

PROVINCE OF BRITISH COLUMBIA  
DEPARTMENT OF EDUCATION

•  
PROVINCIAL MUSEUM  
of NATURAL HISTORY  
and ANTHROPOLOGY  
•  
Report for the Year 1952



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REPORT FOR THE YEAR 1952



VICTORIA, B.C.

Printed by DON McDIARMID, Printer to the Queen's Most Excellent Majesty.

1953



*To His Honour* CLARENCE WALLACE, C.B.E.,  
*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 and Anthropology for the year 1952.

TILLY J. ROLSTON,  
*Minister of Education.*

*Office of the Minister of Education,*  
*Victoria, B.C.*

PROVINCIAL MUSEUM OF NATURAL HISTORY  
AND ANTHROPOLOGY,

VICTORIA, B.C., February 2nd, 1953.

*The Honourable Tilly J. Rolston,*  
*Minister of Education, Victoria, B.C.*

MADAM,—The undersigned respectfully submits herewith a report of the activities of the Provincial Museum of Natural History and Anthropology for the calendar year 1952.

I have the honour to be,

Madam,

Your obedient servant,

G. CLIFFORD CARL,

*Director.*

## DEPARTMENT OF EDUCATION

The Honourable TILLY J. ROLSTON, *Minister.*

F. T. FAIREY, B.A., LL.D., *Deputy Minister and Superintendent.*

## PROVINCIAL MUSEUM OF NATURAL HISTORY AND ANTHROPOLOGY

### *Staff:*

G. CLIFFORD CARL, Ph.D., *Director.*

GEORGE A. HARDY, *Botanist and Entomologist.*

CHARLES J. GUIGUET, M.A., *Biologist.*

WILSON DUFF, M.A., *Anthropologist.*

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

BETTY C. NEWTON, *Artist.*

SHEILA Y. DAVIES, *Clerk.*

E. J. MAXWELL, *Attendant.*

LOUISE QUAN, *Clerk* (from January 3rd to March 31st).

MARY ELEANORE WHEELDON, *Clerk* (from March 10th).

FRANK L. BEEBE, *Illustrator and Museum Assistant* (from May 9th).

J. MOFFAT, *Relief Attendant* (from October 23rd to December 22nd).



## **PROVINCIAL MUSEUM OF NATURAL HISTORY AND ANTHROPOLOGY**

### **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 to increase and diffuse knowledge regarding the same.

(Section 4, "Provincial Museum Act," chapter 231, R.S.B.C. 1936.)

### **ADMISSION**

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



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# REPORT OF THE PROVINCIAL MUSEUM

## FOR THE YEAR 1952

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### REPORT OF THE DIRECTOR

#### NEW EXHIBITS

No new exhibits were added to the public galleries in 1952, but several displays were reorganized and rearranged. In one portion of the bird section, for example, old labels which were very hard to read have been replaced by more legible labels, hand-lettered on a yellow background. The result has been so satisfactory that it is planned to replace all the labels in this section.

Certain cases containing small mammals have been rearranged by Mr. Guiguet. Duplicate specimens have been removed; those remaining have been cleaned and set up on a coloured background. In some instances it was possible to restore the more faded animals to their former colour by the careful application of dyes. This was particularly successful in the case of a wolverine, which was badly bleached by sunlight but otherwise in good condition.

A new-style display-case for small mammals is being prepared by Mr. Beebe to exhibit a group of mice in a beach habitat.

In the anthropological section a number of displays have been reorganized by Mr. Duff. Further rearrangements of Indian material await the possible installation of new lighting fixtures.

The wild-flower exhibit was maintained as usual, and a number of temporary exhibits of current interest were arranged during the year. Of special interest was a demonstration of Coast Indian weaving presented daily during the tourist season by Mrs. Mungo Martin, a native craft-worker of unusual ability.

#### SPECIAL EXHIBITIONS

Early in the tourist season an exhibition of the work of Frank L. Beebe, staff illustrator, was set up. Of special interest were examples of his early work, showing changes in his style and technique. Included were many field sketches of birds and mammals and also various types of illustrations which were prepared for publication in newspapers and popular books.

In mid-August the work of a local Chinese student-artist, George Lee, was displayed. These were mainly crayon reproductions of Indian masks and other carvings in the Museum's collection.

The major display for the season was the Eleventh Annual Exhibition of British Columbia Indian Arts and Crafts sponsored by the British Columbia Indian Arts and Welfare Society convened by B. T. Hill. Nearly 300 entries were submitted by schools and by individuals, taxing available space beyond the limit. Dr. F. T. Fairey, Deputy Minister of Education, officially opened the exhibition.

#### FIELD WORK

Two major field-trips were made during the year by Museum staff members—one by the Biologists to Langara Island (Queen Charlotte Islands) and one by the Anthropologist to the Hazelton and Prince Rupert area. The Langara Island field party consisted of G. C. Carl, C. J. Guiguet, and F. L. Beebe; transportation was generously provided by



the Federal Department of Fisheries through A. J. Whitmore, Chief Supervisor, who made it possible for the party to travel from Victoria direct to Henslung Bay on Langara Island on board the Fisheries Patrol Vessel "Howay" under command of Captain C. W. Earnshaw. Later we travelled from Langara Island to Masset on board the "Sooke Post" and from Masset to Prince Rupert again on the "Howay." From here we returned to Victoria independently, leaving field equipment, specimens, and other gear to be transported by the "Howay" at a later date.

While at Langara Island from May 12th until June 9th we made collections of birds, mammals, certain invertebrates and plants, and studied the large bird colonies both on Langara and on Cox Islands. Material was also gathered for a motion picture featuring the birds of the area.

Accommodation and many personal services were most generously provided by Mr. and Mrs. Mike Karasosky, who were in charge of the Prince Rupert Fishermen's Co-op. camp at Henslung Bay. Without these facilities it would not have been possible for us to accomplish our purpose in this remote area.

In Masset we enjoyed the hospitality of Ronald Stewart, who also acted as guide during our short stay.

Other field work of a biological nature included trips to Ucluelet and islands off Oak Bay, as reported herein by Mr. Guiguet, and to Flora Island and Forbidden Plateau, as recorded by Mr. Hardy.

The anthropological field work is reported in some detail by Mr. Duff.

#### PUBLICATIONS

During 1952 the following publications originated from the Museum:—

By Frank L. Beebe—

"Yellow-shafted Flicker and Pileated Woodpecker." *Victoria Naturalist*, Vol. 9, No. 4, pp. 40-41.

By G. Clifford Carl—

"What to Look for in March." *Victoria Naturalist*, Vol. 8, No. 9, pp. 97-98.

"Alien Animals on Vancouver Island." *Victoria Naturalist*, Vol. 9, No. 1, pp. 7-10.

"The Western Painted Turtle Gets Around." *Victoria Naturalist*, Vol. 9, No. 3, pp. 25-26.

"Simple Models as Teaching Aids. II—Development of the Frog." *British Columbia Schools, Elementary Edition*, Vol. 7, No. 3 (May, 1952), pp. 45-48.

"Simple Models as Teaching Aids. III—Morphology of Insects." *British Columbia Schools, Elementary Edition*, Vol. 8, No. 1, pp. 54-59.

"Triangle Island." *Pacific Discovery*, Vol. 5, No. 3, pp. 24-27.

By G. Clifford Carl, C. J. Guiguet, and George A. Hardy—

"A Natural History Survey of the Manning Park Area, British Columbia." *Occasional Papers of the Provincial Museum*, No. 9, pp. 1-130.

By Wilson Duff—

"Thunderbird Park." Brochure issued by the British Columbia Government Travel Bureau.

Review of "Petroglyphs of Central Washington," by H. T. Cain, in *B.C. Historical Quarterly*, July-October, 1951, Victoria, B.C.

Review of "The Wolf Ritual of the Northwest Coast," by Alice H. Ernst, in *American Anthropologist*, Vol. 54, No. 4, 1952, p. 568.

By J. W. Eastham—

"Botanizing along the Big Bend Highway, British Columbia." Report of the Provincial Museum for 1951, pp. 39-45.

By C. J. Guiguet—

- “The European Starling on Vancouver Island.” *Canadian Field-Naturalist*, Vol. 66, No. 1, p. 37.  
 “European Starling.” *Victoria Naturalist*, Vol. 9, No. 2, p. 22.  
 “Horned Lark and Eastern Kingbird.” *Victoria Naturalist*, Vol. 9, No. 1, p. 1.  
 “Another Record of the Crested Mynah on Vancouver Island.” *Victoria Naturalist*, Vol. 9, No. 5, pp. 52–53.  
 “The Catbird and Varied Thrush.” *Victoria Naturalist*, Vol. 9, No. 6, pp. 61–62.  
 “Status of Birds and Mammals of the Osoyoos Area in May, 1951.” Report of the Provincial Museum for 1951, pp. 25–38.

By George A. Hardy—

- “Eighth Annual Fungus Foray.” *Victoria Naturalist*, Vol. 8, No. 7, pp. 81–83.  
 “Afield with the Mushrooms.” *Victoria Naturalist*, Vol. 9, No. 4, pp. 37–39.  
 “Here Is the Painted Lady.” *Vancouver Sun*, October 11th, 1952.

Selected List of Books Pertaining to Botany of British Columbia, compiled by G. A. Hardy.

In addition to the above publications, C. J. Guiguet and Frank L. Beebe have contributed a series of illustrated articles on local birds and mammals as a regular feature in the *Victoria Colonist*, and G. C. Carl has contributed a series on natural history to the *Victoria Daily Times*.

During the year a second printing of Handbook No. 4, “Some Mushrooms and Other Fungi of British Columbia,” by George A. Hardy, was produced to take care of the steady demand which had exhausted the supply of this popular publication.

In press is a new publication, “The Upper Stalo Indians,” prepared by Wilson Duff; it will appear as Memoir No. 1, *Anthropology in British Columbia*.

A new publication, “British Columbia Heritage Series,” has been produced as a Social Studies bulletin of the Department of Education. The following have appeared, based on material provided by the Provincial Museum: Vol. 1, “Introduction to Our Native Peoples”; Vol. 2, “Coast Salish”; Vol. 3, “Interior Salish”; Vol. 4, “Haida”; Vol. 5, “Nootka.”

## MOTION PICTURES

Two silent films were completed in 1952—one on reptiles and one on birds of the Queen Charlotte Island area; these are designed for lecture use. Several hundred feet of film were obtained of insects and other small creatures for future use. Some motion-picture material in the field of anthropology was also obtained by Mr. Duff.

## EDUCATION

### MUSEUM LECTURES

The annual spring programme of motion pictures was presented to school-children of the Greater Victoria area, as shown in the following schedule:—

Date	Topic	Attendance
February 16th	“Water: The Magic Fluid”	560
February 23rd	“Fishes and Other Water Creatures”	731
March 1st	“Butterfly Botanists”	602
March 8th	“Flowers and Sea-shore Creatures”	588
March 15th	“Mysteries of Plant Life”	608
March 22nd	“Outdoor Adventure”	614
March 29th	“Nature’s Way”	388
April 5th	“Our Native People”	402

These programmes are made possible by the co-operation of many persons. We wish especially to thank the British Columbia Electric Railway Company for granting special travel privileges to school-children attending the film-shows, the Audio-Visual Education Branch of the Greater Victoria School Board for distribution of tickets to the schools, and the Public Relations Branch, British Columbia Forest Service, for the loan of a phonograph turn-table.

A similar but augmented series of films was presented each Sunday at 2.30 p.m. for the general public. More than 2,800 persons attended the eight presentations.

#### OTHER LECTURES

Other lectures and film-shows were given by the Director to the following groups during 1952: Margaret Jenkins-Bank Street Parent-Teacher Association, St. Michael's School (two lectures), Cadboro Bay Men's Club (two lectures), Monterey Parent-Teacher Association, Y.M.C.A. Supper Club, Visual Education Class (Greater Victoria School Board), Canadian Authors' Association (Victoria), Burnside Parent-Teacher Association, Association for Childhood Education, Chesalon Club (Salvation Army), Over-Seas League, Victoria Natural History Society, Lake Cowichan Fish and Game Club, Victoria Rotary Club, Victoria Electric Club, Biology Club (University of British Columbia, Vancouver), St. Mary's Men's Guild, Qualicum-Parksville Canadian Club, Ballard Church Group (from Seattle), Colwood Community Club, Jubilee Nurses' Alumnae, Y.M.C.A. So-Ed Club, Victoria White Cane Club, McKenzie Avenue School Parent-Teacher Association, Esquimalt Hi-Y, Victoria Normal School, Victoria Lions Club, Victoria Summer School, Oak Bay Kiwanis, Sidney Rotary Club, Willows Parent-Teacher Association, Oak Bay Gyro Club, S. J. Willis Parent-Teacher Association, Victoria Kiwanis Club, Brentwood School, St. Joseph's School of Nursing, Strawberryvale Parent-Teacher Association, Quadra Parent-Teacher Association, Mount Douglas Parent-Teacher Association, Y.M.C.A. Young Adult Club, Oaklands Parent-Teacher Association, View Royal Parent-Teacher Association, Nanaimo Rotary Club, Courtenay Fish and Game Club, Ladysmith Fish and Game Club, Revelstoke Canadian Club, Revelstoke High School, Kamloops Canadian Club, Vernon Canadian Club, C.P.R. Veterans' Association, Centennial United Church Men's Club, British Columbia Indian Arts and Welfare Society, and general public in the Museum (two lectures).

The Director also conducted a course on the "Natural History of British Columbia," given at the Victoria Summer School for teachers.

#### SCHOOL LOAN MATERIAL

A number of photographic copies of the dioramas prepared some years ago by the Museum to depict Indian life have been prepared by the Visual Education Division, and twelve of these have been coloured and assembled by Miss Newton. These eventually will be available for circulation among the schools.

Two of the portable displays on loan to the Greater Victoria School Board have been repaired, and an additional one has been made featuring the weasel and its food. The taxidermy is the work of Mr. Guignet, the background by Mr. Beebe.



ATTENDANCE

The number of visitors to the Museum during 1952 is summarized as follows:—

	Registered	Estimated
January .....	1,028	1,370
February .....	1,306	1,741
March .....	1,433	1,910
April .....	1,987	2,649
May .....	2,810	3,746
June .....	5,868	7,824
July .....	10,370	13,826
August .....	10,751	14,334
September .....	4,847	6,462
October .....	1,883	2,510
November .....	1,057	1,409
December .....	863	1,150
Totals .....	44,203	58,931

In addition to these visitors, there were 4,492 children who attended the Saturday morning film programmes, 21 school classes, 30 meetings of Junior Naturalist classes, 2,869 persons who attended the Sunday afternoon programmes in February, March, and April, and 120 students of the Roosevelt High School, Seattle, who visited the Museum on May 5th, making an estimated grand total of 67,778.

The attendance record for the month of July has been broken down by Mr. Maxwell as follows:—

Residence	Registration	Residence	Registration
British Columbia .....	1,814	Washington .....	1,621
Alberta .....	654	Oregon .....	920
Saskatchewan .....	376	California .....	2,127
Manitoba .....	273	Other States .....	1,833
Ontario .....	383	Alaska .....	11
Quebec .....	90	Great Britain .....	85
New Brunswick .....	13	Other countries .....	71
Nova Scotia .....	13		
Newfoundland .....	1	Total .....	6,668
Prince Edward Island .....	85		
Total .....	3,702	Grand total .....	10,370

The sum of \$474.54, collected by the Solarium donation-box during the year, was turned over to the Queen Alexandra Fund for Crippled Children.

BUILDING MAINTENANCE AND EQUIPMENT

Early in the year, handrails were installed in the stairway leading to the basement, and the washrooms and adjoining corridors were redecorated.

In June the Museum purchased a second vehicle, a Plymouth suburban, primarily to take care of transporting lecturing equipment and for local travel.

A tape-recorder was also purchased in 1952.

STAFF CHANGES

In May we were fortunate in obtaining the services of Frank L. Beebe, who joined the staff as illustrator and technical assistant. Mr. Beebe is well known as an out-

standing wildlife illustrator; examples of his work have appeared in many publications, including those of this Museum. This ability and his former experiences associated with museum field work make him a valuable addition to our staff.

For the first two months of the year Miss Louise Quan was engaged as a typist. Later Mrs. Eleanore Wheeldon joined as part-time typist then full-time.

R. Abbott was engaged during the summer as student assistant in the office and laboratory.

For a period of eight weeks commencing in October, John Moffat acted as attendant while Mr. Maxwell was on sick-leave.

## REPORT OF THE BOTANIST AND ENTOMOLOGIST

### I. BOTANY

#### ACTIVITIES

A total of 246 plants has been added to the classified series during the past year, though due to lack of room they have not all been shelved. Work on a back-log that has accumulated over the years has been made possible by a falling-off of current accessions, giving much needed time for such a purpose. In this connection approximately 531 have been catalogued and 511 mounted.

Mrs. S. Davies has accessioned, mounted, filed, and, where possible, shelved most of the past season's material. She has also attended to the fumigation and other matters pertaining to the care of the collection, as well as the correspondence and other routine matters. In addition, she has installed cork lining and otherwise prepared twenty-four insect drawers for the entomological interests that are part of the botanist's duties. It is roughly estimated that about 25 per cent of his time is concerned with such matters.

The exhibition of seasonal wild flowers has been maintained as in other years, and continues to be of interest to visitors to the Museum. This means an almost weekly turnover of about twenty-five plants. All these are of the common and conspicuous kinds—the very ones that attract the attention of the average public. Those wishing more detailed information have only to ask at the botanical office on the ground floor, a service which has been well utilized by both the public and other Government departments. These identifications concern a wide variety of objectives, economic, medicinal, æsthetic, scientific, and publication, in one form or another.

A compilation of the more readily accessible botanical books touching on the Province was made in answer to a growing demand for such information.

The Botanist has made frequent short field-trips to places on the Island, with a view to obtaining a fuller understanding of our floral and insect population; included was the Forbidden Plateau, where studies on the flora at the 2,000-foot elevation were continued from last season. Cameron Lake and Mount Arrowsmith, Sahtlam, Mount Prevost, Saanichton Spit, Cowichan Bay, Goldstream, and Sooke were also visited. A three-day trip to Hornby Island was taken in May at the invitation of Mr. Harrison Brown, who arranged a visit to near-by Flora Island. Thanks to the hospitality of Mr. and Mrs. Brown, a very profitable time was enjoyed, and the opportunity was taken to study and compare this islet with other sea-girt islands around the shores of Vancouver Island and to note the similarities and differences of each habitat.

Several specialists have requested the loan of material from the herbarium; these include Dr. T. M. C. Taylor, at the University of British Columbia, for ferns (125); Dr. John Thomas Howell, California Academy of Science, the genus *Circium* and *Onopordum* (38); W. H. Lewis, at the University of British Columbia, for the genus *Rosa*; and Dr. H. H. Bartlett, Botanical Gardens, University of Michigan, Ann Arbor, for the genus *Oenothera*.

A large collection of plants collected by G. V. Copley was handed to the Museum to check over and to retain any wanted material through the courtesy of W. C. Pendray, forest agrologist, Department of Lands and Forests, Victoria. As this material formed part of the original Copley collection which was used as a basis for additions to and extension of the range of the British Columbia flora, it is especially desirable for inclusion in the herbarium.

A collection of sixty-three plants from New Denver was donated by J. S. Rowe, forest engineer, now residing in Winnipeg. A small collection of plants from Langara and Cox Islands off the Queen Charlottes was made by members of the staff who visited that area early in the spring.

As in past years, the Botanist has been called upon to give talks and demonstrations to schools and other institutions; these included the Alpine Club, the Women's Institute, St. Michael's School, Victoria College, Sidney High School, and the Ninth Annual Fungus Foray of the Victoria Natural History Society. One lecture and two field-trips were made in connection with the Summer School for teachers.

#### MISCELLANEOUS NOTES

The following species are additions to the "Flora of Vancouver and Queen Charlotte Islands":—

*Burpurum rotundifolia* L. Recorded by W. T. Tildesley from a garden in Victoria, where it is presumed to have grown from imported bird-seed. It is a native of Europe, though established in Eastern Canada. Apparently it is not otherwise recorded from British Columbia.

*Ambrosia elatior* L. Alberni, September 2nd, 1952. Mrs. P. F. Ramsay, per R. Louis, Department of Horticulture. I understand this was growing in a garden. It has been recorded from Fernie by J. W. Eastham in 1947, but never, to my knowledge, west of that point in British Columbia. This is the hay-fever plant of evil repute.

*Linaria dalmatica* L. Butter and Eggs. Since the appearance of this plant, noted in the Report for 1951 as new to Vancouver Island, it has been seen elsewhere, in several places. I have noticed two separate colonies at Prospect Lake—one along the roadside between the Observatory and Prospect Lake Road. N. Putnam reports it also from the gravel-pit near Keating. It certainly seems to have come to stay.

A rough check made by Mrs. Davies on the number and kind of inquiries at the botanical office is summarized below. This does not include any that were directed here from the general office or mail inquiries.

The total number is 523, which include 234 botanical inquiries, 188 entomological, 32 fungi, and 69 miscellaneous. Fifteen concerned the black widow spider, 11 the eyed-hawk moth, 2 the California silk-moth, 10 large spiders, and 11 California prionus.

The above figures are only approximate, as it was impossible to keep check on everybody, as they often turned up in twos and threes at a time during the busy season in spring and summer.

#### II. ENTOMOLOGY

This has been quite a busy season for the Entomologist, who manages to squeeze in relevant matters between botanical interests which take up the major part of his time.

The work of the Entomologist may roughly be divided into two phases:—

- (1) Providing identifications and otherwise dispensing knowledge to casual inquirers who wish to know the name of some common "bug," which must be new to science "for I have never seen one like it," or who wish to know how to get rid of unwelcome insect guests in their homes:



- (2) The care, arrangement, and identification of our permanent collections, which takes up as much time as one is able to devote to it. In this connection a series of units, each consisting of twelve glass-topped drawers, is being installed, with a view to transferring some of our almost inaccessible series now in storage-boxes. Three such units have been acquired to date; one now contains a representative collection of the true bugs (Hemiptera) very neatly and correctly arranged by W. Downes, our authority on this order of insects.

The remaining space in this unit and part of another contain the series of long-horned and flat-headed wood-boring beetles (Cerambycidae and Buprestidae), originally gathered by the present Entomologist and forming the basis of published articles on our British Columbia Cerambycidae. The collection contains species especially of Vancouver Island, but with representatives from the rest of British Columbia and North America in general where there is some relation to those of this Province.

A start has now been made on arranging a representative collection of butterflies and moths of British Columbia in order to have ready access to rare or scarce species that at present are scattered throughout small collections bequeathed or donated over the years.

Thus, in course of time, it is hoped to bring together in these units all our insect collections where they may be inspected and studied at a moment's notice, and, incidentally, where they may be in a much better position for guarding against the inroads of "museum pests."

J. R. J. Lewellyn Jones has contributed a further donation of Lepidoptera from Vancouver Island. These, together with a previous instalment, noted in last year's Report, are beautifully prepared and in perfect condition; they will be the nucleus of the new arrangement as unit accommodation becomes available.

A small but valuable collection of insects (sixteen species) was donated by G. R. Larnder, of Errington, V.I. These have not yet been completely worked over, but indications are that some of these are of exceptional interest to entomologists.

A note on the correct name of a species of moth that has gone under the name of *Brephos fletcheri* in our collection for many years is published elsewhere in the Report.

The preparation of notes on the life-histories of two species of moths for publication has also taken up some of the entomologist's time, most of it in evenings and at week-ends.

Many short collecting trips on Vancouver Island have yielded interesting collections and information on the distribution and life-history of some of our butterflies and moths, the results of which will be recorded in due time. Localities visited are mentioned in the botanist's report. Botany and entomology are always combined on such trips.

## REPORT OF THE BIOLOGIST

The Museum Biologist took part in a five-week field-trip to the Queen Charlotte Islands, followed by a cursory examination of the zoologically unexplored region between Prince Rupert and Terrace.

Investigations initiated last year at Oak Bay with regard to speciation in coastal white-footed mice were continued this year. A short paper dealing with this activity is included with this Report.

When possible, one day per week was allocated to field work on Vancouver Island in order to keep a record of conditions and movements of local birds and mammals, and to collect specimens. The notes accruing from the data so gathered during the past three years have been indexed, bound, and added to the library of the Provincial Museum. A new three-year field journal is now under way.

An occasional paper dealing with the results of research done on the Goose Islands has been completed and is now in press. Several short papers were prepared and

published in various periodicals during the year, and a pamphlet series dealing with birds of this Province was initiated. We are currently dealing with the "Shore Birds of British Columbia" in this series. This work has appeared weekly as an illustrated article in one of the local papers. To date, thirty-two species have been treated, and upon completion the articles will be published in booklet form by the Provincial Museum. Other groups of birds will be treated in a similar manner from time to time.

Work on the handbook "Mammals of British Columbia" was intensified this year, and despite the many unavoidable interruptions the manuscript is now approaching completion.

The Biologist addressed numerous organizations and school groups during the year. In addition, two courses dealing with birds were given at the Museum in connection with the Victoria College extension programme. Twenty-six lectures were delivered over two twelve-week periods.

Routine curatorial activities dealing with nearly 16,000 scientific study-skins of birds and mammals, specimen preparation, cataloguing and indexing of material, specimen identification, and lecturing, research, writing, and the host of minor activities associated with museum work, combined with the field activities, completely utilized the Biologist's time during 1952.

We wish to acknowledge the continued voluntary co-operation of the many citizens of this Province who contribute annually to our biological knowledge, especially members of the Victoria branch of the Game Commission, Inspector Stevenson, Game Wardens Joseph Jones and R. Sinclair, and Don Kiers; Game Warden W. Webb and Constable D. Drapper, R.C.M.P., of the Albernis; Bruce Irving, George Hillier, Vince Madden, and Bill Hillier, of Carmanah Point and Ucluelet; Bert Robson, of Atnarko; Len Newbigging, of the Greater Victoria Water Board; Don Robinson, of the British Columbia Game Commission at Nanaimo; R. H. Mackay and David Munro, of the Dominion Wildlife Service; and the many others whom we may have failed to mention here.

## RESEARCH IN SPECIATION IN COASTAL WHITE-FOOTED MICE

(Report of Progress in 1952)

This research, begun in 1951, was carried on during 1952 (*see* British Columbia Provincial Museum Annual Report for 1951, pp. 18-19). Snap-trapping, live-trapping, and introductions were continued as follows.

### SNAP-TRAPPING RECORDS AT OAK BAY, VICTORIA, B.C.

The snap-trapping programme initiated to determine the presence or absence of mice on the islands in the Oak Bay area was completed, with no mice or sign thereof found on the Chatham-Discovery group.

Front Chatham Island: January 8th to January 21st, 644 trap nights.

Discovery Island: January 21st to February 20th, 816 trap nights.

In addition, three smaller islets lying between Chatham and Discovery were examined, and no sign whatsoever of mice was found. In view of the absence of these mammals on the larger surrounding islands, it was deemed unnecessary to snap-trap these islets, although they were included in the programme of introduction.

### INTRODUCTIONS OF MICE TO THE ISLANDS

In March, 1952, adult stock for introduction was easily taken by live-traps in the Hudson Bay Woods and at Mount Douglas Park near Victoria. These were segregated into pairs (male and female), and one pair was released on each of the following islets in late March: Strongtide, Front Chatham, Back Chatham, three intermediate islets, and upon Discovery Island.



To date, then, ten islands in the Oak Bay area have been stocked with one adult pair, or with a female and her litter. It remains now to be seen if these introductions will be successful, and, if so, what effect isolation, inbreeding, and time will have upon the characteristics of these mammals. One of the islands has yet to be selected for continued introductions, in order to determine the relative importance of ecological factors in effecting change—if change there should be.

#### LIVE-TRAPPING ACTIVITIES TO DETERMINE SUCCESS OF INTRODUCTIONS

Before the year ran out we were able to live-trap three of the islands, in order to determine if the introductions had been successful.

*Front Chatham Island.*—Forty live-traps were set on December 1st. Unfortunately, gales prevented us from returning the following morning, and, consequently, two mice, male and female, which had been taken, were dead in the traps. Most of the traps, which were set along the beach at the point of release, had been sprung by wind and tide upon our return on December 5th.

The male taken was the marked animal introduced to the island. The female (unmarked) appeared to be smaller than the introduced female, which, unfortunately, had escaped before we were able to punch her ear. The uterus of this animal bore no placental scars, and the pelage appears adult, but until further examination of the specimens is completed, we are unable to state whether or not this is the original female or one of her offspring. Continual live-trapping at a later date will settle the issue; at any rate, these mice had survived for the better part of a year, and it is highly probable that the species is established there.

*Back Chatham Island.*—On December 8th forty live-traps were set on this island at the point of release of the original pair, one only of which had been marked. This set was “blown out” by heavy gales the evening they were set. On December 10th this line of wet and sprung traps was removed from the island, and fifty-seven dry, freshly baited traps were set. Unfortunately, gales again prevented our return until December 12th, when six dead unmarked mice (three males and three females) were found in the traps. The line was immediately lifted and moved to Strongtide Island.

It is hoped that the results of this successful introduction have not been obliterated by the removal of six specimens. These mice were all taken near the point of release.

*Strongtide Island.*—On December 15th twelve traps were set on this island, at the point of release. The operator remained with the traps until two hours after dark, catching no mice. The traps were then sprung, so that no loss of stock would occur in event of being unable to return to the island the following morning. As the above procedure was carried out again on four occasions with no take, it is probable that the introduction on this island was not successful; investigation continues at the time of writing.

The remaining islands will be investigated during the coming year.

### REPORT OF THE ANTHROPOLOGIST

The major field-work project of the year was undertaken as part of the totem-pole restoration programme. Travelling in the Museum panel delivery and accompanied by George A. Cheney, graduate student in anthropology at the University of Washington, the Anthropologist visited the totem-pole villages of Hazelton, Kispiox, Kitsegukla, Kitwanga, and Kitwancool during the first half of July. A study was made of the remaining totem-poles in these villages, of their place in the present native culture, and of the problems involved in preserving them, *in situ* or elsewhere. All of the poles were photographed, and negotiations were begun to purchase two which could be brought to Victoria and copied. A visit was also made to the Prince Rupert area in order to contact



natives from the above villages who were working at canneries. A detailed report on this project was later prepared and sent to other interested authorities with the aim of promoting larger programmes of totem-pole restoration. An article was also prepared, for publication in "Anthropology in British Columbia, No. 3."

While in the Interior, the Anthropologist spent four days with the University of British Columbia archæological expedition directed by Dr. Charles E. Borden, which was excavating at Chinlac, an abandoned Carrier Indian village-site on Stuart River. This expedition later in the summer made extensive excavations in the area of Tweedsmuir Park, now being flooded by the reservoir of the Aluminum Company of Canada, bringing to a successful conclusion the efforts to salvage archæological remains mentioned in this Report last year. Colour movies were made of the archæology in progress. A visit was also made to the Kenney Dam, and movies of its construction were obtained. These will be used with the archæological films. Local collectors of Indian relics in Vanderhoof, Salmon Arm, and Lillooet were visited and their collections examined. Several anthropological specimens were obtained for the Museum collections. This major field-trip occupied the period June 13th to July 22nd.

Minor field-work projects were also undertaken during the year. Five native dances in the Duncan, Saanich, and Esquimalt areas were attended as part of a continuing study of Coast Salish spirit dancing. On the local reserves, movies were made of the preparation and working of cedar-bark, and considerable information on various topics was obtained.

Lectures and films on Indian subjects were given to the following groups: British Columbia Historical Association, British Columbia Indian Arts and Welfare Society, Victoria Gyro Club, University of British Columbia Anthropology 300 class, St. Andrew's Presbyterian Men's Club, Woodfibre Parent-Teacher Association, Woodfibre school-children, Victoria Girl Guides, Craigflower School Grades II to V, Bank Street School Grades II and III, and Knights of Columbus. Nineteen school classes (about 775 pupils) made supervised visits to the Museum to see the Indian exhibits, and were given lectures illustrated by material from the storage collections.

The preparation of publications consumed considerable time. The ethnography of the Fraser Valley (Upper Stalo) Indians was completed, and is to be published early in 1953 as the first memoir of the Anthropology in British Columbia series. The preparation of "Anthropology in British Columbia, No. 3," is nearing completion, and it, too, will be published soon. A detailed ethnological map of the Province was prepared, for eventual use with a handbook on the British Columbia tribes now in the early stages of preparation. A new booklet on Thunderbird Park was written, which was published by the Travel Bureau.

The presence in Victoria of Mungo Martin and his family provides an unparalleled opportunity for research in Kwakiutl culture. A programme of recording of Kwakiutl songs has been well started, and information on social organization, ceremonies, dances, and traditions is accumulating. During July and August Mrs. Mungo Martin spent part of each day in the Museum weaving a Chilkat blanket, providing a colourful and unusual attraction.

Close co-operation has been maintained with other institutions and field-workers. During the year two anthropologists on visits of several days' duration studied parts of the Museum collections. The human skeletal material in storage, comprising parts of almost 200 individuals, was sent on loan to the University of Washington for detailed measurement and study by a physical anthropologist. On May 2nd and 3rd the Anthropologist attended the annual convention of the Northwest Anthropological Association in Seattle and delivered a report on the work of this Museum.

The routine curatorial duties of correspondence, reception of visitors, accession and care of collections, etc., have made heavy demands on the Anthropologist's time. Display work has taken the form of rather extensive reorganization and improvement of



(Photo by B.C. Government Travel Bureau.)

Mungo Martin, main carver of the totem-pole restoration programme, finishes the surface of the house-post with a D-adze.



(Photo by B.C. Government Travel Bureau.)

Native totem-carvers at work. Mungo Martin (right) adzes a new house-post while his son David begins the shaping of another.



many of the existing Museum cases. Additional storage-space, now being made ready, will allow further improvement of the present exhibits. The photographic files and library have been steadily expanded.

Apart from the totem-pole restoration programme, the repainting of the exhibits in Thunderbird Park, begun the previous fall, was completed. New explanatory signs have been posted, and a new guide-book prepared and published.

### TOTEM-POLE RESTORATION PROGRAMME

The largest single project undertaken during the year was the launching and direction of the three-year totem-pole restoration programme in Thunderbird Park. The primary purpose of the programme is to replace the present badly decaying exhibits in the park with a permanent and more representative collection—in part new poles, in part exact replicas of old ones—so that the fine original carvings can be preserved indefinitely indoors. By employing native carvers and having its operations in the park itself, the programme accomplishes two important secondary aims: to preserve the art of totem-carving and to serve as a unique tourist and educational attraction.

The project was conceived in the knowledge that Mungo Martin, who is almost without doubt the finest totem-carver remaining, would be available as head carver. Mr. Martin, now 71, is a native of the Kwakiutl tribe of Fort Rupert. He has been carving totem-poles and other objects of native art for more than fifty years, and is an outstanding authority on all aspects of the native culture of his tribe.

During the spring and early summer a large workshop was constructed in Thunderbird Park. The generous contribution by British Columbia Forest Products Limited of the construction materials and the full co-operation given by the Parks Division, British Columbia Forest Service, and the Public Works Department resulted in the erection of a structure attractively in keeping with the park exhibits. A tremendous contribution to the project is being made by MacMillan & Bloedel Limited, who have agreed to donate and deliver to the park the cedar logs for the totem-poles.

In mid-May Mr. Martin and his family took up residence in Victoria, in a house made available by the Department of Public Works. Carving began immediately. Mungo Martin has worked steadily throughout the year. His son, David Martin, 35, already an accomplished carver, worked from mid-May to mid-July and returned to the work late in November. A granddaughter, Mildred Hunt, was employed as an apprentice from August 5th to mid-November. Attempts to find other suitable apprentice carvers have not been successful.

By the end of the year three exhibits had been completed, and a fourth was in progress. The first is a replica of a large Haida Thunderbird and Whale memorial figure (Museum No. 1393). The old Whale as it stood in the park was copied, and the Thunderbird was added, based on an old photograph of the figure taken in its original village of Tanu, Q.C.I. The second is a large and superbly carved original totem-pole by Mr. Martin to fill the vacancy in our collection of the recent Kwakiutl style of carving, and to stand as a memorial to the many branches of that tribe. The third is a replica of a very old Kwakiutl pole from Knight Inlet (Museum No. 1859). Here again, working from old photographs, it was possible to replace a section of the pole that had not been preserved when it was brought to Victoria, so that the replica is more complete than the original as it stood in the park. The fourth project, the construction of a complete Kwakiutl house, was begun, with the start of carving on the house-posts and beams, which in a sense are forms of totem-poles. It is planned to complete this house during the coming summer.

As a tourist and educational attraction, the project has proven of outstanding success. In two eight-hour days during the tourist season, for example, 2,375 persons watched the carvers at work. Nine hundred and sixty-two of them took pictures, including 196 with movie cameras.



## ACCESSIONS

During 1952 the following specimens were added to the catalogued collections (figures in parentheses indicate the total number on December 31st, 1952): Indian material, 142 (7,266); plants, 246 (22,941); mammals, 70 (5,789); birds, 114 (10,070); reptiles and amphibians, 3 (884); fishes, 3 (762).

## ANTHROPOLOGICAL ACCESSIONS

*The Alfred Carmichael Collection.*—(Gift.) A collection of Coast Indian material and trade goods which Mr. Carmichael, of Victoria, obtained from the Landsberg collection many years ago.

## HAIDA

- Argillite totem-pole. J. Genge, Victoria. (In Rithet Estate.)
- Wooden spoons, four. In Carmichael collection.
- Basketry place-mats, two. G. Smith, Victoria. (Purchase.)
- Model basket. G. Smith, Victoria. (Purchase.)
- Model hat. G. Smith, Victoria. (Purchase.)

## TSIMSHIAN

- Cedar box, painted. Arthur McDames, Kitsegukla. (Purchase.)
- Cedar boxes, two, painted. Mrs. M. J. Harris, Kitwanga. (Purchase.)
- Box drum. Mrs. M. J. Harris, Kitwanga. (Purchase.)
- Sets of gambling sticks, fourteen. Mrs. M. J. Harris. (Purchase.)
- Wooden whistles, six. Mrs. M. J. Harris, Kitwanga. (Purchase.)
- Wooden spoons, two. Mrs. M. J. Harris, Kitwanga. (Purchase.)
- Steel dagger. Mrs. M. J. Harris, Kitwanga. (Purchase.)
- Shaman's rattle. Mrs. Samuel Wesley, Kispiox. (Purchase.)
- Bone "soul catcher." Mrs. Samuel Wesley, Kispiox. (Purchase.)
- Bone sucking-tube. Mrs. Samuel Wesley, Kispiox. (Purchase.)
- Shaman's rattle. Mrs. Jacob Morrison, Kispiox. (Purchase.)
- Shaman's pigment-bag. Mrs. Jacob Morrison, Kispiox. (Purchase.)
- Moosehide dance apron. Mrs. Jacob Morrison, Kispiox. (Purchase.)
- Ceremonial head-dress. Jacob Morrison, Kispiox. (Purchase.)
- Carved rattle. Jacob Morrison, Kispiox. (Purchase.)
- Bearskin cape. Arthur Johnson, Kispiox. (Purchase.)
- Wolfskin cape. Arthur Johnson, Kispiox. (Purchase.)
- Circular drums, two. Arthur Johnson, Kispiox. (Purchase.)
- Elbow adze. Arthur Johnson, Kispiox. (Purchase.)
- Mask. Arthur Johnson, Kispiox. (Purchase.)
- Neck-rings, two. Arthur Johnson, Kispiox. (Purchase.)
- Shaman's rattle. Arthur Johnson, Kispiox. (Purchase.)
- Miscellaneous shaman's equipment. Arthur Johnson, Kispiox. (Purchase.)
- Rabbit-foot robe. P. Walker, Colquitz P.O.

## KWAKIUTL

- Human skeleton. R.C.M.P., Campbell River.
- Human skull. R. F. Campbell, Simoom Sound.
- Copper. In Carmichael collection.
- Hafted stone mauls, two. In Carmichael collection.

## NOOTKA

Woven place-mats, a pair. J. Genge, Victoria. (In Rithet Estate.)  
 Whale-vertebra stool. In Carmichael collection.  
 Cedar-bark baskets, four. In Carmichael collection.  
 Cedar-bark wallets, two. In Carmichael collection.  
 Cedar-bark carrying-strap. In Carmichael collection.  
 Basket. In Carmichael collection.  
 Model canoe. In Carmichael collection.  
 Wooden canoe-bailers, two. In Carmichael collection.  
 Model canoe-bailers, three. In Carmichael collection.  
 Bows, three. In Carmichael collection.  
 Arrow. In Carmichael collection.  
 Fish-hooks, two. In Carmichael collection.  
 Model whale-harpoon shaft. In Carmichael collection.  
 Wooden clubs, two. In Carmichael collection.  
 Wooden carvings, eleven. In Carmichael collection.  
 Parts of three skeletons. A. E. Green, Duncan.  
 Baskets, three. G. Smith, Victoria. (Purchase.)

## COAST SALISH

Skeletal remains. C. M. Brewster, Victoria.  
 Skull. Mrs. S. Tratch, Cordova Bay.  
 Skull. Norman Boden, Cordova Bay.  
 Chipped point. R. F. Ketcheson, Royal Oak.  
 Cowichan "new dancer's" costume. Mrs. Sophie Misheal, Victoria. (Purchase.)  
 Cowichan dancer's costume. Mrs. Sophie Misheal, Victoria. (Purchase.)  
 Stone hammer. Everett Kosar, Port Angeles, Wash.  
 Skull. Godfrey Stephens, Goldstream.  
 Stone-hammer fragment. H. Anderson, Victoria.  
 Chipped point. J. Holliday, Victoria.  
 Stone weight. J. A. Lonsberry, Esquimalt.  
 Stone hammers, two. F. H. Martin, Cultus Lake.  
 Skull. Randle Mathews, North Saanich.  
 Skulls, two. H. S. Hoffar, Sidney.  
 Stone anchor. J. R. S. Lough, Nanoose Bay.

## INTERIOR SALISH

Coiled basket. Mrs. A. H. Dawson, Victoria.  
 Skeletal remains. J. A. Millican, Grand Forks.  
 Nephrite celt. J. A. Millican, Grand Forks.  
 Digging-stick handle fragments, three. J. A. Millican, Grand Forks.  
 Bone-bracelet fragments. J. A. Millican, Grand Forks.  
 Stone pestle. J. A. Millican, Grand Forks.  
 Whetstone. J. A. Millican, Grand Forks.  
 Skulls, four. Percy A. Ruth, Salmon Arm.  
 Stone pestle, carved. Percy A. Ruth, Salmon Arm.  
 Copper, shell, glass ornaments. J. A. Charters, Castlegar.  
 Skeletal remains. R.C.M.P., Kamloops.  
 Nephrite celt. R.C.M.P., Kamloops.  
 Stone pestle. R.C.M.P., Kamloops.

## DÉNÉ

Skull. R.C.M.P., Alexis Creek.  
 Pair of snowshoes. In Carmichael collection.  
 Birch-bark basket. G. Smith, Victoria. (Purchase.)  
 Chipped knife. Arthur Bridge, Victoria.

## MISCELLANEOUS

Box (origin unknown). Max Lohbrunner, Victoria.  
 Celt (origin unknown). Max Lohbrunner, Victoria.  
 Celt (Ontario). T. Harradine, Hamilton, Ont.  
 Chipped points, thirty-eight (Ontario). T. Harradine, Hamilton, Ont.  
 Trade goods (gun flints, brass bracelets, jewellery). In Carmichael collection.

## ZOOLOGICAL ACCESSIONS

## MAMMALS

By gift—

J. Butler, Sooke, one cougar.  
 Mrs. Gordon Cox, Quatsino, four marten skulls.  
 P. Leavens, Cultus Lake, one weasel.  
 David Long, Victoria, one muskrat skeleton.  
 James Payton, Langford, one cougar.  
 T. L. Thacker, Hope, one little brown bat.  
 C. W. Walker, Vancouver, two mountain-goat heads.  
 Mrs. C. I. Wightman, Victoria, one muskrat.

By the staff..... 24

## BIRDS

By gift—

Mrs. H. M. S. Bell, Victoria, one junco, one house-finch, one house-sparrow,  
 one towhee.  
 Alan Best, Stanley Park, Vancouver, one king penguin.  
 British Columbia Game Department, one black pigeon-hawk, two whistling  
 swans.  
 D. Buttrey, Victoria, one murre.  
 C. Clarke, one albino pelagic cormorant.  
 A. Colquhoun, Duncan, collection of mounted birds and collection of birds'  
 eggs.  
 F. Crossley, Victoria, collection of birds' eggs.  
 Colonel Goode, Victoria, one lutescent warbler.  
 H. Hammer, Ocean Falls, collection of fifty bird-skins.

By the staff..... 49

## AMPHIBIANS AND REPTILES

By gift—

T. K. R. Bourns, Kamloops, one fœtal rubber boa.  
 E. Carlow, Victoria, one north-western toad.  
 W. M. Ferrier, Kamloops, two turtles.  
 Jimmie Frost and Jimmie Roach, Victoria, two lizards.  
 Don Hoshal, Victoria, two newts.  
 F. Goertz, Osoyoos, one leopard frog.  
 George Merrick, Victoria, two red-leg frogs, one tree frog.  
 Louis Placsko, Creston, one blue-tailed skink.



J. H. Sewell, Vanderhoof, one turtle.  
M. S. Starrett, Hope, two rubber boas.  
Mr. and Mrs. Gordon Sutcliffe, Waco, Texas, one horned lizard.  
Lorne Woodley, Victoria, one alligator lizard.

## FISH

By gift—

Lieutenant Attrell, one sheepshead fish, collected off San Diego, Calif.  
Frank Gray, Sooke, one giant skil-fish.  
G. H. Smith, Victoria, two sandfish.

## INVERTEBRATES

By gift—

Mrs. W. Dohn, Victoria, one orb-weaver spider.  
F. Goertz, Osoyoos, brine shrimp specimens.  
Mrs. Kelsey, Victoria, one specimen showing work of teredo.  
R. Palmer, Winter Harbour, two box crabs.  
Charlie Smith, Victoria, one June-bug.  
Derrek Webb, Lake Cowichan, one moon snail.  
Mrs. W. Whitford, Muir Creek, portion of starfish skeleton.  
Mr. Wightman, per Charles Ulch, Victoria, one barnacle.

## PALÆONTOLOGY

By gift—

F. E. Lansall, Victoria, six dinosaur models.  
Mr. Redfern, Victoria, collection of trilobites.

## NOTES ON SOME INSECTS FROM BRITISH COLUMBIA

BY GEORGE A. HARDY, PROVINCIAL MUSEUM, VICTORIA, B.C.

### I. THE STATUS OF *ANNAPHILA ARVALIS* HY. EDW. IN BRITISH COLUMBIA (LEPIDOPTERA, PHALÆNIDÆ)

For many years two specimens of the above have reposed in the cabinet of the Provincial Museum under the name of *Brephos fletcheri* Sm., bearing labels indicating that they were taken at Goldstream on March 22nd, 1903, but without the name of the collector.

Despite periodic pilgrimages to this entomological Mecca on Vancouver Island by at least two generations of lepidopterists, no further examples have been taken. Some doubt arose over the geographical position of the Goldstream of the label, as there is more than one other place of that name in British Columbia.

With the view of obtaining further information, I wrote to E. J. Hansens, Research Specialist in Entomology, at Rutgers University, New Jersey Agricultural Experimental Station, where the type of *fletcheri* is deposited.

In reply he informed me that there is one female type specimen collected by E. M. Anderson, March 23rd, 1902, with the locality written as Goldstream or Coldstream, the doubt referring to whether the word begins with a "C" or a "G."

Thus the situation has remained, and still remains as far as any additional material is concerned. However, the correct identity of the species does not seem to have ever been questioned until recently, when the writer, in the course of checking over the collection, decided to make doubly sure about this elusive species. Accordingly, a photograph of it was sent to Ottawa and examined by Dr. E. Munro, Systematic Entomology, Department of Agriculture, who expressed some doubt as to its being a *Brephos* at all, but rather an *Annaphila*. He sent the photograph to Dr. F. H. Rindge, American Museum, Department of Insects and Spiders, New York, who had just completed a monograph on the genus *Annaphila*. He at once confirmed Dr. Munro's suspicions and further identified it as *Annaphila arvalis* Hy. Edw., a not uncommon Californian species (Figs. 1 and 2).

To verify the identification, one of our two specimens was sent to Dr. Rindge for direct examination; he confirmed his previous determination and added that it was a very badly faded specimen of *arvalis*.

Dr. Rindge went to the trouble to examine the type of *Brephos fletcheri* which also proved to be *Annaphila arvalis*.

Thus our specimens must be removed from the Geometrid genus *Brephos* and placed in the Phalænid genus *Annaphila*.

*Brephos fletcheri* Sm., therefore, becomes a synonym of *Annaphila arvalis* Hy. Edw.

In his monograph on the genus *Annaphila*, Dr. Rindge cites localities for *A. arvalis* as Washington, Oregon, and California; he states that it is a day flier occurring very early in the year, from January to April, and that the food-plant is *Montia perfoliata*.

The correct identity of our two specimens, however, does not clear up the question of their origin, and until further examples are forthcoming from the Province, *Annaphila arvalis* must remain a doubtful record for British Columbia.

I am much indebted to the above-mentioned authorities who have so kindly helped to settle the status of this moth.

### II. SOME INTERESTING BRITISH COLUMBIA MOTHS

The genus *Annaphila* or midgets is represented by four species in British Columbia if we accept *A. arvalis*, which, as already stated elsewhere, needs to be substantiated by further examples before its status in British Columbia can be definitely ascertained.



(Photo by B.C. Government Travel Bureau.)

Some British Columbia moths.

Fig. 1. *Annaphila arvalis* Hy. Edw.

Fig. 2. *Annaphila arvalis* Hy. Edw., showing under-side.

Fig. 3. *Annaphila diva* Grt.

Fig. 4. *Annaphila decia* Grt.

Fig. 5. *Neoarctica brucei* Hy. Edw.

Fig. 6. *Oncocnemis chorda extremis* Smith.

Fig. 7. *Melipotis jucunda* Hbn.

Fig. 8. *Ulosyneda subtermina* Sm.



In a recent monograph on the genus by F. H. Rindge and C. I. Smith (A Revision of the Genus *Annaphila* Grote (Lepidoptera, Phalaenidæ), Bulletin of the American Museum of Natural History, 1952) twenty-one species and varieties are listed, mostly from California. All are small, very pretty, and diurnal in habit. Specimens from British Columbia are decidedly scarce or rare in collections possibly because they are abroad very early in the year (late winter and early spring). In any event, midgets cannot be classed as common.

In the plate accompanying these notes, Figs. 1 and 2 have already been dealt with.

*Annaphila diva* Grt. White-barred Midget. Fig. 3.

This appears to be the species most frequently met with in British Columbia, though it is by no means common. It flies in April and May, when I have taken it at Victoria, Goldstream, and Qualicum, V.I., near *Montia perfoliata*, its food-plant. Other records refer to places on Southern Vancouver Island and in the Lower Fraser Valley.

*Annaphila decia* Grt. Orange-winged Midget. Fig. 4.

This handsome little midget ranges from Southern British Columbia to California. In this Province it appears on the wing in April and May, a month or more later than in the southern part of its range.

In British Columbia it is recorded from Southern Vancouver Island east to Brilliant, Nelson, and Robson on the Mainland. The early stages and the food-plant appear to be unknown.

*Annaphila danistica* Grt. Black-banded Midget. (Not illustrated here.)

This midget is recorded only from the Kootenays and from Oliver and Rossland, with April and May the time of adult appearance. As with *A. decia*, nothing is known regarding its life-history and food-plant.

*Neoarcica brucei* Hy. Edw. Bruce's Tiger. Fig. 5.

This colourful moth frequents the high mountain regions. The specimen illustrated was taken at 7,000 feet on Mount Three Brothers in Manning Park, and, to my knowledge, it constitutes the third record for the Province; the other two are from Courtenay, V.I., and Mount Cheam on the Mainland. It was originally described by Henry Edwards from a specimen collected in Colorado.

*Oncocnemis chorda extremis* Smith. Marbled Beauty. Fig. 6.

The Marbled Beauty is another scarce alpine species, taken for the first time on Vancouver Island on Mount Albert Edward in 1943. Only two other British Columbian specimens are known to me—one from Lillooet and the other from Brilliant.

*Melipotis jucunda* Hbn. Puritan. Fig. 7.

This wide-ranging species is reported from the Atlantic to the Pacific coasts. In British Columbia it does not appear to be at all common in collections. It is recorded for Southern Vancouver Island, Southern Interior, and the Kootenays. A recent addition is from the Forbidden Plateau Lodge area (1952). The reported food-plant is *Salix* (Willow) species.

*Ulosyneda subtermina* Sm. Stranger. Fig. 8.

Only two localities of this presumably Garry Oak feeder in British Columbia are known to me, both on Vancouver Island—one Duncan, the other Victoria.

It should be comparatively common in the Garry Oak districts in and about Victoria, where it turns up every year at porch lights, usually in March and April. Despite this, the life-history of this species does not seem to have been worked out.

### III. A LONG-HORNED BEETLE (CERAMBYCIDÆ, COLEOPTERA), APPARENTLY NEW TO CANADA

A long-horned beetle in the Provincial Museum collection is labelled as follows: "*Dicentrus bidentatus* C. & K. Errington, Vancouver Island, B.C. August 10, 1950 'on woodpile,' G. H. Larnder." This individual was among a collection of Coleoptera donated to the Museum on November 28th, 1952, by G. H. Larnder, of Errington.

I am indebted to G. P. Holland, Chief of Systematic Entomology, Department of Agriculture, Ottawa, for instituting inquiries that resulted in the above identification by J. N. Knull, one of the original describers of the species.

This species was originally described by Champlain and Knull as *Paraopsimus bidentatus* (Entomological News, 26:205-206) from a female specimen labelled "Sub-alpine Region. A. L. Lovat, and probably from the State of Oregon."

R. Hopping (Canadian Entomologist for 1928, p. 7) referred this species to the genus *Dicentrus* and further stated that he had three specimens in his collection, all from California.

Thus, to my knowledge, only five specimens are known in collections.

The one other known species of the genus *Dicentrus* is *D. blutheri* LeC. It is recorded from Vancouver Island south to Northern California. In British Columbia I have records from Duncan, Wellington, Valdez Island, Pender Harbour, and Cultus Lake.

It has been taken flying about or at rest on newly cut Douglas fir (Hanham), cedar (Hopping), white pine (Howell), and hemlock (Hopping).

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VICTORIA, B.C.

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1953













