaskan brown bears, rather than the shorter, smoothly-trimmed coat of the black bear. The basal half of the pelage is very fine, woolly and warm, and only the tip of the terminal portion is straightened out to form the rain-coat. Only on the forehead, muzzle, and lower portions of the limbs does the hair grow short, and develop the straight and stiff character that is necessary, at those points, for the comfort of the animal. The pelage on the two young specimens consists of a dense coat of fine woolly hair, through which appears a scattering growth of long, straight hairs. Both these skins are everywhere creamy white.

"The claws are dull white, thin, and strongly curved, representing about 120° of a perfect circle; 1⅞ inches in diameter for the middle front claw.

"The teeth differ widely from those of the polar bear and indicate relationship to the American black bear (*Ursus americanus*).

"The dental formula is as follows:—

Incisors, $\frac{3-3}{3-3}$; canines, $\frac{1-1}{1-1}$; premolars, $\frac{3-3}{3-3}$; molars, $\frac{3-3}{3-3}$

"MEASUREMENTS.

"*No. 1.—Type Specimen. Flat Skin of an Adult Female.*

	Inches.
Length of skin, end of nose to root of tail	54.50
Length across forelegs, base to base of claws	46.50
Width of skin across middle of body	24.00
Height of ear	3.00
Length of hair on occiput	3.00
Length of hair on shoulders	4.50
Length of hair on top of back	5.00
Length of hair on top of hind-quarters	4.50
Length of hair on median line of abdomen	4.00
Length of hair in middle of forehead	1.00
Length of exposed portion of middle front claw, following curve	1.75
Length of rear middle claw, following curve	1.00
Length of molar tooth-row, including large premolar	2.25
Length of upper incisor tooth-row	1.25
Canines, distance between points	1.70

"Judging by bears that have been weighed and measured in the New York Zoological Park, this animal when alive must have been about 27 inches in shoulder-height, and its weight was about 200 lb.

"*No. 2.—Adult Skin, probably of a Male.*

	Inches.
Length, end of nose to root of tail	41.00
Length across front legs, base to base of claws approximately	34.00
Height of ear	2.50
Length, middle front claw, on curve	1.50
Pelage on shoulders	3.00
On top of hind-quarters	3.00

"The teeth are much worn, indicating the approach of old age.

"*No. 3.—Filled-out Skin of a Cub in First Year.*

	Inches.
Length, end of nose to base of tail	22.50
Length of head, about	7.00
Length of hair on shoulders	1.50
Length of hair on middle of back	1.50
Length of hair on top of hind-quarters	1.75
Length of hair on abdomen	1.75
Length of exposed portion of middle front claw, following curve	1.00
Length of middle hind claw, exposed portion, following curve	0.62

"A Mr. Cunningham, who is a reliable trader and storekeeper at Port Essington, at the mouth of the Skeena River, stated to Mr. Kermode that every year he gets some white-bear skins in trade, and that they have come to him 'only from the district south of the Skeena River, and have been taken as far south as Rivers Inlet. The most of them, however, have come from Kitimat Arm, which is just north of Gribbell Island, about lat. 54°.'

"The man who shot the type specimen (No. 1) has stated that he knows of eighteen other white bears having been taken in the region which furnished the type.

"Apparently, the only reasons why this interesting ursine form has so long remained unnoticed are that no scientific collector has visited its locality, and the skins that have been taken have drifted into the fur trade and quickly disappeared. No doubt they have been universally regarded, outside of British Columbia, as skins of young polar bears."

LIST OF SPECIMENS OF URSUS KERMODEI TAKEN IN BRITISH COLUMBIA AND KNOWN TO BE ON EXHIBITIONS IN MUSEUMS.

One specimen, bought by Dr. W. T. Hornaday, New York City, from J. Boskowitz, a fur-dealer in Victoria, and said by him to have come from the Nass River.

Type specimen, female, Provincial Museum, Gribbell Island, May, 1904.

Two young cubs, male and female, Provincial Museum, Kanoon River, Princess Royal Island, May, 1904.

One specimen, Carnegie Museum, Pittsburgh, reported by Dr. Holland in 1905, which had been in his possession for several years.

One specimen, young male, Provincial Museum, Gribbell Island, May, 1906.

One specimen, Provincial Museum, Gribbell Island, May 27th, 1907.

Two specimens, American Museum of Natural History, New York City from Gribbell Island, between October 1st and 10th, 1908.

One specimen, presented by the Provincial Government to the South Kensington Museum, London, England, Princess Royal Island, May 15th, 1910.

One specimen, male, Provincial Museum, Princess Royal Island, May 22nd, 1910.

Three specimens, female and two cubs, Provincial Game Department, Vancouver, B.C., Gribbell Island, June, 1913.

One specimen, Natural History Museum, Hobart, Tasmania, Princess Royal Island.

Two specimens, Natural History Museum, Denver, Colo.

Further Records noted by the Director, Provincial Museum.

Lindley and Foster, of this city (Victoria), had two specimens in 1898 or 1899 from Gribbell Island; they were sold to some parties in England.

One specimen killed on Swindle Island in 1902.

One specimen (Mr. James Findley, Vancouver, B.C.) taken near his mine on Princess Royal Island, 1903.

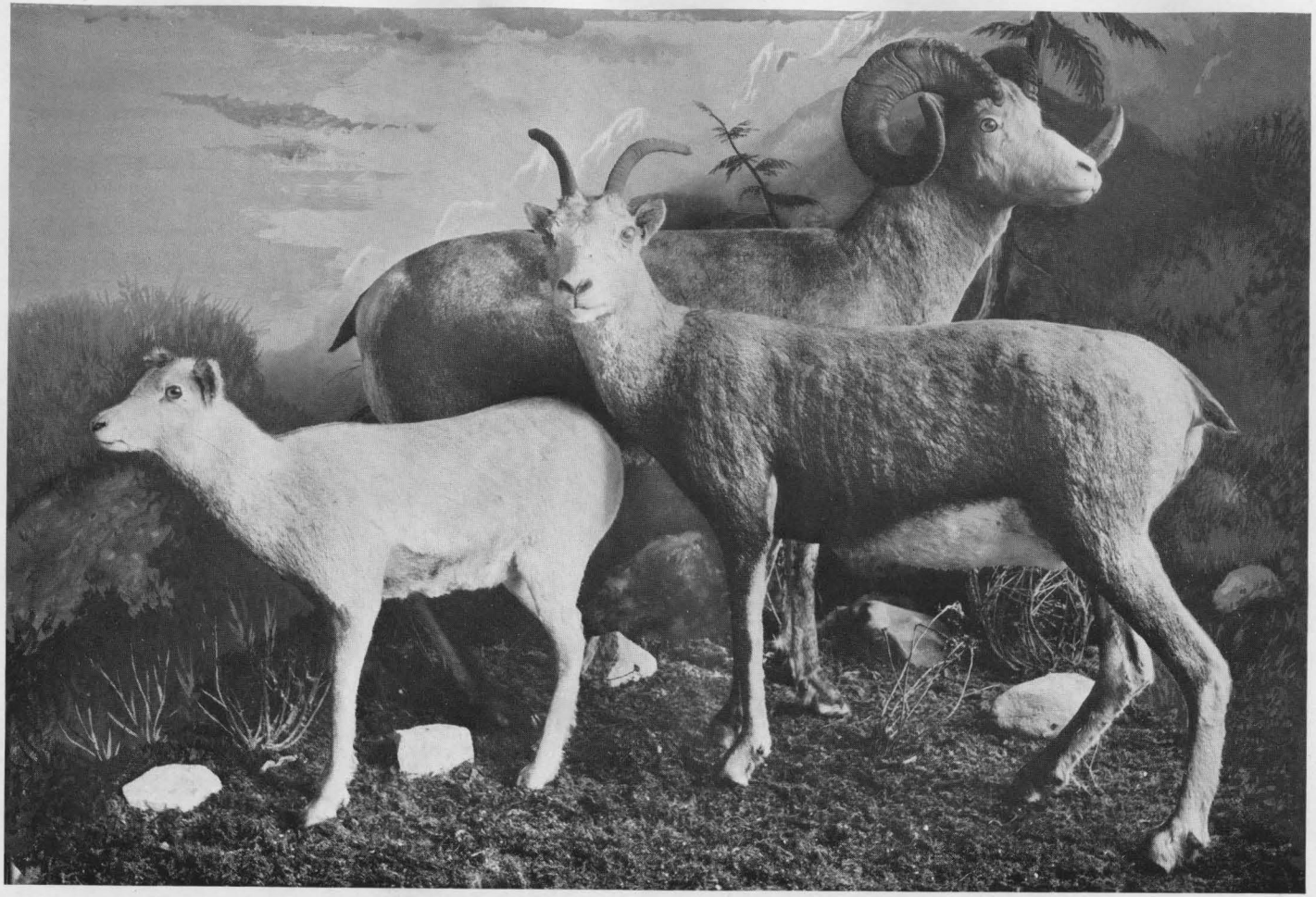
Two specimens, Kutze Inlet Mountains, 1904.

One specimen (Rev. T. Collinson) said to have been taken on the Nass River about 1904.

One specimen (Mr. Lindley), 1908, in very poor condition.

In June, 1908, P. Jacobson, of Bella Coola, and C. A. Fields, of this city, who were out timber-cruising on South Bentinck Arm saw one of these bears and were only 30 yards from it.

One specimen, Cascade Inlet, May, 1912, sold to the manager of the Ocean Falls Pulp Company.



STONE'S MOUNTAIN SHEEP. OVIS STONEI (ALLEN).
Group in Provincial Museum, Victoria, B. C.

One specimen, Ocean Falls, 1920.

No. 1, flat skin type specimen, has since been mounted with two cubs, and with two others is a group of five in the Provincial Museum.

The only known live specimen in captivity is in Beacon Hill Park, Victoria, B.C., and was captured on Princess Royal Island, May, 1924.

From the above list it will be noticed that the range of this white bear is from the Nass River south to South Bentinck Arm on the Northern Coast of British Columbia. They inhabit most of the larger islands of the Northern Coast region, with the exception of the Queen Charlotte Group. It will be noted also that majority of specimens secured have come from Gribbell and Princess Royal Islands.

This does not mean they are more common on the islands adjacent to the Mainland, but that they are more easily seen and hunted on the mountain-slides of these islands (where the mountain-goat does not occur); whereas, on the Mainland, bears and goats, owing to their size and creamy-white colour, are likely to be mistaken for each other when observed from a distance; as both animals inhabit the same mountain ranges of the Mainland in the spring of the year, where they are to be found on the open grassy mountain-slides, a favourite feeding-ground for bears when they first come out from their dens after hibernating through the winter months.

MARINE ZOOLOGY.

The experiment has been tried this season of installing a small marine aquarium, in which some of the commoner animals of the shore waters could be kept alive and exhibited. This has proved quite successful, and while constant vigilance is neccessary in order to maintain its efficiency, the effort expended in this direction has been amply rewarded.

The greatest difficulty at the outset was the question of water-supply—in the absence of running water—and here it was found that one or two small aquaria could be more easily and successfully looked after, time and effect considered, than one large one. Also by the former method animals antagonistic to one another can be kept apart, that otherwise would have to be discarded altogether, while in small aquaria the inhabitants are more available for general observation; hence this type will be continued with, under the present circumstances.

These aquaria, usually three of them, are exhibited in the north window of the upper floor and have been in operation since the spring of 1924. While the occupants have been renewed from time to time, according to the vagaries of living things, it has been possible to keep on view certain species throughout the season. At the beginning it was soon realized that only those species which were found to be adaptable to confinement were worth maintaining, for while many forms will live for a short time, the constant renewal consumed more time than was expedient with results. Here it was found that shore or tide-pool species thrived best, the conditions of varying temperature being most similar.

Small broken shells or coarse gravel from the sea-shore are placed to the depth of an inch or so at the bottom of the container, clean sea-water added, and pieces of sea-lettuce (*Ulva*) suspended therein by tying to a small chip of cork. A strong growth of filamentous *Algæ* is encouraged on the back and sides. This arrangement has been found to give excellent results, the *Ulva* being among the best aerators for the purpose. A good spraying with a small glass syringe every day completes the method for obtaining highest efficiency available for effort expended.

Of the fish on view, at least three species have been found to be very hardy and adaptable—the sculpin (*Oligocottus maculosus* Girard), clingfish (*Caularchus meandricus* Girard), and the blennie (*Xyphistes chirus* Jordan & Gilbert). Other species, such as the sea-snail (*Neoliparis*), viviparous perch (*Cymatogaster aggregatus* Gibbons), and small rockfish (*Sebastodes*), have been kept for short intervals, but for the last two species and other fish not found between tide-marks larger tanks with running water would be needed.

Several kinds of crabs have been successfully kept, including the shore-crabs (*Hemigrapsus nudus* Dana, *H. oregonensis* Dana) and *Cancer productus* Randall, each of which moulted several times, and in fact had eventually to be removed owing to their aggressiveness. *Cancer oregonensis* (Dana) and *Pugettia gracilis* Dana were also admitted; the latter is very interesting from its habit of planting a piece of living *Alga* or even a *Hydroid* colony on the anterior

portion of its carapace. Unfortunately the higher temperature of the small aquarium brings about the decease of this species in a short time.

The hermit-crabs (*Pagurus hirsutiusculus* Dana) prove very amenable to confinement and very entertaining; the change of shells as growth proceeds being particularly worth watching. One or two specimens captured in the spring gave rise to large batches of the characteristic *Zoœa* larva.

Various members of the Phylum Mollusca are easily kept. Of these, the limpets prove most desirable from their habit of frequenting the glass sides in search of *Algœ*. Many of the other species, such as *Littorina*, *Thais*, etc., often die before it is realized, resulting in contamination of the whole aquarium, with the consequent necessity of changing and restocking.

Several specimens of *Balanus nubilis* Darwin, the large barnacle, lived for a few weeks, the pulsating motions of their cirri in search of food and oxygen being very attractive; but these again need close attention for the reasons just mentioned.

Among the Echinoderms, starfish of several species have been tried out, but are not altogether reliable, usually ending in a few days by autonomous dismembership of the rays. A small sea-cumber lived for some weeks, and among other interesting habits its method of feeding was particularly interesting; this is effected by folding its large branching tentacles in alternating pairs toward the mouth, entangling with them the debris containing its food.

Sea-anemones have proved to be as suitable as any of the sea creatures for this purpose; one is still living which was placed in the aquarium when it was first started. One species, *Evactis artemesia*, was observed to increase by longitudinal fission.

The carnivorous species have been fed on small garden worms, these appearing to be eminently satisfactory for the purpose.

This résumé, while only a brief outline of results in this connection, is sufficient, we think, to justify the continuance of the above, and as a corollary to the exhibits of preserved material is of distinct educational value.

Appended will be found a list of accessions of marine material, by no means complete as much remains undetermined. This will be used as a nucleus for the exhibition of a representative collection of the more evident marine invertebrates of the Province, and at present is to be seen on the upper floor. The importance of the marine fauna as a whole, supplying as it does the key to the relationships of the animal kingdom, and the unique facilities afforded by the geographical position of Victoria, should be sufficient urge to make this as complete as possible.

The thanks of the Department are cordially tendered to the various donors of specimens, and if one may be singled out for special mention it is Mr. I. E. Cornwall, whose keen interest and hospitality in affording every facility for the pursuance of acquiring specimens for the Museum in May was taken advantage of, and for which opportunity we are deeply grateful.

Mr. F. J. Lambert, of Leigh-on-Sea, Essex, England, from the first has also shown keen interest in the aquarium, and among other material has sent us some living specimens of the hydra-tuba stage of a jelly-fish (*Chrysaora*). Most of these reached the Museum early in October in good condition, after an eighteen-day journey in a sealed bottle. The largest then measured approximately 1 cm. from base to tip of tentacles. This was fed on small pieces of worm and by January 15th totalled 5 cm. in length. At that time hopes were entertained that strobilization would ensue, but it became detached from the glass on which it was fixed, and it is doubtful whether any further development of this individual will take place.

In the meantime it has given rise by asexual budding to seven new individuals, some of which it is hoped may be reared to maturity.

The late Dr. C. F. Newcombe, with his unfailing interest, kindly offered to have his collection of shells checked over, part of which were to have been presented to the Museum.

In this connection arrangements were made with Dr. Bartsch, of the Smithsonian Institution, Washington, D.C., for their identification and verification, and the sincere thanks of the Department are tendered to Dr. Bartsch for his valuable assistance.

Owing to the untimely passing of Dr. Newcombe the remainder of this work is in abeyance.

ACCESSIONS.

PORIFERA.

Class DEMOSPONGLÆ.

Halichondria panicea (Bread-crumb Sponge). Bentinck Island (G. A. Hardy).

BLACK-TAILED DEER. ODOCOILEUS COLUMBIANUS (RICH.).
Group in Provincial Museum, Victoria, B. C.

CŒLENTERATA.

Class SCYPHOZOA.

Lucernaria auricula. Sandstone Creek (Rev. R. Connell); William Head (I. E. Cornwall).

Class ANTHOZOA.

Urticinia crassicornis (Red Anemone). Bentinck Island (G. A. Hardy). On rocks at low tide.

ANNELIDA.

Class CHÆTOPODA.

Eudistylia gigantea Busk. (Pier Tube-worm). William Head (G. A. Hardy).

Secretes a gelatinous tube, attached at right angles to pier or rock to which base is affixed. The "plumes" are of a rich maroon colour.

Thelepsus crispus. William Head (G. A. Hardy).

Under stone within a thin tube of agglutinated sand-grain and pieces of shell, etc.

Halosydna insignia Baird. William Head (G. A. Hardy).

A Polynoid worm, often commensal with *T. crispus.*

Halosydna pulchra Johnson. William Head (G. A. Hardy).

Serpula sp. Bentinck Island (G. A. Hardy).

Lives in coiled calcareous tubes, attached to rock, stones, etc. Often large numbers associate together, forming contorted masses of white tubes.

ARTHROPODA.

Class CRUSTACEA.

Subclass Cirripedia.

Chthamalus Dalli Pilsbry. William Head (I. E. Cornwall).

Balanus nubilis Darwin (Large Acorn Barnacle). William Head (Barbara Cornwall).

Balanus nubilis Darwin (Large Acorn Barnacle). William Head (Hugh Tomilty).

Balanus nubilis Darwin (Large Acorn Barnacle). Portland Island (C. P. Colvill).

Coronula diadema L. (Whale Barnacle), with attached

Conchoderma auritum L. Nanaimo (V. Harrison).

Subclass Malacostraca.

Caprella sp. (Ghost Shrimp). Dallas Road, Victoria (G. A. Hardy). Abundant among the labyrinths of *Nerocystis* holdfasts.

Upogebia pugettensis Dana. (Burrowing Crab). William Head (I. E. Cornwall).

Spirontocaris brevirostris Dana. (Shrimp). William Head (I. E. Cornwall).

MOLLUSCA.

Class GASTEROPOD.

Egg-cases of *Nucella lamellosa* Gmelm. Royston (Miss Hilton).

Doris sp. (Sea-lemon). Cordova Bay (G. A. Hardy).

Haunting *Halichondria* covered stones at low tide where they were feeding on the sponge.

ECHINODERMATA.

Class HOLOTHUROIDEA.

Psolus sp. Bentinck Island (G. A. Hardy).

A flattened scaly form of bright-red colour, attached to under-side of overhanging rock ledges at low tide.

BRYOZOA.

Alcyonidium spinifer O'Don. Sandstone Creek (Rev. R. Connell).

A new species described by Charles O'Donohgue in "Canadian Biologist," 1923. It is usually found associated with the calcareous Alga *Corallina rubra* and looks like a miniature cactus (*Opuntia*).

Hippothoa hyalina var. *cornuta.* Sandstone Creek (Rev. R. Connell).

One of first records for this Coast. In this particular specimen it forms small encrusting patches on the stem and branches of a *Sertularian Hydroid.*

Flustra lichenoides Robertson. Sandstone Creek (Rev. R. Connell).

CHORDATA.

Class UROCHORDATA.

Ascidiacea. Bentinck Island (I. E. Cornwall).

A fine specimen of a *Cynthiidæ.*

Several undetermined species. Sandstone Creek (Rev. R. Connell).

Class PISCES.

Tæniotoca lateralis Agassiz (Striped Perch). Oak Bay (H. G. White).

An edible fish, attaining a weight of 2 lb.

Cymatogaster aggregatus Gibbons (Viviparous Perch). Victoria (A. E. Redfern).

This is very abundant in Puget Sound. The schools of young may be seen swimming about in shallow water near the wharves, and are commonly known as "Shiners." As its name implies, the young are brought forth fully formed and similar to the adult in all but size. As many as thirty-six young in various stages of development have been found in the brood-sack of the parent.

Syngnathus griseolineatus Ayres (Pipefish). Nootka (W. R. Lord).

The male of this fish has a pair of brood-pouches on the ventral surface of body, in which the female places her eggs; the male subsequently takes full responsibility.

BOTANY.

Progress has continued apace in this Department, and perhaps the most noticeable improvement to the casual visitor is the completion of the botanical room on the ground floor, in the south-east corner, which is now open to the public.

Here have been placed the series of models in wax of native plants which were formerly on the upper floor, but of chief import is the exhibition of Native Wild Flowers and Shrubs in two double-sided stands, occupying the centre of the room, thus bringing to fruition the plans of last year. The exhibited collection embraces a representative selection of the Native Wild Flowers and Shrubs of Vancouver Island in the vicinity of Victoria.

The problem to be solved in a public exhibition of plants is to combine accessibility with protection from the deleterious effects of light, and at the same time to economize space. This has been accomplished by mounting the plants in glazed frames hinged face to face, one frame then being screwed to an upright stand, the other swinging open when desired. The stands, numbering two at present, are accessible on both sides and accommodate three double tiers of these frames, three on each side, and as there are seven double frames to the tier there are thus 168 plants altogether, mounted on standard size herbarium cards. A list of the contents in popular names is placed in a small frame at each end of the stands.

On each side of the room, left and right on entering, are storage cupboards for the reference collection and duplicates. These are kept locked, but are available for comparison and study upon request. Here are stored the invaluable collections of the late Professor John Macoun and Mr. J. R. Anderson, and also the main collection amassed from other sources.

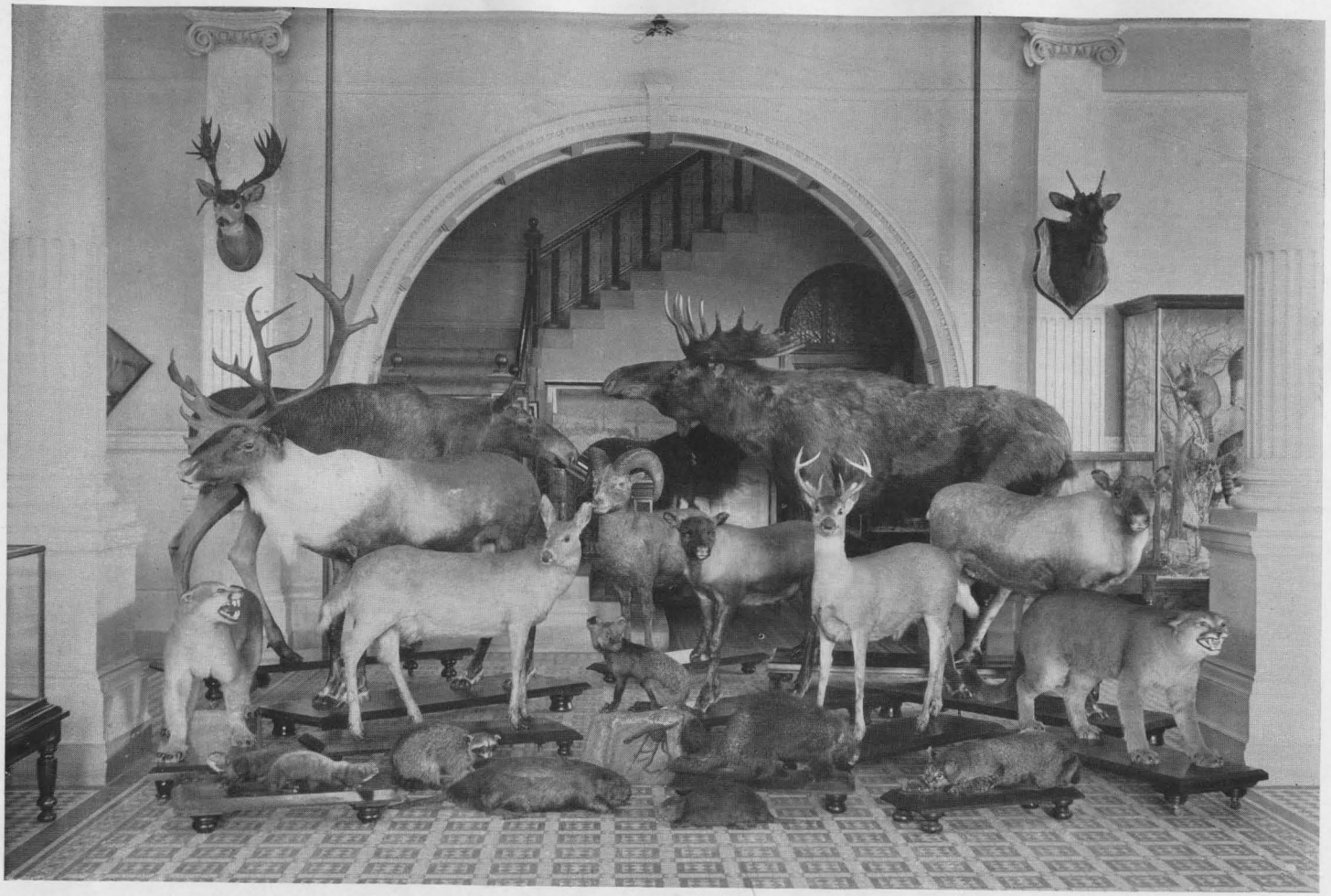
On the wall immediately to right and left on entering are exhibits respectively of Ferns and Poisonous Plants, mounted in double-glazed frames, and similarly on the wall opposite are Algæ and Mosses, all appertaining to the Province.

A further extension in botanical exhibits has been commenced in the case on the desk by the entrance of the main floor and labelled "Seasonal Exhibit." Here it is proposed to maintain a small series of living wild flowers, twigs of trees, etc., according to the season, chiefly of a local nature, as not only are they of more direct interest, but also most easily supplied or obtained in a fresh condition. In this connection friends of the institution can be of very practical use in helping in the maintenance of a fresh supply. At present there is only space to exhibit about a dozen species, but it is hoped to be able to increase this number as opportunity offers.

The Herbarium has been greatly enriched by the acquirement of much interesting material, both as regards new species and also by the duplication of many of the common plants for comparison, with reference to range of variation and distribution.

The inauguration of the public exhibit of local flowers and shrubs necessitated practically making a new collection for the purpose, as it was deemed inadvisable to use Herbarium specimens except as a last resort.

The exceptional drought, which has been general throughout the Province, during the past season has not, however, prevented the acquirement of a large amount of material, approximately 500 specimens being retained for the Herbarium. This does not take into account the quantity of plants brought in for identification, particularly by students of the Normal School and school-



MAMMALS IN PROVINCIAL MUSEUM, VICTORIA, B. C.

children generally. Altogether, in the neighbourhood of 1,000 specimens were brought in for this purpose.

The unqualified thanks of the Department are tendered to the various contributors listed below, but special mention is due to the zeal and enthusiasm continued from former years of the following three gentlemen:—

The much-lamented the late Dr. C. F. Newcombe, whose limitless energy and devotion to science, both in practical field-work and the higher realms of study, has resulted in incalculable benefit to the Herbarium.

Mr. W. B. Anderson, Dominion Inspector of Indian Orchards, and Mr. G. V. Copley, of the Provincial Lands Grazing Department, have continued with unabated vigour to give this Museum the benefit of their unrivalled opportunities of travel through little-frequented parts of the Interior of this Province, thus adding considerably to the Herbarium plants otherwise difficult to obtain.

The following is a complete list of the donors of botanical specimens: W. B. Anderson, F. J. Barrow, J. C. Bridgman, J. H. Brinkman, W. R. Carter, Rev. R. Connell, G. V. Copley, Miss Elda Copley (who has contributed a most interesting general collection of plants from Lasqueti Island), Miss M. Crompton, W. Dawley, G. Fraser, J. G. French, G. A. Hardy, Miss M. Hincks, S. Martin, J. A. Munro, Dr. C. F. Newcombe, W. A. Newcombe, A. Nicholls, W. H. A. Preece, Miss M. Rawlins, Miss W. Redfern, Master L. Small, Miss V. Trenchard, and P. deNoe Walker.

For the identification of difficult or doubtful species we are deeply indebted to the following specialists who have cheerfully given of their expert knowledge on all occasions, and to them we extend our most cordial thanks: Professor C. V. Piper, Dr. C. R. Ball, and W. R. Maxon, all of the United States Department of Agriculture, Washington, D.C.; Dr. P. A. Rydberg, New York Botanical Garden, N.Y.; Miss Alice Eastwood, California Academy of Sciences, Berkeley, Cal.; and Charles Piper Smith, San Jose, California.

We are also gratefully indebted to Mr. A. H. Brinkman, of Craigmyle, Alta., for the trouble he has taken in looking over the Hepatics in the Museum, naming or confirming many species. In addition, he has kindly presented us with a specimen of *Bucegia Romanica* Radian from his own collection.

The following list is a selection of the more interesting plants donated to the Museum during the past season; it is not quite complete, however, as several doubtful species are awaiting verification by specialists. Notes are appended, under their respective species, to those plants which are of special interest, among which are several new records for the Province. Plants marked with an asterisk are new to the Herbarium, while locality not followed by V.I. (Vancouver Island) are from the Mainland of British Columbia. Initials in brackets refer to collector.

POLYPODIACEÆ (FERN FAMILY).

**Dryopteris oregana* C. Chr. Sooke River, V.I., (C. F. N.; G. A. H.).

A new record for Canada, formerly known as *Dryopteris nevadense*. This was discovered by the Rev. R. Connell on the banks of Sooke River, V.I., August 14th, 1924, and is an interesting extension of its range from Northern California. It is closely allied to the Eastern *Aspidium Noveboracense*, differing chiefly in the tufted crown, whereas the former has a long creeping stolon with the fronds widely separated. A peculiarity of this fern is the folding together of its pinnæ during the early part of the day.

Phegopteris Dryopteris (L.) Fee. Goldstream, V.I. (C. F. N.).

Polypodium hesperium Maxon. Fraser Canyon (W. B. A.).

Polypodium occidentale (Hook.) Maxon. Saanich, V.I. (C. F. N.).

EQUISETACEÆ (HORSETAIL FAMILY).

Equisetum variegatum Schleich. Clayoquot, V.I. (W. B. A.).

LYCOPODIACEÆ (CLUB-MOSS FAMILY).

Lycopodium sitchense Rupr. Lytton Mountains, altitude 6,000 feet (W. B. A.).

PINACEÆ (PINE FAMILY).

**Abies lasiocarpa* (Hook.) Nutt. Lytton Mountains, altitude 5,000 feet (W. B. A.).

Pinus albicaulis Engelm. Clearwater Lake; Lytton Mountains, altitude 5,000 feet (W. B. A.).

SPARGANIACEÆ (BUR-REED FAMILY).

Sparganium curycarpum Engelm. Saanich, V.I. (G. V. C.).
Potamogeton epihydrus Raf. Quesnel Dam (W. A. N.).
Potamogeton pectinatus L. Quesnel Dam (W. A. N.).
Potamogeton Richardsonii (Benn.) Rydb. Quesnel Dam (W. A. N.).

GRAMINEÆ (GRASS FAMILY).

**Ammophila arenaria* (L.) Link. Clayoquot, V.I. (W. Dawley).

Mr. George Fraser, of Ucluelet, sends the following note in a letter dated September 20th, 1924: "I am sending you specimens of a grass which Mr. W. Dawley, of Clayoquot, sowed and has growing on a sandspit near his hotel. Mr. J. K. Henry, of Ocean Park, and myself both think it is a species now known as *Ammophila arenaria*, often used for sowing on sand-dunes. It occurs on the Atlantic Coast and on the shores of the Great Lakes, but I think it is the first record for Pacific Coast."

Agrostis maritima Lam. Clayoquot, V.I. (W. B. A.).
Danthonia pinetorum Piper. Barriere (G. V. C.).
Poa confinis Vasey. Clayoquot, V.I., (W. B. A.).
**Poa macrantha* Vasey. Clayoquot, V.I. (W. B. A.).
Puccinellia distans (L.) Parl. Kamloops (G. V. C.).

CYPERACEÆ (SEDGE FAMILY).

**Carex interior* Bailey. Cameron Lake, V.I. (W. R. C.).
**Carex Raynoldsii* Dewey. Iron Mountain (G. V. C.).
Carex macrocephala Willd. Ucluelet, V.I. (W. B. A.).
**Carex nubicola* Mackenzie. Alberni, V.I. (W. R. C.).
Carex rostrata Stokes. Alberni, V.I. (W. B. A.).
Eriophorum Chamissonis C. A. Mey. Saanich, V.I. (C. F. N.).
**Scirpus nevadensis* Wat. Clayoquot, V. I. (W. B. A.).

JUNCACEÆ (RUSH FAMILY).

Juncus bufonius L. Alberni, V.I. (W. B. A.).

LILIACEÆ (LILY FAMILY).

Allium attenuifolium Kellog. Victoria, V.I. (S. Martin).

A new locality for a very local plant.

Erythronium parviflorum (S. Wats.) Gooding. Lytton Mountains, altitude 6,000 feet (W. B. A.).
Erythronium revolutum Smith. Sooke, V.I. (J. French).

IRIDACEÆ (IRIS FAMILY).

Hydastylus borealis Bickn. Saltspring Island (P. deN. W.).

ORCHIDACEÆ (ORCHID FAMILY).

Epipactis decipiens (Hook.) Ames. Goldstream, V.I. (W. H. A. P.).
Habenaria Michaeli Greene. Victoria, V.I. (W. H. A. P.; C. F. N.).

SALICACEÆ (WILLOW FAMILY).

**Salix anglorum* Cham. Paradise Valley, altitude 7,500 feet (W. B. A.).
**Salix barrattiana* Hooker. Paradise Valley, altitude 7,300 feet (W. B. A.).
**Salix Barclayii* Anders. Clearwater Lake (W. B. A.).
**Salix eastwoodia* Ckll. Paradise Valley, altitude 7,300 feet (W. B. A.).
Salix vestita Pursh. Paradise Valley, altitude 7,300 feet (W. B. A.).

Mr. W. B. Anderson has been instrumental in adding a willow to the Canadian flora. This is from Paradise Valley, altitude 7,300 feet. Miss Alice Eastwood, of the California Academy of Sciences, Berkeley, Calif., speaks of it as follows: "*Salix eastwoodia* is another name for *Salix californica*, and so far as I know has never been collected north of Central Washington."

With reference to the other three species of willows listed above from Paradise Valley, Professor Piper, United States Department of Agriculture, Washington, D.C., writes as follows:

"Dr. Ball reports the specimens are of extreme interest on account of their varying somewhat from the types and on account of extension of range."

BETULACEÆ (BIRCH FAMILY).

Corylus rostrata Ait. var. *californica* A. DC. Saanichton, V.I. (W. B. A.).
A new locality for this species.

SANTALACEÆ (SANDALWOOD FAMILY).

**Comandra pallida* A. DC. Kamloops (G. V. C.).
Comandra umbellata (L.) Nutt. Nicola (G. V. C.).

LORANTHACEÆ (MISTLETOE FAMILY).

**Arceuthobium Americanum* Nutt. Sooke, V.I. (W. B. A.).

POLYGONACEÆ (BUCKWHEAT FAMILY).

Oxyria digyna (L.) Hill. Mount Baldy, altitude 7,500 feet (G. V. C.).
Polygonum lapathifolium L. Elk Lake, V.I. (G. A. H.).
Polygonum minimum S. Wats. Kettle River (G. V. C.).
Polygonum paronychia C. & S. Saanichton, V.I. (P. deN. W.).

CHENOPODIACEÆ (GOOSEFOOT FAMILY).

Corispermum nitidum Kit. Lytton (W. B. A.).
Monolepis Nuttalliana (R. & S.) Greene. Nicola (G. V. C.).
Salsola Kali L. var. *tenuifolia* G. F. W. Mey. Lytton; Duncan, V.I. (W. B. A.).

CARYOPHYLLACEÆ (PINK FAMILY).

Arenaria formosa Fischer. Clearwater Lake (W. B. A.).
Sagina occidentalis Greene. Ucluelet, V.I. (W. B. A.).
Stellaria longipes Goldie. Keremeos (W. B. A.).

PORTULACEÆ (PURSLANE FAMILY).

Calandrinia caulescens H. B. K. Victoria, V.I. (C. F. N.).

RANUNCULACEÆ (CROWFOOT OR BUTTERCUP FAMILY).

Anemone multifida Poir. Stamp Falls, V.I. (W. B. A.).
Anemone occidentalis Freyn. Lytton Mountains, altitude 6,000 feet (W. B. A.).
**Anemone hudsoniana* (DC.) Richards. Lytton (W. B. A.).
Caltha leptoscpala DC. Clearwater Lake (W. B. A.).
Clematis columbiana Hornem. Louis Lake (G. V. C.).
Coptis trifoliata (L.) Salisb. Ucluelet, V.I. (W. B. A.).
Ranunculus cymbalaria Pursh. Nicola (G. V. C.).
Myosurus apetalus var. *lepturus* Gray. Nicola (G. V. C.).
Thalictrum occidentale A. Gray. Victoria, V.I. (C. F. N.); Lytton Mountains., altitude 6,000 feet (W. B. A.).
Trauvetteria grandis Nutt. Sooke River, V.I. (J. C. B.).
**Trollius albiflorus* Rydb. Clearwater Lake (W. B. A.).

CRUCIFERÆ (MUSTARD FAMILY).

**Arabis columbiana* Macoun. Clayoquot, V.I. (W. B. A.).
Arabis Lyallii Wats. Clearwater Lake (W. B. A.).
**Camelina microcarpa* Anderz. Merritt (G. V. C.).
Cardamine angulata Hook. Beaver Lake, V.I. (C. F. N.).
Cochlearia officinalis Linn. Ucluelet, V.I. (W. B. A.).
Thysanocarpus curvipes Hook. Mount Douglas, near Victoria, V.I. (C. F. N.).

DROSERACEÆ (SUNDEW FAMILY).

Drosera rotundifolia L. Saanich, V. I. (C. F. N.).
A new locality for this species.

CRASSULACEÆ (ORPINE FAMILY).

Sedum stenopetalum Pursh. Lytton Mountains, altitude 6,000 feet (W. B. A.); Mount Baldy, altitude 6,000 feet (G. V. C.).

SAXIFRAGACEÆ (SAXIFRAGE FAMILY).

Leptarrhena amplexifolia (Sternb.) Ser. Lytton Mountains, altitude 6,000 feet (W. B. A.).
Mitella ovalis Greene. Goldstream, V.I. (C. F. N.).
Saxifraga Lyallii Engler. Lytton Mountains, altitude 6,000 feet (W. B. A.).
Saxifraga Mertensiana Bong. Stamp Falls, V.I. (W. B. A.).

ROSACEÆ (ROSE FAMILY).

Aruncus sylvester Kost. Sooke River, V.I. (J. C. B.).
Geum strictum Ait. Fraser Lake (W. B. A.).
Potentilla dissecta Pursh. var. *glaucophylla* Wats. Lytton Mountains, altitude 6,000 feet (W. B. A.).
Potentilla flabellifolia Hook. Lytton Mountains, altitude 6,000 feet (W. B. A.).
Prunus demissa Nutt. Esquimalt, V.I. (C. F. N.).
Spiræa Menziesii Hook. Sooke Lake, V.I. (C. F. N.); Saanichton Spit, V.I. (C. F. N.).
Extending its southern distribution on the East Coast of V.I.
**Spiræa lucida* x *Menziesii* Hope (W. B. A.).
Sibbaldia procumbens L. Lytton Mountains, altitude 6,000 feet (W. B. A.).

LEGUMINOSÆ (PEA FAMILY).

Astragalus campestris Gray. Kamloops (G. V. C.).
Lathyrus littoralis (Nutt.) Endl. Clayoquot, V.I. (W. B. A.).
**Lupinus laxiflorus* Dougl. Oak Bay, V.I. (Rev. R. Connell).
Lupinus lepidus Dougl. Victoria, V.I. (W. H. A. P.).
Psoralea physodes Dougl. Victoria, V.I. (C. F. N.).
Trifolium microcephalum Pursh. Lasqueti Island (Miss E. Copley).
Trifolium oliganthum Steud. Telegraph Bay, V.I. (G. V. C.).
**Vicia lathyroides* L. Esquimalt, V.I. (G. V. C.).

GERANIACEÆ (GERANIUM FAMILY).

Geranium carolinianum L. Lasqueti Island (Miss E. Copley).
Geranium viscosissimum F. & M. Princeton (W. B. A.).

EMPETRACEÆ (CROWBERRY FAMILY).

Empetrum nigrum L. Mount Benson, V.I. (W. B. A.).

LIMNANTHACEÆ (FALSE MERMAID FAMILY).

Limnanthes Macounii Trelease. Victoria, V.I. (G. A. H.).

CELASTRACEÆ (STAFF-TREE FAMILY).

Pachystima myrsinites Raf. Colwood, V.I. (C. F. N.; G. A. H.).

MALVACEÆ (MALLOW FAMILY).

**Althea hirsuta* L. Metchosin, V.I. (Rev. R. Connell).
No records of this introduced European plant can be found for British Columbia. Dr. Malte, of Ottawa, writes to say that there is no specimen of it in his herbarium. It was growing on a farm in the Sooke District, where it is reported as spreading.
Sidalcea Hendersonii Wats. Oak Bay, V.I. (C. F. N.).
Sphæralcea rivularis Torr. Adams Lake (G. V. C.).

VIOLACEÆ (VIOLET FAMILY).

Viola Nuttallii Pursh. var. *præmorsa* (Dougl.) Wats. Victoria, V.I. (C. F. N.).
Viola palustris L. Saanich, V.I. (C. F. N.).
**Viola rugulosa* Greene. Fraser Lake (W. B. A.).

A new record for British Columbia. Its occurrence is interesting as it is only reported from Alaska and Colorado.

LOASACEÆ (LOASA FAMILY).

**Mentzelia integrifolia* (Wats.) Rydb. Princeton (G. V. C.)

CACTACEÆ (CACTUS FAMILY).

Opuntia fragilis Haw. Penticton (G. V. C.).

ELÆAGNACEÆ (OLEASTER FAMILY).

Shepherdia canadensis (L.) Nutt. Thetis Lake, V.I. (C. F. N.).

ONAGRACEÆ (EVENING-PRIMROSE FAMILY).

Boisduvalia densiflora (Lindl.) Wats. Langford, V.I. (C. F. N.).
Clarkia pulchella Pursh. Cascade (G. V. C.).
Epilobium alpinum L. Ucluelet, V.I. (W. B. A.); Mount Baldy, altitude 7,000 feet (G. V. C.).
Godetia caurina Abrams. Thetis Lake, V.I. (C. F. N.).
**Godetia amœna* (Lehm.) Lilja. East Sooke, V.I. (P. deN. W.).
Œnothera biennis L. Kamloops (G. V. C.).

HALORAGIDACEÆ (WATER-MILFOIL FAMILY).

Hippuris vulgaris L. Pennark Lake (G. V. C.).

UMBELLIFERÆ (PARSLEY FAMILY).

Angelica genuflexa Nutt. Gordon Head, V.I. (C. F. N.).
Angelica Lyallii Wats. Mount Baldy, altitude 7,000 feet (G. V. C.).
Conioselinum Gmelini C. & R. Gordon Head, V.I. (C. F. N.).
**Glehnia littoralis* (Gray) Schmidt. Saanichton Spit, V.I. (C. F. N.).
Leptotænia dissecta Nutt. Thetis Lake, V.I. (C. F. N.).
Sanicula arctopoides H. & A. Victoria, V.I. (G. V. C.).
Sanicula septentrionalis Greene. Millstream, V.I. (G. V. C.).

CORNACEÆ (DOGWOOD FAMILY).

Cornus pubescens (Nutt.) Standl. Cobble Hill, V.I. (G. V. C.).

ERICACEÆ (HEATH FAMILY).

Kalmia polifolia Wang. Royal Oak, V.I. (C. F. N.); Lake Hill, V.I. (G. A. H.).
Ledum grœnlandicum Oeder. Royal Oak, V.I. (C. F. N.).
Ledum glandulosum Nutt. Clearwater Lake (W. B. A.).
Pleuricospora fimbriolata Gray. Horne Lake, V.I. (W. R. C.).

This rare species was collected by W. R. Carter at Horne Lake, V.I., in 1916, and a specimen presented to Dr. C. F. Newcombe, who has since deposited it in this Herbarium.

Pterospora andromedea Nutt. Goldstream, V.I. (A. Nicholls).
Pyrola aphylla Smith. Goldstream, V.I. (A. Nicholls).
Vaccinium cæspitosum Michx. Royal Oak, V.I. (C. F. N.).
Vaccinium ovatum Pursh. Ucluelet, V.I. (W. B. A.); Waugh Creek, V.I. (A. Nicholls).

This is an extension of range from the West.

Vaccinium Oxycoccus var. *intermedium* Gray. Royal Oak, V.I. (C. F. N.); Goldstream, V.I. (W. B. A.).
Vaccinium parvifolium Smith. Mount Newton, V.I. (C. F. N.).
Vaccinium Vitis-Idæa L. Ucluelet, V.I. (W. B. A.).

PRIMULACEÆ (PRIMROSE FAMILY).

**Anagallis arvensis* L. Rock Bay, Victoria, V.I. (L. Small).
**Dodecatheon Cusickii* Greene. Adams Lake (W. B. A.).
Dodecatheon pauciflorum (Durand) Greene. Katz Landing (W. B. A.).
**Dodecatheon viviparum* Greene. Ucluelet, V.I. (W. B. A.).

Dodecatheon puberulum (Nutt.) Piper. Lytton (W. B. A.).
Glaux maritima L. Ucluelet, V.I. (W. B. A.).
Trientalis arctica Fisch. Ucluelet, V.I. (W. B. A.); Lost Lake, V.I. (G. A. H.).
Steironema ciliatum (L.) Raf. Grand Forks (G. V. C.).

GENTIANACEÆ (GENTIAN FAMILY).

Menyanthes crista-galli Menzies. Ucluelet, V.I. (W. B. A.).

CONVOLVULACEÆ (MORNING-GLORY FAMILY).

Convolvulus Soldanella L. Clayoquot, V.I. (W. B. A.); Saanichton, V.I. (C. F. N.).

POLEMONIACEÆ (PHLOX FAMILY).

Collomia heterophylla Hook. Hope (W. B. A.).
Gilia aggregata (Pursh) Spreng. Keremeos (W. B. A.).
Phlox diffusa Hook. Lytton Mountains, altitude 6,000 feet (W. B. A.).
**Phlox rigida* Benth. Keremeos (W. B. A.); Penticton (G. V. C.).
Polemonium micranthum Benth. Lytton (W. B. A.).

HYDROPHYLLACEÆ (WATERLEAF FAMILY).

**Hydrophyllum albifrons* Heller. Lytton Mountains, altitude 7,000 feet (W. B. A.).
Hydrophyllum tenuipes Heller. Goldstream, V.I. (C. F. N.).
Hydrophyllum capitatum Dougl. Clearwater Lake (W. B. A.).
Phacelia sericea Gray. Lytton Mountains, altitude 7,000 feet (W. B. A.).

LABIATÆ (MINT FAMILY).

**Lycopus lucidus* Turcz. Paul Lake (J. A. M.).
Micromeria Douglasii Benth. Victoria, V.I. (C. F. N.).
Scutellaria galericulata L. Langford, V.I. (C. F. N.).
**Thymus Serpyllum* L. Qualicum, V.I. (W. V. R.).

An introduced plant from Europe. Probably introduced with grass-seed for the golf-course. First record for British Columbia.

SCROPHULARIACEÆ (FIGWORT FAMILY).

Castilleja cervina Greenman. Fort Steele (W. B. A.).
Castilleja pallida (L.) Spreng. Alberni, V.I. (W. B. A.).
Castilleja lutescens (Greenman) Rydb. Kamloops (G. V. C.).
**Euphrasia americana* Wettst. Qualicum, V.I. (W. V. R.).

Introduced from Eastern America. First record for Vancouver Island.

**Linaria spuria* (L.) Mill. Duncan, V.I. (W. B. A.).

An adventive plant from Europe. This appears to be the first record for British Columbia, certainly for Vancouver Island.

Mimulus Lewisii Pursh. Mount Baldy, altitude 7,000 feet (G. V. C.).
Orthocarpus bracteosus Benth. Victoria, V.I. (C. F. N.).
Pedicularis bracteosa Benth. Lytton Mountains, altitude 6,000 feet (W. B. A.).
Pentstemon diffusus Dougl. Cowichan River, V.I. (V. T.); Hope (W. B. A.).
Pentstemon pruinosus Dougl. Keremeos, (W. B. A.).
Pentstemon ovatus Dougl. Hope (W. B. A.).
Pentstemon Scouleri Dougl. Clearwater Lake (W. B. A.).
Rhinanthus Crista-galli L. East Saanich (C. F. N.).
Verbascum Blattaria L. Hope (W. B. A.).
Verbascum Thapsus L. North Thompson River (G. V. C.).

CAPRIFOLIACEÆ (HONEYSUCKLE FAMILY).

Lonicera hispidula Dougl. Brentwood, V.I. (C. F. N.).
Lonicera utahensis Wats. Clearwater Lake (W. B. A.).
Symphoricarpos mollis Nutt. Tod Inlet, V.I. (C. F. N.).
Viburnum pauciflorum Raf. Jordan River, V.I. (Rev. R. Connell).

VALERIANACEÆ (VALERIAN FAMILY).

**Valerianella Locusta* (L.) Betcke. Mount Tzouhalem, V.I. (Miss M. Crompton).

CUCURBITACEÆ (GOURD FAMILY).

Echinocystis oregana (T. & G.) Cogn. Patricia Bay, V.I. (P. deN. W.).

CAMPANULACEÆ (BLUEBELL FAMILY).

**Jasione montana* L. Qualicum, V.I. (W. V. R.).
An introduced plant, originally from Europe. First record for British Columbia.

COMPOSITÆ (COMPOSITE FAMILY).

Agoseris heterophylla (Nutt.) Greene. Mount Newton, V.I. (W. V. R.).
Agoseris grandiflora (Nutt.) Greene. Shawnigan, V.I. (C. F. N.).
**Antennaria aprica* Greene. Penticton (W. B. A.).
**Antennaria dimorpha* (Nutt.) T. & G. White Lake (G. V. C.).
**Antennaria luzuloides* T. & G. Fort Steele (W. B. A.).
**Antennaria stenophylla* Gray. Creston (W. B. A.).
Apargidium boreale (Bong.) T. & G. Ucluelet, V.I. (W. B. A.).
Arnica amplexicaulis Nutt. Stamp Falls, V.I. (W. B. A.).; Sooke River, V.I. (J. C. B.).
Arnica cordifolia Hook. Mount Finlayson, V.I. (C. F. N.).
Balsamorhiza deltoidea Nutt. Lost Lake, V.I. (C. F. N.; G. A. H.).
Bigelovia graveolens Nutt. West Bridge (G. V. C.).
Chænactis Douglasii H. & A. Princeton (W. B. A.).
**Coreopsis Atkinsoniana* Dougl. Osoyoos Lake (G. V. C.).
Erigeron aureus Greene. Mount Baldy, altitude 7,500 feet (G. V. C.).
Erigeron salsuginosus (Richards) Gray. North Thompson River (G. V. C.).
**Grindelia squarrosa* (Pursh) Duval. Lower Similkameen Valley (G. V. C.).
Helianthus annus L. Kamloops (W. B. A.).
Helenium autumnale L. Uplands, V.I. (C. F. N.).
Hieracium canadense Michx. Oak Bay, V.I. (G. A. H.).
Hieracium gracile Hook. Lytton Mountains, altitude 6,000 feet (W. B. A.).
Hieracium Scouleri Hook. Mount Baldy, altitude 7,000 feet (G. V. C.).
**Jaumea carnosa* (Less.) Gray. Saanichton Spit, V.I. (G. A. H.).

In the "Flora of Vancouver and Queen Charlotte Islands," 1921, published by this Department, *Jaumea carnosa* is included on the authority of "The Flora of the Northwest Coast," by Piper and Beattie, which gives as its range "Vancouver Island to California." In the course of correspondence with Professor Piper we received the following note: "I have never seen a specimen of *Jaumea carnosa* from north of Washington, although I had specimens from Whidbey Island and from Port Townsend; so it is not at all surprising that it should be found on the Canadian side of the boundary."

Dr. Malte, Chief Botanist, National Herbarium, Ottawa, intimated also that he has no record of its occurrence in Canada; this would therefore constitute a new new record for Canada.

Lactuca pulchella (Pursh.) DC. Grand Forks (G. V. C.).
Senecio exaltatus Nutt. Iron Mountain (G. V. C.).
Tanacetum huronense Nutt. Clayoquot, V.I. (W. B. A.).

Plants which are supplementary additions to the Provincial Museum Preliminary Check-list, "The Flora of Vancouver and Queen Charlotte Islands," 1921 (introduced plants being printed in italics in conformity with the printing of the Check-list) :—

Dryopteris oregana C. Chr., Sooke River, V.I., August 28th, 1924. Rev. R. Connell.
Ammophila arenaria (L.) Link. Clayoquot, V.I., September 20th, 1924. W. Dawley.
Althea hirsuta L. Metchosin, V.I., October 3rd, 1924. Rev. R. Connell.
Euphrasia americana Wettst. Qualicum, V.I., July 5th, 1924. Miss W. V. Redfern.
Thymus Serpyllum L. Qualicum, V.I., July 11th, 1924. Miss W. V. Redfern.
Linaria spuria (L.) Mill. Duncan, V.I., October 7th, 1924. W. B. Anderson.
Jasione montana L. Qualicum, V.I., July 7th, 1924. Miss W. V. Redfern.
Jaumea carnosa (Less.) Gray. Saanichton Spit, V.I., July 29th, 1924. G. A. Hardy.

ACCESSIONS.

The thanks of the Department are due to the donors of the following accessions received during the year 1924:—

MAMMALOGY.

Bat (*Vespertillio fusca*). Victoria, August 26th. S. E. Moyes.

ORNITHOLOGY.

Tufted Puffin (*Lunda cirrhata*). Finlayson Arm Flats, July 7th. Miss J. Ross.

Kingfisher (*Ceryle alcyon*). Victoria, July 23rd. B. S. Freeman.

Western Tanager (*Piranga ludoviciana*). Victoria, August 25th. W. Laing.

Sora Rail (*Porzana carolina*). Victoria, August 29th. A. P. Cummins.

Lutescent Warbler (*Helminthophila celata lutescens*). Victoria, September. E. A. Cooke.

White Pelican (*Pelicanus erythrorhynchos*). Mission Creek, October 26th. Provincial Police Department.

Western Golden-crowned Kinglet (*Regulus satrapa olivaceus*). Cowichan Station, November 28th. Mrs. Weeks.

Golden-crowned Sparrow (*Zonotrichia coronata*). Victoria, September 30th. E. A. Cooke.

Nest and 15 eggs of Hungarian Partridge (*Perdix perdix*). Gordon Head, May 31st. F. Kermode.

REPTILIA.

Garter-snake. Prospect Lake, August 9th. G. A. Hardy.

Alligator-lizard (*Gerrhonotus principis*). Salmon Arm, July. E. R. Buckell.

AMPHIBIA.

Salamander (*Plethodon intermedius*). MacKenzie Bay, August. W. H. A. Preece.

Toads (2) (*Bufo boreas boreas*). Waugh Creek, August 28th. W. H. A. Preece.

ICHTHYOLOGY.

Lamphrey. Cowichan Lake, June 10th. W. Palliser. (Adhering to ventral surface of Cut-throat Trout.)

Speckled Trout (*Salvelinus fontinalis*). Speckle Lake, September 2nd. D. E. Whittaker.

ENTOMOLOGY.

Coleoptera.

Rosalia funebris Mots. Westholme, October 11th. H. C. Coppock.

Ergates spiculatus Lec. Mill Bay, November 24th. J. E. Robinson.

Ergates spiculatus Lec. Saturna Island, August 6th. F. Copeland.

Prionus californicus Mots. Victoria, August 18th. C. B. Peterson.

Parapachyta spurca (Lec.). Victoria, July 2nd. E. A. Cooke. This handsome insect appears to be only taken at "light."

Polyphylla 10-*lineata* (Say.). Victoria, July 10th. E. A. Cooke.

A very interesting collection of insects, amounting to nearly 300 specimens, chiefly Coleoptera, has been presented by the Alice Siding school-children, Creston, B.C., December 13th, collected under the supervision of Mr. Charles Lallemand.

Lepidoptera.

Polyphemus Moth (*Telea polyphemus* Cram.). Victoria, July 2nd. A. Gray. Several moths of this species have been brought in for identification during the spring.

Eyed-hawk Moth (*Smerinthus cerisyi* Kirby). Victoria, July 2nd. E. A. Cooke. This moth also has attracted some attention judging by the number of inquiries concerning it.

Satin-moth (*Stilpnotis salicis* L.). Victoria, August 27th. Miss W. Redfern. This moth, one of the most destructive of tree pests, seems to be increasing in Victoria.

Mr. Dick Spurway, of Nelson, presented a number of moths on July 29th, while from time to time Mr. E. A. Cooke, of the Museum staff, has brought in specimens in addition to those already mentioned.

OTHER INSECTS.

Electric-light Bug (*Belostoma americana*). Victoria, May 9th. M. Hager. Several specimens of this magnificent insect have been sent in for identification during the spring, chiefly from the vicinity of Victoria.

Mossy Rose-gall (*Rhodites rosæ*). Colwood, August. P. deN. Walker.

MARINE ZOOLOGY, ANTHROPOLOGY, AND BOTANY.

(*See* special report.)

GEOLOGY.

Heteroceras conradi Morton. A cretaceous fossil from Ganges, Saltspring Island, August 12th. G. W. Dean.

MISCELLANEOUS.

Rock imbedded in young tree, with an 8-inch covering of solid wood over it. The log was 32 inches in diameter and the rock was 6 feet from the butt end. New Westminster, August 8th. E. W. Haskell.

PUBLICATIONS RECEIVED FROM OTHER INSTITUTIONS.

(Alphabetically arranged.)

Acadian Entomological Society, Nova Scotia	1
American Museum of Natural History, New York	4
Augustana College Library, Rock Island, Ill.	1
British Museum, London, England	1
Brooklyn Museum of Arts and Sciences, Brooklyn, N.Y.	1
California Academy of Sciences, San Francisco, Cal.	30
California University, Berkeley, Cal.	17
Cardiff Museum, Cardiff, Wales	1
Carnegie Museum, Pittsburgh, Pa.	1
Children's Museum, Boston, Mass.	1
Cincinnati Museum Association, Cincinnati, Ohio	1
City Art Museum, St. Louis, Mo.	3
Cleveland Museum, Cleveland, Ohio	1
Colorado Museum of Natural History, Denver, Colo.	1
Cornell University, Ithaca, N.Y.	20
Dominion Government Publications, Ottawa	15
Field Museum, Chicago, Ill.	23
Grand Rapids Public Library, Mich.	1
Gray Herbarium, Harvard University, Cambridge, Mass.	4
Illinois State Natural History Survey, Urbana, Ill.	12
Instituto General y Tecnico de Valencia, Valencia, Spain	2
Insular Experimental Station, Rio Piedras, San Juan, P.R.	24
John Crerar Library, Chicago, Ill.	1
Library of Congress, Washington, D.C.	1
Manchester Museum, Manchester, England	2
Manx Museum, Isle of Man	1
Museum of the American Indian (Heye Foundation), New York	1
Museum of Fine Arts, Boston, Mass.	2
Nebraska University, Lincoln, Neb.	2
New York Botanical Garden, N.Y.	1
New York State Museum, Albany, N.Y.	1
Carried forward	177

PUBLICATIONS RECEIVED FROM OTHER INSTITUTIONS—*Continued.*

Brought forward	177
Ohio Agricultural Experimental Station, Wooster, Ohio	5
Oklahoma University, Norman, Okla.	1
Peabody Museum, Yale University, New Haven, Conn.	7
Pennsylvania Museum and University	10
Province of British Columbia	2
Public Museum, Milwaukee, Wis.	1
Roger Williams Park Museum, Providence, R.I.	2
Royal Ontario Museum, Toronto, Ont.	1
Smithsonian Institution, Washington, D.C.	42
State College of Washington, Pullman, Wash.	1
Syracuse Museum of Fine Arts, Syracuse, N.Y.	2
United States Department of Agriculture, Washington, D.C.	9
University of Alberta	1
University of Washington, Seattle, Wash.	2
Wagner Free Institute of Science, Philadelphia, Pa.	1
Zoological Society of New York, N.Y.	2
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IN MEMORIAM.

Dr. Charles F. Newcombe, Victoria scientist, known in every centre of learning on the continent for his extensive work in various branches of natural science in British Columbia, died at his home, 138 Dallas Road, on Sunday, October 19th, 1924. His death followed an illness of two weeks and was hastened at the end by pneumonia.

Among his many interests, that of marine zoology early engaged his attention. He brought together one of the finest collections made of the Province; much of this material formed the basis of the marine faunal representatives now in the Museum.

As a botanist he was of outstanding prominence, his zeal and enthusiasm causing him to take every opportunity which would enable him to pursue the study of this subject and amass an unrivalled collection of plants representative of the Province. His knowledge and generosity to those interested were such as to have placed them under a lasting debt of gratitude. To the Museum his work remains as an inspiration to continue to maintain the high ideals he ever advocated and carried out.

His versatility and thoroughness in whatever he undertook is again exemplified by the splendid work he accomplished in the realms of palæontology, resulting in a large and invaluable collections of fossils of the Pacific Coast as a permanent and visible record of his researches.

Great as were his activities and accomplishments in other branches of natural history, his studies in relation to the aborigines of the Province will remain as an ineffaceable monument to his name. The same kindly qualities which elicited affection from his friends enabled him to gain the confidence and love of the Indians among whom he worked, and to thus obtain from them many priceless treasures relating to their life and customs which were otherwise difficult to obtain. A glance through the anthropological room will suffice, in order to realize the magnitude of the success he attained in this, his chosen speciality. As an anthropologist he ranked second to none, his advice and criticism being much sought and valued. In 1905 he arranged the Indian collection in the Northwest Hall of the Field Museum, Chicago, Ill., and was continually in touch with the leading anthropologists of the world.

Dr. Newcombe's name will be particularly associated with the Queen Charlotte Islands, as prior to his visits little was known concerning their natural history. The results of his labours take a prominent place in the collections of the Museum. He wrote the first "Guide Book to the Anthropological Collection" issued by the Department in 1909, and also "The First Circumnavigation of Vancouver Island" in 1914. In 1923 he edited "Menzies Journal of Vancouver's Voyage" and also a "Botanical and Ethnological Appendix" to same. Two of these valuable publications were issued by the Archives Department of the Provincial Service.

This brief account by no means exhausts the extent of his researches, merely indicating the more salient features of his work in the cause of science. Although 73 years of age, he retained the full use of his faculties to the very last. He was born in Newcastle-on-Tyne and his residence in Victoria extended over thirty-five years.

The funeral service was held in the B.C. Funeral Parlours on Wednesday, October 22nd. The remains were then forwarded to Vancouver for cremation and interred in the family plot at Ross Bay Cemetery on Saturday, October 25th, 1924.

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