

PROVINCE OF BRITISH COLUMBIA

REPORT

OF THE

PROVINCIAL MUSEUM

OF

NATURAL HISTORY

FOR THE YEAR 1940



PRINTED BY
AUTHORITY OF THE LEGISLATIVE ASSEMBLY.

VICTORIA, B.C.:
Printed by CHARLES F. BANFIELD, Printer to the King's Most Excellent Majesty.
1941.

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To His Honour E. W. HAMBER,

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 1940.

G. M. WEIR,

Provincial Secretary.

*Provincial Secretary's Office,
Victoria, B.C.*

PROVINCIAL MUSEUM OF NATURAL HISTORY,
VICTORIA, B.C., January 9th, 1941.

The Honourable Dr. G. M. Weir,
Provincial Secretary, Victoria, B.C.

SIR,—The undersigned respectfully submits herewith a report covering the activities of the Provincial Museum of Natural History for the year 1940.

I have the honour to be,

Sir

Your obedient servant,

G. CLIFFORD CARL,
Acting Director.

DEPARTMENT *of the* PROVINCIAL SECRETARY.

The Honourable Dr. G. M. WEIR, *Minister*.

P. WALKER, *Deputy Minister*.

PROVINCIAL MUSEUM OF NATURAL HISTORY.

Staff:

FRANCIS KERMODE, *Director* (to September 30th).

G. CLIFFORD CARL, Ph.D., *Acting Director* (from October 1st).

I. McTAGGART COWAN, Ph.D., *Assistant Director* (to August 31st).

MARGARET CRUMMY, B.A., *Stenographer*.

WINIFRED V. HARDY, *Botanist*.

LILLIAN C. SWEENEY, *Assistant Preparator*.

E. A. COOKE, *Laboratory Assistant and Attendant*.

J. ANDREW, *Attendant* (to August 31st).

H. H. PEGLER, *Attendant* (from September 1st).

PROVINCIAL MUSEUM OF NATURAL HISTORY.

OBJECTS.

- (a.) To collect and preserve natural history specimens of the Province.
- (b.) To collect and preserve anthropological material relating to the native tribes of the Province.
- (c.) To obtain information regarding natural history and anthropology of the Province and to make it available to the public.

ADMISSION.

The Provincial Museum is open to the public, free, week-days, 9 a.m. to 5 p.m.; and on Sunday afternoons, 1 p.m. to 5 p.m., from May 1st to October 31st.

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REPORT of the PROVINCIAL MUSEUM FOR THE YEAR 1940.

REPORT OF THE ACTING DIRECTOR.

During the past year the activities of the museum have been directed along the usual lines by collecting natural history and anthropological material, and by making it available to students and to the general public. Valuable additions have been made to the collections of the various departments and a few new exhibits have been arranged.

Of unusual interest is a specimen of the rare Tahltan Indian bear dog, obtained from Sergeant J. F. McNaught of the Provincial Police, through the kindness of Commissioner T. W. S. Parsons. This Indian dog is of particular interest, since only a few are known to exist and since museum specimens are exceedingly rare.

Another unusual acquisition is the skeleton of a Davidson's whale, which was captured by Mr. P. W. Martin and Mr. Allen Lyon, of Hardy Bay. Portions of the baleen and certain parts of the skeleton have already been received and stored at the museum, while the remainder is in the process of being cleaned.

INDIAN VILLAGE.

Perhaps the most outstanding activity of the museum in the past year was the participation in the erection of the model Indian village, "Thunderbird Park," on the west side of Douglas Street between Belleville and Elliot Streets. This venture has been made possible by a special grant through the Provincial Secretary, Dr. G. M. Weir, to cover costs of processing and erecting the Indian material and by the co-operation of the Victoria City Council in granting a lease of the area in question.

The totem-poles, house frontal poles, mortuary poles, and other carvings placed in this area were formerly stored in the Old Drill Hall on Menzies Street, where they had been for many years. Other poles, house boards, etc., have been recently acquired by purchase.

The following is a list of ethnological specimens being placed in the park:—

Haida.

- Two totem-poles.
- One mortuary pole.
- One memorial carving of whale.
- Two carved beam ends representing sea-lions.

Kwakiutl.

- Three house-poles; "Dsonoqua," wild woman of the woods and bear.
- One house-pole; Dsonoqua and standing man.
- One carved and painted board; "Sisiutl," the two-headed snake.
- One totem-pole.
- One ceremonial dish; carved killer whale, opening to form two large dishes.

Nootkan.

- Two welcome poles; human figures with outstretched arms.
- Six house-poles, supporting roof-timbers.
- House boards from Ahousat.

Salishan.

- One totem-pole; doorway at bottom, raven with long beak at top.
- One totem-pole; from Songhees Reserve.
- Two grave figures; representing a bear, one with a beaver on head.
- Hand-cut house boards; building from Discovery Island.

The labour involved in clearing and preparing the site and in erecting the Indian carvings has been undertaken by the Department of Public Works, under the supervision of Mr. H. Whittaker, Architect.

The carved log bearing the name of the park is the work of Mr. Joseph St. Pierre, of the Forest Branch, Department of Lands.

The assistance given by the various Departments in the work of carrying this project to completion has been much appreciated by the committee in charge, and this opportunity is taken to extend thanks on behalf of the museum to those persons who have assisted.

EXHIBITION AND PREPARATION.

During the fall months several new exhibits were arranged in the main hall. The first of these, installed in the series of small cases along the stairway, shows examples of the main groups making up the Animal Kingdom, arranged and labelled so as to emphasize the relationships existing between the various groups, commencing with the simple forms of life at the bottom and ending in complex forms.

A second exhibit consists of a case containing specimens of animal life which are likely to be met with during the current season. It is planned to change this exhibit monthly and to feature animals according to the season as a supplement to the seasonal plant exhibit which has proved so popular.

A third recent exhibit is a specimen of coyote which has been installed temporarily in a small case until a larger and more suitable container is obtained.

Still another display consists of living specimens of native frogs, toads, newts, and salamanders. This exhibit has been of interest to both adults and school children. It is planned to add to this collection when specimens are available, since it is desirable to supplement dead material with living examples whenever possible.

In addition to these exhibits, several casts and models have been completed by Mrs. L. C. Sweeney for future display. These include brown trout, male and female coho salmon, and several amphibians and reptiles.

During the year a number of skins and skeletons have been prepared for the study collections by Mr. E. A. Cooke. The storage-room in the attic has been completed and the collection of large skins and pelts has been installed.

CATALOGUING.

During the year the collection of amphibians and reptiles has been re-sorted and catalogued, each specimen being given a permanent, numbered label. This system makes it possible to refer to details of capture, etc., for each specimen with no possibility of confusion. At the present time the collection consists of 322 amphibians (frogs, toads, salamanders, etc.), and 136 reptiles (snakes, lizards, and turtles).

LIBRARY.

The library has continued to receive publications and periodicals as in other years and several new series have been commenced. The new quarters, recently made available in the attic of the museum building, have been completed and most of the publications have been moved to the new room. Bound volumes and other reference books are housed in the offices on the second floor.

We take this opportunity of acknowledging our indebtedness to the scientists from whom we received separates during the year.

PUBLICATIONS.

During the past few years the number of publications originating from the museum, in addition to the annual report, has increased considerably and the amount of money expended in these publications has increased in proportion. In addition, the supply of a few of the recent publications has been exhausted prematurely by the practice of distributing them without discriminating between those who desire them and those who do not. In view of these circumstances, it has been deemed advisable to make a small charge for these papers and pamphlets in the future to partially offset the cost of production and at the same time to reduce wastage by automatically restricting the distribution to interested parties only.

A list of the publications which are available to date will be found at the end of this report.

STAFF CHANGES.

The year 1940 has been an eventful one in the history of the Provincial Museum, particularly with regard to changes in staff. On September 1st, Dr. Ian McTaggart Cowan resigned from the position of Assistant Director to take over the duties of Assistant Professor in the Department of Zoology, University of British Columbia.

From the time of his appointment to the museum staff in July, 1935, until his departure Dr. Cowan made many friends and contributed a great deal to the work of the museum. During this period he worked over the mammal and bird collection, identifying and cataloguing each specimen for easy reference, and storing the unmounted material in a series of specially constructed moth-proof cases. Many new specimens were added to the collection by numerous field-trips, the more extensive being to Alta Lake region, Okanagan Valley and Ootsa Lake regions, Monashee mountains and Selkirks regions, and to the Peace River district. In addition to these trips within the Province, Dr. Cowan was able to make a study-trip in 1937 to several of the larger museums in Canada and the United States, through the generosity of the Canadian Museums Committee of the Carnegie Corporation. This tour enabled him to learn of the latest developments in museum educational programmes and in exhibition technique. In addition to the regular museum-work, Dr. Cowan found time to give numerous lectures to school classes and other groups and societies, and to carry on research problems in specialized fields, of which a few are indicated in the list of publications appearing elsewhere in this report.

Although his present position will enable Dr. Cowan to continue his studies of the natural history of the Province and to maintain an interest in the work of the Provincial Museum, his departure has left a gap that will not be easily filled.

A month after Dr. Cowan's resignation Mr. Francis Kermode, the Director, retired from active service after being connected with the museum for over fifty years.

Mr. Kermode joined the museum staff in 1890 and was made Curator in 1904 on the retirement of the late John Fannin. Under Mr. Kermode's directorship the museum has grown tremendously in size and scope, until at the present time the natural history collection is of great scientific value and the Indian collection is one of the most extensive on the continent. Mr. Kermode's knowledge of the ethnology of the Province has been of great value to the committee in charge of the erection of the Indian material at Thunderbird Park, and it is hoped that he will continue his interest in this venture and in the work of the museum in general.

On September 1st Mr. J. Andrew, who had faithfully filled the position of Museum Attendant since 1935, transferred to another department on account of ill-health. His place has been taken by Mr. H. H. Pegler, whose wide experience in various parts of the Province and his keen interest in fishes and other wild life enable him to be of great service in explaining the various exhibits to the visiting public.

On October 1st the writer joined the museum staff as Biologist and Assistant Director and later as Acting Director. He wishes to take this opportunity of expressing his pleasure at being associated with this institution and his hope that the many friends of the museum will continue to give their support.

VISITORS.

The following figures give the numbers of visitors registered and the number checked by the staff during the year 1940:—

	Registered.	Checked.
January	776	1,376
February	982	1,584
March	1,239	2,278
April	1,174	2,200
May	1,841	3,398
June	3,554	5,451
July	7,141	12,123
August	7,787	11,754
September	3,680	5,161
October	2,526	3,771
November	787	2,849
December	757	1,244
Totals	32,244	53,189

There has been a decided increase in the number of men in uniform visiting the museum, particularly on week-ends toward the latter part of the year. To accommodate these visitors who can not come on week-days it may be necessary to extend the period of the year during which the museum is open on Sundays. This may be made possible during the coming year.

REPORT OF THE ASSISTANT DIRECTOR.

This year saw the completion of the third floor of the museum with the fitting-up of a room to house the skins and skulls of large mammals. Subsequent to this completion the material in both these collections was installed in the new quarters. Further additions of modern storage-cabinets has somewhat relieved the acute congestion previously existing in the bird and mammal collections, but much remains to be accomplished in this regard.

During the year systematic study of the museum's collections proceeded satisfactorily. The special study of the mountain-sheep of North America in progress for several years was brought to completion and published. The study of the ecology of the Coast black-tail deer was continued, with special emphasis upon food plants, parasites, and diseases of this species. In this regard it is a pleasure to acknowledge the valuable assistance of Mr. P. W. Martin, of Victoria, and Game Warden R. S. Hayes, of Duncan. Study of the large collections of insular mammals was continued and a report upon insularity in the genus *Sorex* prepared for publication.

As opportunity permitted a reconnaissance of the parasites of the game and fur-bearing mammals of British Columbia was undertaken. During the year this produced some interesting and valuable results. The Assistant Director co-operated with the Game Commission and the Provincial Department of Agriculture by performing necropsies upon fur-bearing mammals and recommending methods of controlling the diseases involved.

In June the Assistant Director attended the annual meeting of the American Association for the Advancement of Science at Seattle, where he presented two papers.

The following technical papers have been published during the year by the Assistant Director:—

Two mammals new to the fauna of British Columbia. Murrelet 21, 1940, No. 1, p. 9.

Pentadactyly in a spotted sandpiper. Murrelet 21, 1940, No. 1, p. 6.

Winter occurrence of summer birds on Vancouver Island, British Columbia. Condor, Vol. XLII, No. 4, July–August, 1940, pp. 213–214.

Two apparently fatal grouse diseases. Journal of Wildlife Management, Vol. 4, No. 3, July, 1940, pp. 311–312.

Bird records from British Columbia. Murrelet 21, No. 3, pp. 69–70.

Distribution and variation in the native sheep of North America. American Midland Naturalist, Vol. 24, No. 3, November, 1940, pp. 505–580.

Five seasonal reports on bird conditions, published in Bird Lore.

FIELD-WORK.

Field-work was confined to Vancouver Island. On May 23rd to 25th a short trip was made to the alplands on Mount Arrowsmith, where special and successful effort was made to obtain specimens of *Ambystoma gracile*. Notes were made on the life-history of this species of salamander living under alpine conditions.

Throughout the summer considerable time was spent in the field on the ecological study of the Coast black-tail deer.

EXHIBITION AND PREPARATION.

In the early summer a case illustrating certain of the shallow-water invertebrates was installed. For this, specimens of several species of starfish, sea-urchins, and other marine forms were collected for the museum at Daphne Island, in Brentwood Bay. In this work the assistance of Mrs. T. G. Denny and Mrs. I. McT. Cowan is gratefully acknowledged. Mrs. L. C. Sweeney, preparator, co-operated in the preparation and installation of the material.

The display collection of decapod crustaceans was redesigned, installed in a new type case and provided with descriptive labels.

Mrs. L. C. Sweeney prepared several fish for the display collection—among them fine specimens of the sharp-nosed skate (*Raja rhina*) and the barn-door skate (*Raja binoculata*).

The display collection of reptiles was augmented by the addition of a rattlesnake received through the courtesy of Professor G. J. Spencer, of the University of British Columbia.

During the year Mr. E. A. Cooke continued the preparation of osteological material for the study collection.

EDUCATION.

The Assistant Director delivered twelve illustrated lectures to various groups within the Province and arranged a display of specimens of the ducks of British Columbia at the annual meeting of the Associated Fish and Game Associations held in Nanaimo.

Mr. F. Kermodé delivered two illustrated lectures to church groups.

REPORT OF THE BOTANIST.

The number of specimens listed in the botanical collections for the year totalled 1,359. Of these, 183 were collected by members of the staff and 1,176 were gifts. Old material identified and catalogued amounted to 186 specimens.

The number of sheets filed in the herbarium was 1,002, assistance in the mounting of specimens being rendered by Mrs. L. Sweeney.

Plants identified for students in various parts of the Province and for visitors to the museum totalled 730.

Dr. A. E. Porsild, of the National Herbarium, Ottawa, presented a large number of duplicates, representing districts throughout British Columbia as well as adjacent Provinces. Many of these specimens were new to the herbarium. Mr. J. W. Eastham donated specimens from Southern British Columbia and Vancouver Island; Mr. F. Kermodé and Mr. E. A. Cooke brought in material from Prince George district; Mr. N. C. Stewart sent in plants from north of Sifton Pass, an area from which very little material had been received; and Dr. I. McT. Cowan with specimens from Goldstream, Mr. A. P. McBean from Quatsino district, and Mr. D. C. Buckland from Cowichan added considerably to our Vancouver Island section of the herbarium.

Among old material recently worked over was a collection from St. Michaels, Alaska, taken by O. C. Hastings in 1901. Dr. Neville Jones identified this and some of the plants are listed as new to the herbarium.

Dr. J. F. Brenckle revised our *Polygonum* specimens, altering some of our determinations, and kindly presented us with species from South Dakota which also occur in British Columbia.

Mr. J. F. Davidson, specializing in *Astragalus*, borrowed our material and made several changes in identification which are noted later on in this report.

On August 30th, 1938, Mr. Bob Lang, of Chemainus, V.I., climbed Mount Arrowsmith and, near the summit, planted several Alpine species from the Olympics, Colorado Rockies, Cascades, Himalayas, and England. Upon request, Mr. Lang forwarded to the museum a list of the species thus introduced and we publish it for the guidance of botanists and collectors, in order that these introduced plants may not be confused with our native flora. See pages 13, 14.

Grateful acknowledgment is made to all contributors who co-operated in maintaining the seasonal wild-flower exhibit and donated specimens for the herbarium. We also wish to express our appreciation for the valuable assistance given by the following specialists in the identification of difficult botanical species and in exchanging specimens: Dr. H. L. Mason, Dr. L. Constance, and staff of the University of California Herbarium; Dr. A. E. Porsild, National Museum of Canada, Ottawa; Dr. Neville Jones, University of Illinois; Mr. J. W. Eastham, Vancouver, B.C.; Mr. J. F. Davidson, University of British Columbia; Dr. J. F. Brenckle, South Dakota; Dr. H. Groh, Ottawa; Mrs. H. MacKenzie and Mr. A. Nicholls, Victoria, B.C.

The following species from British Columbia not hitherto contained in the herbarium were added to it during the course of the year:—

Isoteles Braunii Durieu var. *maritima* (Underw.) Pfeiffer. Somass River, Alberni, V.I., July 1st, 1939; J. W. Eastham.

Potamogeton americanus C. & S. Mirror Lake, B.C., July 8th, 1940; J. W. Eastham.

Sagittaria cuneata Sheldon. Vanderhoof, B.C., August 16th, 1919; J. M. Macoun.

Alopecurus myosinoides Huds. Saanichton, V.I., June, 1939; W. R. Foster.

Bromus Pumpellianus Scribn. Vanderhoof, B.C., August 6th, 1919; J. M. Macoun.

Elymus hirsutus Presl. Lightning Peak Road, B.C., July 14th, 1940; J. W. Eastham.

- Festuca dertonensis* (All.) Asch. & Gresb. Oak Bay, V.I., May 9th, 1896; J. R. Anderson.
- Melica Smithii* (Porter) Vasey. Nelson, B.C., June 27th, 1940; J. W. Eastham.
- Panicum Scriberianum* Nash. Penticton, B.C., June 14th, 1940; J. W. Eastham.
- Poa glaucifolia* Schrib. & Hill. Tetana Lake, B.C., July 11th, 1938; T. Fletcher.
- Poa juncifolia* Scribn. Monte Creek, B.C., June 12th, 1940; J. W. Eastham.
- Sitanion hystrix* (Nutt.) J. G. Smith. Tranquille, B.C., July, 1937; E. W. Tisdale.
- Sphenopholis obtusata* (Michx.) Scribn. Kootenay Lake, B.C., June 22nd, 1940; J. W. Eastham.
- Stipa Williamsii* Scribn. Monte Creek, B.C., June 12th, 1940; J. W. Eastham.
- Carex brunnescens* (Pers.) Poir. Tetana Lake, B.C., June 30th, 1938; T. Fletcher.
- Carex cephalantha* (Bailey) Bickn. Kootenay Lake, B.C., June 22nd, 1940; J. W. Eastham.
- Carex circinata* C. A. Mey. West Vancouver, B.C., July 9th, 1938; J. W. Eastham.
- Carex pauciflora* Lightf. Tetana Lake, B.C., June 30th, 1938; T. Fletcher.
- Scirpus paucipitatus* L. Lightning Peak Road, B.C., July 14th, 1940; J. W. Eastham.
- Juncus nevadensis* S. Wats. Lake Erie, Salmo, B.C., July 10th, 1940; J. W. Eastham.
- Tofieldia palustris* Huds. Ten miles north of Sifton Pass, B.C., July 1st, 1940; N. C. Stewart.
- Xerophyllum tenax* Nutt. Nelson, B.C., June 30th, 1940; J. W. Eastham.
- Corallorhiza ochroleuca* Rydb. Mount Seymour, B.C., July 15th, 1940; Don Munday.
- Habenaria graminifolia* (Rydb.). Mohun Lake, V.I., June, 1940; J. Buckland.
- Salix argophylla* Nutt. Creston Flats, B.C., June 20th, 1940; J. W. Eastham.
- Salix subcoerulea* Piper. Tetana Lake, B.C., September 5th, 1938; T. Fletcher.
- Polygonum achoreum* Blake. Vernon, B.C., September 12th, 1920; G. V. Copley.
- Polygonum buxiforme* Small. Bare Island, B.C., 1916; W. B. Anderson.
- Sagina procumbens* L. Vancouver, B.C., April 28th, 1940; J. W. Eastham.
- Ranunculus lapponicus* L. Tetana Lake, B.C., June 30th, 1938; T. Fletcher.
- Cardaria Draba* (L.) Desv. var. *repens* (Schrenk) O. E. Schulz. Keremeos, B.C., May 7th, 1939; J. W. Eastham.
- Hymenophyllum pubescens* C. A. Meyer. Pouce Coupe, B.C., August, 1932; Sergeant Greenwood.
- Rorippa obtusa* (Nutt.) Britton. Kamloops, B.C., June 12th, 1940; J. W. Eastham.
- Sisymbrium glaucum* Nutt. Windermere, B.C., July 24th, 1939; J. W. Eastham.
- Sisymbrium Loeselii* L. Kamloops, B.C., June 12th, 1940; J. W. Eastham.
- Sisymbrium longipedicellatum* Fourn. Osoyoos, B.C., May 13th, 1940; J. W. Eastham.
- Sedum acre* L. Sechelt, B.C., July 22nd, 1937; J. W. Eastham.
- Potentilla Blaschkeana* Turcz. Kaslo-New Denver Road, B.C., July 12th, 1940; J. W. Eastham.
- Potentilla diversifolia* Lehm. Driftwood Mountains, B.C., August 31st, 1938; T. Fletcher.
- Spiraea Baeuverdiana* C. K. Schneid. White Pass, B.C., June 24th, 1936; E. & J. Lohbrunner.
- Astragalus aboriginorum* Richards. Windermere, B.C., June 15th, 1922; W. B. Anderson. (Identified by J. F. Davidson as the first specimen record for the Province.)
- Astragalus collinus* Dougl. Kamloops, B.C., June 12th, 1940; J. W. Eastham.
- Astragalus frigidus* var. *americanus* Wats. Nicola, B.C., July, 1928; T. H. Bond.
- Astragalus serotinus* Gray. Okanagan Lake, B.C., October 6th, 1894; J. R. Anderson. (Previously listed as *A. campestris* Gray., but, according to J. F. Davidson, there are no *A. campestris* in British Columbia.)
- Gaurea coccinea* Nutt. Windermere, B.C., July 4th, 1939; H. Murray.
- Primula cuneifolia* Ledeb. White Pass, B.C., June 24th, 1936; E. & J. Lohbrunner.
- Cassiope lycopodioides* Don. White Pass, B.C., June 25th, 1936; E. & J. Lohbrunner.
- Gentiana aleutica* Cham. & Schlecht. Lake Bennett, B.C., June 28th, 1936; E. & J. Lohbrunner.
- Gilia inconspicua* (Smith) Dougl. Osoyoos, B.C., May 11th, 1940; J. W. Eastham.
- Phlox speciosa* Pursh. Twin Lakes Valley, B.C., May 10th, 1940; J. W. Eastham.
- Pectocarya penicillata* A. DC. Osoyoos, B.C., May 11th, 1940; J. W. Eastham.
- Plagiobothrys scopulorum* (Greene) I. M. Johnstone. Nelson, B.C., July 6th, 1940; J. W. Eastham.

- Linaria dalmatica* (L.) Mill. Wynndel, B.C., June 22nd, 1940; J. W. Eastham.
Pedicularis contorta Benth. Nelson, B.C., July 7th, 1940; J. W. Eastham.
Galium bifolium Wats. Nelson, B.C., July 7th, 1940; J. W. Eastham.
Agoseris cuspidata Pursh. Penticton, B.C., May 7th, 1940; J. W. Eastham.
Antennaria ob lanceolata Rydb. Mount Apex, Penticton, B.C., July 14th, 1940; J. W. Eastham.
Centaurea diffusa Lam. Grand Forks, B.C., July, 1940; J. W. Eastham.
Centaurea divergens Vis. Grand Forks, B.C., July, 1940; J. W. Eastham.
Iva xanthiifolia Nutt. Monte Creek, B.C., August, 1939; Miss J. Bostock.
Senecio discoideus (Hook.) Britt. Tetana Lake, B.C., July 16th, 1938; T. Fletcher.
Senecio petrocallis Greene. Mount Brent, Penticton, B.C., July 16th, 1939; J. W. Eastham.
Senecio pseudoureus Rydb. Crawford Bay, Kootenay Lake, B.C., June 25th, 1940; J. W. Eastham.

The following specimens from areas adjacent to British Columbia have been added to the herbarium:—

- Juniper horizontalis* Moench. Lac la Barge, Yukon, June 30th, 1936; E. & J. Lohbrunner.
Iris setosa Pall. var. *platyrhyncha* Hulton. St. Michaels, Alaska, September, 1901; O. C. Hastings.
Salix candida Gluegge. Jasper Park, Alberta, July 4th, 1919; J. M. Macoun.
Salix melanopsis Nutt. Jasper Park, Alberta, July 17th, 1919; J. M. Macoun.
Salix pulchra Cham. St. Michaels, Alaska, September, 1901; O. C. Hastings.
Salix Seemannii Rydb. St. Michaels, Alaska, September, 1901; O. C. Hastings.
Silene repens Patr. Dawson Dome, Yukon, July 7th, 1936; E. & J. Lohbrunner.
Montia lamprosperma Cham. Skagway, Alaska, August 4th, 1916; M. O. Malte.
Cardamine pratensis L. St. Michaels, Alaska, September, 1901; O. C. Hastings.
Saxifraga spicata Don. St. Michaels, Alaska, September, 1901; O. C. Hastings.
Lathyrus japonica Willd. St. Michaels, Alaska, September, 1901; O. C. Hastings.
Bupleurum americanum C. & R. White Horse, Yukon, July 3rd, 1936; E. & J. Lohbrunner.
Ligusticum Hulthenii Fern. St. Michaels, Alaska, September, 1901; O. C. Hastings.
Cornus unalaskensis Ledeb. St. Michaels, Alaska, September, 1901; O. C. Hastings.
Polemonium acutiflorum Willd. St. Michaels, Alaska, September, 1901; O. C. Hastings.
Pedicularis lanata Willd. St. Michaels, Alaska, September, 1901; O. C. Hastings.
Pedicularis sudetica Willd. St. Michaels, Alaska, September, 1901; O. C. Hastings.
Pedicularis verticillata L. St. Michaels, Alaska, September, 1901; O. C. Hastings.
Pentstemon Gormanii Greene. Lewes, Alaska, July 30th, 1936; E. & J. Lohbrunner.
Valeriana capitata Pall. St. Michaels, Alaska, September, 1901; O. C. Hastings.
Arnica attenuata Greene. Yukon River, July 2nd, 1936; E. & J. Lohbrunner.
Artemisia arctica Less. Between Circle and Fairbanks, Alaska, August 5th, 1936; E. & J. Lohbrunner.
Senecio Pseudo-Arnica Less. St. Michaels, Alaska, September, 1901; O. C. Hastings.
Tanacetum bipinnatum (L.) Schultz. Yukon River, below Dawson, July 11th, 1936; E. & J. Lohbrunner.

The following plants were introduced on Mount Arrowsmith, V.I., August 30th, 1938, by Mr. Bob Lang, of Chemainus, V.I., B.C.:—

From the Olympics—

- Spiræa Hendersonii*.
Phlox diffusa.
Campanula Piperi.
Douglasia lævigata.
Gentiana calycosa.

From the Colorado Rockies—

- Boykinia Jamesii*.

From the Cascades—

- Pentstemon rupicola*.

From the Himalayas—

- Gentiana* Cashmere (species unknown).

From England—

Gentiana ? (common bog).

The following native plants are supplementary additions to "The Flora of Vancouver and Queen Charlotte Islands," 1921:—

Isoetes Braunii Durieu var. *maritima* (Underw.) Pfeiffer. Somass River, Alberni, V.I., July 1st, 1939; J. W. Eastham.

Digitaria sanguinalis (L.) Scop. Chemainus, V.I., October 1st, 1938; J. W. Eastham.

Festuca dertonensis (All.) Asch. Gresh. Oak Bay, V.I., May 9th, 1896; J. R. Anderson.

Poa gracillima Vasey. Mount Arrowsmith, V.I., August 7th, 1901; J. R. Anderson.

Eriophorum angustifolium Roth. Strathcona Park, V.I., July, 1937; N. C. Stewart.

Androsace diffusa Small. Mount Arrowsmith, V.I., August 20th, 1938; Dr. W. Newton.

(First record for Vancouver Island. Presented by Mr. J. W. Eastham.)

ACCESSIONS TO THE MUSEUM.

On December 31st, 1940, the catalogued specimens of the museum numbered as follows: Anthropological, 5,051; botanical, 13,541; mammals, 4,760; birds, 8,869; reptiles, 136; amphibians, 322.

The following specimens have been added during 1940:—

BOTANICAL ACCESSIONS.

W. B. Anderson, Victoria, 1; G. C. Boyd, Lake Cowichan, 1; Dr. J. F. Brenckle, Mellette, South Dakota, 18; D. Buckland, Lake Cowichan, 21; G. C. Carl, Victoria, 2; E. A. Cooke, Victoria, 66; I. McTaggart Cowan, Victoria, 47; J. W. Eastham, Vancouver, 496; A. M. D. Fairbairn, Victoria, 1; Miss Ann Galloway, Hedley, 1; Mrs. G. A. Hardy, Victoria, 8; G. A. Hardy, Victoria, 1; F. Kermodé, Victoria, 60; R. C. W. Lett, Gordon Head, 1; A. P. MacBean, 24; D. Munday, North Vancouver, 1; A. E. Porsild, National Museum of Canada, Ottawa, 479; K. Racey, Vancouver, 6; E. C. Reid, Saanichton, 3; Miss Joan E. Smith, Victoria, 1; N. C. Stewart, Victoria, 103; Mr. Tester, Victoria, 1; H. L. Mason, University of California Herbarium, Berkeley, 4; F. W. Gould, University of California Herbarium, Berkeley, 10; P. Walker, Victoria, 1; Charles Wilson, Victoria, 2.

ANTHROPOLOGICAL ACCESSIONS.

Salishan (Vancouver Island).

W. J. MacAllan, Victoria. Two stone hammers unearthed by Major Rycroft.

John Richardson, Victoria. One flint arrow-head.

A. A. Sherman, Cowichan Bay. Portion of fish-spear, section of fish-weir.

H. E. Thornett, East Sooke. Three arrow-points, 1 chisel.

H. W. Walker, Sidney. One stone sinker.

By purchase—

Chief Edward Jim, North Saanich Reserve. Painted Indian house board.

Mrs. Alice James, Victoria. One totem-pole, 1 eagle figure.

Ned Williams, Discovery Island. One Indian house.

Salishan (Interior).

Constable H. Elgie, with assistance of Department of Public Works, Lytton, B.C., and through Commissioner T. W. S. Parsons, British Columbia Provincial Police, 164 specimens from burial ground.

P. Walker, Victoria. Large stone mixing-bowl from Tranquille.

R. I. McPhee, Lillooet. Six specimens of materials used by Indians as food and medicine.

Athapascan.

W. J. MacAllan, Victoria. One horn spoon.

Kootenaiian.

L. G. Y. Toms, East Kootenay. One papoose-carrier.

Haida.

H. Nation, Victoria. Two halibut-hooks.

Amphibians and Reptiles.

By gift	52
G. C. Boyd, Lake Cowichan. One Pacific Coast newt, 1 red salamander, 2 clouded salamanders.	
G. C. Carl, Victoria. One salamander.	
A. Peake, Quatsino. Two salamanders.	
J. R. Slater, Tacoma, Washington. Four Cascade frogs.	
Mrs. T. L. Thacker, Hope. One rubber boa.	
G. A. Whatmough, Toronto. Eight salamanders, 18 toads, 6 specimens of snakes, 2 specimens of turtles, 6 cricket frogs.	
By the staff—	
I. McTaggart Cowan	52

Fish.

By gift	6
Harold Clark, Victoria. One shark skull.	
Captain Joe Collins, Sooke. Two skates.	
Roger Monteith, Victoria. One brown trout.	
F. C. Rumsby, Sooke. One pipe fish.	
R. Warren, Victoria. One sculpin.	

Invertebrates.

By gift	17
Mrs. M. S. Bannister, Victoria. One fresh-water mussel-shell.	
Mr. A. J. R. Buller, Victoria. One octopus.	
Dr. W. A. Clemens, Vancouver. Specimens of round worm.	
E. A. Cooke, Victoria. Specimens of barnacle, jelly-fish, king crab.	
I. E. Cornwall, Victoria. Collection of local and British barnacles; collection of named marine shells.	
P. W. Martin, Victoria. Specimens of floating goose-neck barnacle.	
F. C. Rumsby, Sooke. One turtle crab.	
Mrs. T. L. Thacker, Hope. One striped slug.	
Norman Hutchings, Victoria. One spider.	
H. B. Leech, Vernon. Two specimens of leech, taken by A. A. Denny.	
Mrs. M. Mitchell, Lake Cowichan. One spider.	
Mrs. T. E. Pattison, Dewdney. One yellow camel cricket.	
Jimmie Reilly and Wilfred Jasper, Victoria. One spider.	

PALÆONTOLOGY.

By gift	1
I. E. Cornwall, Victoria. Fossil bones and plants.	

PUBLICATIONS OF THE PROVINCIAL MUSEUM.

The following is a list of the publications which have been issued by the museum or by members of the staff. Copies may be obtained by application to the office of the Provincial Museum, Victoria. Publications which are out of print and no longer available are marked with an asterisk (*).

Reports of the Provincial Museum for the years 1915 to 1940, inclusive, except for the year 1916. Paper covers, 15 cents; bound (when available), 50 cents.

*Check list of British Columbia birds. J. Fannin. Pp. 1-49, 2 plates. Queen's Printer, Victoria, 1891.

*Preliminary list of the mammals of British Columbia. J. Fannin. Bulletin of Natural History Society of B.C., pp. 5-8, Victoria, 1893.

Preliminary check list of marine shells of British Columbia. C. F. Newcombe. Pp. 1-13. Queen's Printer, Victoria, 1893. 25 cents.

*A preliminary catalogue of the collections of natural history and ethnology in the Provincial Museum. J. Fannin. Pp. 1-196. Queen's Printer, Victoria, 1898.

- Catalogue of British Columbia birds. F. Kermode. Pp. 1-69. King's Printer, Victoria, 1904. 25 cents.
- Catalogue of British Columbia Lepidoptera. E. M. Anderson. Pp. 1-56. King's Printer, Victoria, 1904. 25 cents.
- *Guide to the anthropological collection in the Provincial Museum. C. F. Newcombe. Pp. 1-56, 26 plates. King's Printer, Victoria, 1909.
- *Visitors' guide to the natural history and ethnological collections in the Provincial Museum. Pp. 1-92, 34 plates. King's Printer, Victoria, 1909.
- *Report on birds collected and observed during April, May, and June, 1913, in the Okanagan Valley, from Okanagan Landing south to Osoyoos Lake. E. M. Anderson. Provincial Museum Report for 1913, pp. 7-16. King's Printer, Victoria, 1914.
- *Mammals collected in the Okanagan Valley, April, May, and June, 1913. E. M. Anderson. Provincial Museum Report for 1913, pp. 18-19. King's Printer, Victoria, 1914.
- *Report on Atlin expedition, 1914. [Birds, mammals, fishes, and insects.] E. M. Anderson. Provincial Museum Report for 1914, pp. 7-27. King's Printer, Victoria, 1915.
- *On the occurrence of *Benthodesmus atlanticus* (Goode & Bean) on the coast of British Columbia. [Fish.] Dr. C. H. Gilbert, Stanford University. Provincial Museum Report for 1916, pp. 19-20. King's Printer, Victoria, 1917.
- *Further notes on *Erilepsis*, the giant bass-like fish of the North Pacific. W. F. Thompson, Stanford University. Provincial Museum Report for 1916, pp. 20-22, 2 plates. King's Printer, Victoria, 1917.
- *Report on field work in Okanagan and Shuswap districts, 1916. [Birds and mammals.] J. A. Munro. Provincial Museum Report for 1916, pp. 12-18. King's Printer, Victoria, 1917.
- Some notes on the earlier known history of the Chiroptera [Bats], with a list of those species occurring in British Columbia. F. Kermode. Provincial Museum Report for 1920, pp. 14-16. King's Printer, Victoria, 1921. 15 cents.
- The life history and distribution of marmots. F. Kermode. Provincial Museum Report for 1920, pp. 16-19. King's Printer, Victoria, 1921. 15 cents.
- Notes on the Chinese starling (*Acridotheres cristatellus*). F. Kermode. Provincial Museum Report for 1920, pp. 20-21. King's Printer, Victoria, 1921. 15 cents.
- Preliminary catalogue of the flora of Vancouver and Queen Charlotte Islands. Pp. 1-87. King's Printer, Victoria, 1921. 25 cents.
- The Pterophoridae [Plume moths] of British Columbia. E. H. Blackmore. Provincial Museum Report for 1921, pp. 34-45, 2 plates. King's Printer, Victoria, 1922. 15 cents.
- Reports and notes on moths and butterflies of British Columbia; with many illustrations. E. H. Blackmore. Provincial Museum Reports for the years 1915 to 1923, inclusive. 15 cents each.
- British Columbia white bear (*Ursus kermodei*). F. Kermode. Provincial Museum Report for 1924, pp. 9-13, 1 plate. King's Printer, Victoria, 1925. 15 cents.
- Amphibia of British Columbia. G. A. Hardy, Provincial Museum Report for 1925, pp. 21-24. King's Printer, Victoria, 1926. 15 cents.
- Report on a collecting trip to Garibaldi Park, B.C. [Plants, insects, amphibians, birds, and mammals.] G. A. Hardy. Provincial Museum Report for 1926, pp. 15-26. King's Printer, Victoria, 1927. 15 cents.
- Buprestidæ [Wood-boring beetles] of Vancouver Island. G. A. Hardy. Provincial Museum Report for 1926, pp. 32-37, 2 plates. King's Printer, Victoria, 1927. 15 cents.
- The Odonata [Dragon-flies] of the Canadian Cordillera. E. M. Walker. Pp. 1-16. King's Printer, Victoria, 1927. 15 cents.
- Check list of the Macrolepidoptera [Butterflies and moths] of British Columbia. E. H. Blackmore. Pp. 1-47. King's Printer, Victoria, 1927. 15 cents.
- New plants from British Columbia. Harold St. John. Contribution from Botany Department of the State College of Washington, No. 10. Also Provincial Museum Report for 1927, pp. 14-15. King's Printer, Victoria, 1928. 15 cents.
- Vancouver Island Elateridæ [Click-beetles]. G. A. Hardy. Provincial Museum Report for 1927, pp. 16-17. King's Printer, Victoria, 1928. 15 cents.

- The sea-otter (*Enhydra lutris lutris* L.). W. A. Newcombe. Provincial Museum Report for 1928, pp. 12-14, 1 plate. King's Printer, Victoria, 1929. 15 cents.
- Thunder-bird and whale. W. A. Newcombe. Provincial Museum Report for 1929, pp. 10-11, 2 plates. King's Printer, Victoria, 1930. 15 cents.
- A study of the rhinoceros auklet and other birds in British Columbia, 1929. Rev. C. J. Young. Provincial Museum Report for 1929, pp. 16-19, 1 plate. King's Printer, Victoria, 1930. 15 cents.
- British Columbia totem poles. W. A. Newcombe. Provincial Museum Report for 1930, pp. 8-10, 9 plates. King's Printer, Victoria, 1931. 15 cents.
- Reduction of Olsynium [Botany]. Harold St. John. Provincial Museum Report for 1930, pp. 11-13, 2 plates. King's Printer, Victoria, 1931. 15 cents.
- A remarkable capture of leatherback turtle off Bajo reef, near Nootka Sound, west coast of Vancouver Island, British Columbia. F. Kermode. Provincial Museum Report for 1931, pp. 6-7, 1 plate. King's Printer, Victoria, 1932. 15 cents.
- A large Salish earthwork. An unrecorded petroglyph. W. A. Newcombe. Provincial Museum Report for 1931, pp. 7-8, 2 plates. King's Printer, Victoria, 1932. 15 cents.
- Fauna of the former Dominion Peace River Block, British Columbia. M. Y. Williams. Provincial Museum Report for 1932 pp. 14-24, 3 plates, list of insects by G. J. Spencer. King's Printer, Victoria, 1933. 15 cents.
- Notes on the flora of the Peace River. Roy Graham. Provincial Museum Report for 1933, pp. 13-20, 2 plates. King's Printer, Victoria, 1934. 15 cents.
- List of hepatics of Pacific coast and adjoining territory [Botany]. A. H. Brinkman. Provincial Museum Report for 1933, pp. 24-33. King's Printer, Victoria, 1934. 15 cents.
- The black widow spider (*Latrodectus mactans*). K. Raht. Provincial Museum Report for 1934, p. 13. King's Printer, Victoria, 1935. 15 cents.
- The hanging gardens of British Columbia. A. Nicholls. Provincial Museum Report for 1934, pp. 15-23, 3 plates. King's Printer, Victoria, 1935. 15 cents.
- Insect and plant associations in the Chilcotin. R. S. Sherman and Fred Perry. Provincial Museum Report for 1935, pp. 30-34, 2 plates. King's Printer, Victoria, 1936. 15 cents.
- *Nesting habits of the flying squirrel *Glaucomys sabrinus*. I. McT. Cowan. Journal of Mammalogy, Vol. 17, No. 1, pp. 58-60, 1936.
- Mammals of the Alta Lake region of south-western British Columbia. Kenneth Racey and I. McT. Cowan. Provincial Museum Report for 1935, pp. 15-29, 5 plates. King's Printer, Victoria, 1936. 15 cents.
- *Notes on some mammals in the British Columbia Provincial Museum, with a list of the type specimens of North America recent mammals in the Museum. I. McT. Cowan. Canadian Field Naturalist, Vol. 50, pp. 145-148, 1936.
- A new race of *Peromyscus maniculatus* from British Columbia. I. McT. Cowan. Proceedings Biological Society of Washington, Vol. 50, pp. 215-216, 1937. 5 cents.
- A review of the reptiles and amphibians of British Columbia. I. McT. Cowan. Provincial Museum Report for 1936, pp. 16-25. King's Printer, Victoria, 1937. 15 cents.
- Nesting colonies of the double-crested cormorant in British Columbia. J. A. Munro. Provincial Museum Report for 1936, pp. 26-30, 3 plates. King's Printer, Victoria, 1937. 15 cents.
- The distribution of the flying squirrels in western British Columbia, with a description of a new race. I. McT. Cowan. Proceedings Biological Society of Washington, Vol. 50, pp. 77-82, 1937. 15 cents.
- Additional breeding colonies of the herring gull in British Columbia. I. McT. Cowan. Murrelet, Vol. 18, No. 1-2, p. 28, 1937. 5 cents.
- The house finch at Victoria, British Columbia. I. McT. Cowan. Condor, Vol. 39, No. 5, p. 225, 1937. 5 cents.
- *What causes freak antlers? I. McT. Cowan. Angler and Hunter, Vol. 3, No. 1, pp. 7-8, January, 1938, Kamloops.
- Fur cycles and the fur trade 1827-1857. I. McT. Cowan. B.C. Historical Quarterly, Vol. 2, No. 1, pp. 19-30. Victoria, January, 1938.

- The stomach contents of sperm whales caught off the west coast of British Columbia. Lewis L. Robbins, Frances K. Oldham, and E. M. K. Geiling (Department of Pharmacy, University of Chicago). Provincial Museum Report for 1937, pp. 19-20, 1 plate. King's Printer, Victoria, 1938. 15 cents.
- Hepatics of the Pacific Coast and adjoining states. A. H. Brinkman. Provincial Museum Report for 1937, pp. 21-23. King's Printer, Victoria, 1938. 15 cents.
- Distribution of turtles in coastal British Columbia. I. McT. Cowan. *Copeia*, 1938, No. 2, p. 91. 5 cents.
- Some fish records from the coast of British Columbia. I. McT. Cowan. *Copeia*, 1938, No. 2, p. 97. 5 cents.
- *Mountain sheep of British Columbia. I. McT. Cowan. *Game Trails in British Columbia*, December, 1938, p. 8.
- *Geographic distribution of color phases of the red fox and black bear in the Pacific northwest. I. McT. Cowan. *Journal of Mammalogy*, Vol. 19, No. 2, pp. 202-206, 1938.
- *Notes on the hares of British Columbia, with the description of a new race. I. McT. Cowan, *Journal of Mammalogy*, Vol. 19, No. 2, pp. 240-243, 1938.
- Distribution of the races of the Williamson sapsucker in British Columbia. I. McT. Cowan. *Condor*, Vol. 40, pp. 128-129, 1938, 5 cents.
- *Mammals of the mountain tops. I. McT. Cowan. *Game Trails in British Columbia*, May, 1938, pp. 12-13, 25.
- The white-tailed ptarmigan of Vancouver Island. I. McT. Cowan. *Condor*, Vol. 41, No. 2, pp. 82-83, 1939. 5 cents.
- Nesting of the western grebe in British Columbia. J. A. Munro. Provincial Museum Report for 1938, pp. 16-17, 1 plate. King's Printer, Victoria, 1939. 15 cents.
- *The vertebrate fauna of the Peace River district of British Columbia. I. McT. Cowan. *Occasional Papers, British Columbia Provincial Museum*, No. 1, pp. 1-102, 8 figs., 2 maps. Victoria, 1939.
- Black phoebe in British Columbia. I. McT. Cowan. *Condor*, Vol. 41, p. 123, 1939. 5 cents.
- The sharp-headed finner whale of the eastern Pacific. I. McT. Cowan. *Journal of Mammalogy*, Vol. 20, No. 2, pp. 215-225, 3 plates, 3 figs., 1939. 15 cents.
- Pentadactyly in a spotted sandpiper. I. McT. Cowan. *Murrelet*, Vol. 21, p. 6, 1 fig., 1940. 5 cents.
- Two apparently fatal grouse diseases. I. McT. Cowan. *Journal of Wildlife Management*, Vol. 4, No. 3, pp. 311-312, 1 plate, 1940. 10 cents.
- Winter occurrence of summer birds on Vancouver Island, British Columbia. I. McT. Cowan. *Condor*, Vol. 42, No. 4, pp. 213-214, 1940. 5 cents.
- Two mammals new to the known fauna of British Columbia. I. McT. Cowan and J. Hatter. *Murrelet*, Vol. 21, p. 9, 1940. 5 cents.
- Bird records from British Columbia. I. McT. Cowan. *Murrelet*, Vol. 21, pp. 69-70, 1940. 5 cents.
- Oceanic fishes from the northeast Pacific Ocean. Wilbert McLeod Chapman. (Department of Fisheries, State of Washington.) *Occasional Papers, British Columbia Provincial Museum*, No. 2, pp. 1-44, Victoria, 1940. 50 cents.
- Distribution and variation in the native sheep of North America. I. McT. Cowan. *American Midland Naturalist*, Vol. 24, No. 3, pp. 505-580, 4 plates, 1 fig., 1940. 30 cents.

VICTORIA, B.C.:

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