PROVINCE OF BRITISH COLUMBIA

REPORT

OF THE

PROVINCIAL MUSEUM

OF

NATURAL HISTORY

FOR THE YEAR 1923

PRINTED BY
AUTHORITY OF THE LEGISLATIVE ASSEMBLY.

VICTORIA, B.C.:
Printed by CHARLES F. BANFIELD, Printer to the King's Most Excellent Majesty.
1924.

To His Honour WALTER CAMERON NICHOL,

Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

The undersigned respectfully submits herewith the Annual Report of the Provincial Museum of Natural History for the year 1923.

J. D. MACLEAN,

Provincial Secretary.

Provincial Secretary's Office,

Victoria, B.C., February, 1924.

PROVINCIAL MUSEUM OF NATURAL HISTORY,
VICTORIA, B.C., February 14th, 1924.

The Honourable J. D. MacLean, M.D.,
Provincial Secretary, Victoria, B.C.

SIR,—I have the honour, as Director of the Provincial Museum of Natural History, to lay before you the Report for the year ended December 31st, 1923, covering the activities of the Museum.

I have the honour to be,
Sir,
Your obedient servant,

FRANCIS KERMODE,
Director.

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DEPARTMENT *of the* PROVINCIAL SECRETARY.

The Honourable J. D. MacLean, M.D., *Minister.*

J. L. White, *Deputy Minister.*

PROVINCIAL MUSEUM OF NATURAL HISTORY.

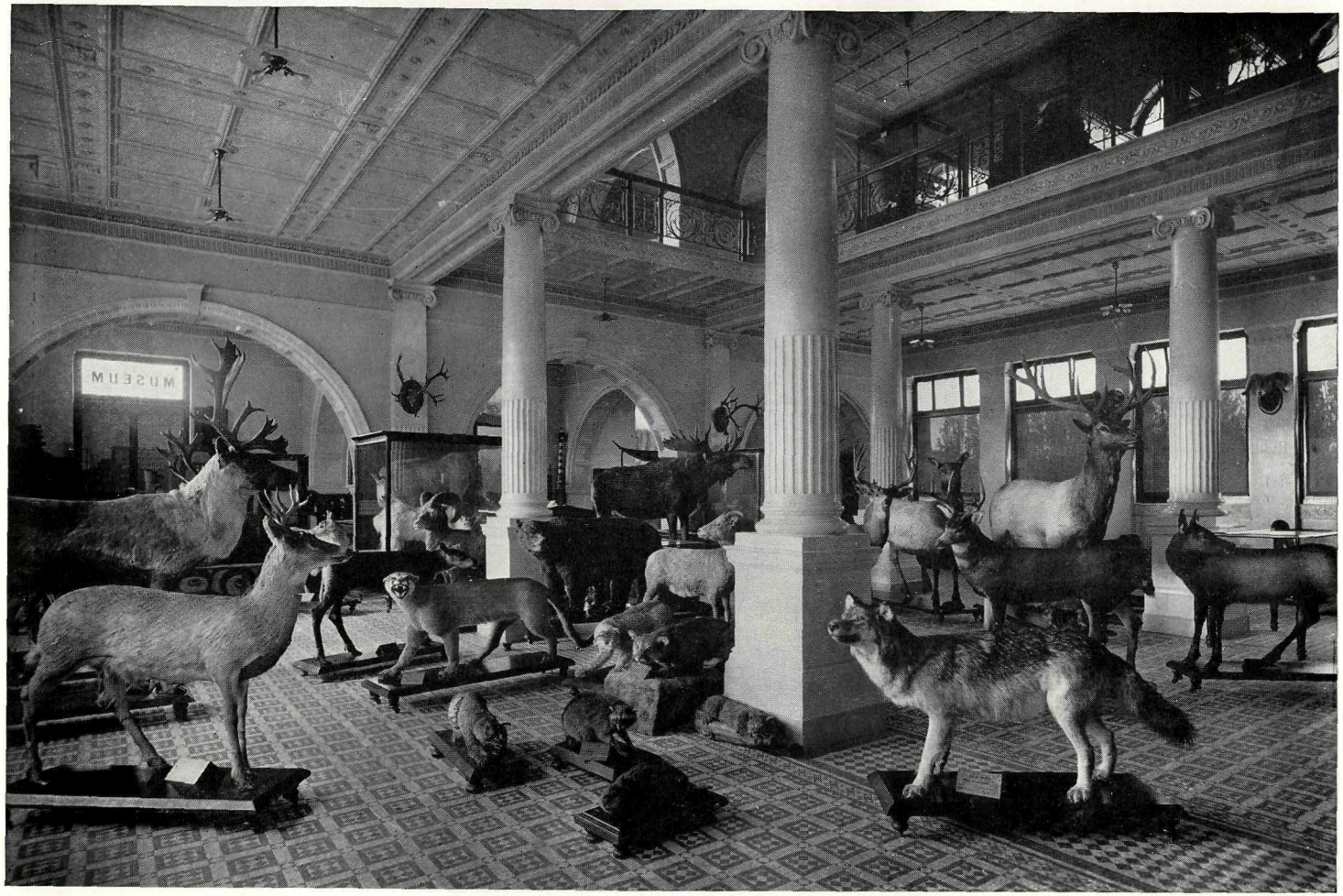
Staff:

Francis Kermode, *Director.*

Winifred V. Redfern, *Recorder.* William R. Carter, *Assistant Biologist.*

Ernest H. Blackmore, *Associate Curator of Entomology.*

Reginald W. Park, *Attendant.* Edward A. Cook, *Attendant.*



MAMMALS IN PROVINCIAL MUSEUM, VICTORIA, B. C.

REPORT *of the*

PROVINCIAL MUSEUM OF NATURAL HISTORY

FOR THE YEAR 1923.

By Francis Kermode, Director.

OBJECTS.

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

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

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

ADMISSION.

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

VISITORS.

The actual number of visitors whose names are recorded on the register of the Museum is 30,568, against 21,307 in last year's report. This does not by any means give the total number of visitors throughout the year, as not only have more visitors been noticed, but the attendance of school classes has greatly increased, while the classes from the Normal School have used the collections considerably in regard to making drawings in connection with their nature-studies. The following figures will give some idea of those who recorded their names during the months of: January, 1,400; February, 1,031; March, 2,460; April, 1,214; May, 1,960; June, 2,940; July, 5,751; August, 7,045; September, 2,896; October, 1,598; November, 981; December, 1,292.

ACTIVITIES.

During the month of March last, from the 19th to the 26th, a photographic exhibition of the wild life of Canada was forwarded from the Ottawa Field Naturalists' Club, Ottawa, to the Natural History Society of British Columbia. The President of the Society made application to the Director of the Provincial Museum to see if space could be provided for the exhibition of these photographs of nature-studies, as it was thought by the Society that the Provincial Museum of Natural History would be the most suitable place to have these pictures shown, as it was in keeping with the objects of the Museum. The Director took the matter up with the Honourable Provincial Secretary, Dr. J. D. MacLean, M.D., and permission was granted to hold this exhibition on the main floor of the Museum. Arrangements were made whereby specimens were crowded to one side so as to give ample room for visitors.

The exhibition was under the distinguished patronage of His Honour the Lieutenant-Governor and Mrs. Nichol, who spent a considerable time going over the many beautiful photographs of birds in their native haunts. They were conducted by Mr. W. N. Keily, the President of the Society, and the Director of the Museum. His Honour and Mrs. Nichol expressed their great appreciation of the pictures.

During the week that this exhibition was on view over 1,000 persons came to view it. The Natural History Society undertook the advertising of this display in the press and also in the city and municipal schools. The Department was kept busy arranging times whereby the pupils could be accommodated to visit the exhibition without overcrowding, which was arranged satisfactorily. This educational exhibition of wild life was first displayed in Victoria before being sent throughout Canada, and proved a great success. It is to be hoped that the Ottawa Field Naturalists' Club will be able in the near future to send a similar exhibit, as it was one of the best series of wild-life photographs ever exhibited in Canada.

The Director also arranged, with the consent of the Honourable Provincial Secretary, for an illustrated lecture on "Indian Art in relation to Canadian Trade-marks and Designs," to be given in the Museum for the Natural History Society of British Columbia by Mr. Harlam I. Smith, Archæologist, Victoria Memorial Museum, Ottawa. This lecture was given on the evening of September 27th, the main floor of the Museum being once more arranged to accommodate the members of the Society and their friends. The lecturer gave a highly intelligent talk on Indian archæology and illustrated on the screen many beautiful trade-marks and designs that had been copied from Indian designs. Over 100 persons were present and a unanimous vote of thanks was extended to Mr. Smith for his very instructive lecture, which was greatly appreciated by all present.

Many complimentary remarks and letters have been received by the Department with reference to the Annual Report and the excellent scientific work that is being carried on in this Province, and it is very gratifying to note that the work carried on by this Department with such a small staff is so greatly appreciated.

Towards the end of the year a room on the main floor which has been an office for some time has been converted into the Provincial Herbarium. New cabinets having been constructed, the specimens are now being installed. There are over 6,000 specimens representing the flora of the greater portion of British Columbia, which are now available for study and which will be of great interest to those who take up the study of botany in British Columbia. It is the object of the Department to have these specimens as easily available as possible, and on account of the number of teachers who bring their classes at different times through the year to visit the Museum, the Department will have many of the specimens, more particularly the common flora within the vicinity of Victoria, exhibited in glass-covered double frames, mounted on stands, and therefore easily viewed by the children in their study of the wild flowers of this district. There is also a duplicate collection, approximately one-half the number of specimens, which are kept for study and comparison, showing the variations due to altitude and climatic conditions. Further notes in regard to the botanical section will be found in the report by Mr. W. R. Carter, the Assistant Biologist of the Department.

The thanks of the Director are extended to C. V. Piper, E. W. Nelson, Dr. C. F. Newcombe, and numerous persons whose names are in accessions for their donations received.

Professor C. V. Piper, who is the Agrostologist of the Department of Agriculture, Washington, D.C., has given a good deal of advice and has spent considerable time in the examination and determination of many specimens for this Department. Professor Piper was in this city in September; he is a native son of Victoria and had not lived here for over forty years. The Director, accompanied by Dr. C. F. Newcombe, Mr. J. R. Anderson, and the President of the Natural History Society, Mr. W. N. Kelly, spent an afternoon in going around the suburbs of Victoria with Professor Piper, who wished to see many of the old places of his boyhood days, also to see as much as possible of the plant-life of this vicinity. He expressed the desire to return to Victoria at an early date, and kindly offered to help in identifying any specimens that were sent to him, and to do all he could to help the Herbarium of the Provincial Museum.

Mr. Edward Nelson, who is the Chief of the Biological Survey, U.S. Department of Agriculture, Washington, D.C., and his staff gave much gratuitous help in determining many species of small mammals which could not be done in this Department, as it is necessary to have a large series to work on and to have the types close at hand.

Among the interesting specimens donated was a portion of a mammoth tusk which was presented by Mr. B. H. Lamont, Victoria, B.C. This was picked up at low tide on Island View Beach, Saanich Peninsula, opposite James Island, near Victoria. This is a tusk of one of the prehistoric elephants which had roamed throughout the northern portions of North America before the glacial period, and it is in a fairly good state of preservation. Several molar teeth of this extinct large prehistoric mammal have been taken in the vicinity of Victoria, one having been taken on James Island, another at Cordova Bay, and, more recently, fragments of one in the sand-pit at Mount Tolmie, near Victoria, B.C.

Another very interesting specimen was presented to the Provincial Museum by the Rev. R. Connell and Ira E. Cornwall—namely, a tooth of an extinct sirenian *Desmostylus* sp. ? This is the second specimen of this kind which has been taken from the fossiliferous sandstone cliff near the mouth of Coal Creek, Sooke, V.I., on exhibition in the Provincial Museum, the first one having been found by Miss Egerton in the summer of 1916. (*See* An. Rep. Prov. Mus., page 42, 1916.)

PIED-BILLED GREBE. PODILYMBUS PODICEPS (LINN.).
Group in Provincial Museum, Victoria, B. C.

Mr. E. H. Blackmore, Associate Curator of Entomology, who is carrying on his systematic work in regard to the entomology of British Columbia, also arranged a new case of Diptera and Coleoptera on the upper floor of the Museum. Part of this collection originally belonged to the late Captain R. V. Harvey, of the University School, who was a well-known entomologist. Another case has been partly arranged and it is hoped to complete this in the near future, when final determinations have been made. The Entomological Report is appended and contains valuable information for those who are particularly interested in this branch of science.

ACCESSIONS.

Black Merlin (*Falco columbarius suckleyi*). Presented by Mr. Dennis Ashby, Duncan, B.C., March 23rd, 1923.

Black-headed Grosbeak (*Zamelodia melanocephala*). Presented by Mr. W. M. Mathewson, Mission City, B.C., June 12th, 1923.

Nest and four eggs of Chinese starling (*Acridotheres crista-tellus*). Presented by Mr. J. A. Munro, Victoria, B.C., June 4th, 1923.

Great Northern Diver Loon (*Gavia immer*). Presented by Mr. Dennis Ashby, Duncan, B.C., November 1st, 1923.

Dusky Horned Owl (*Bubo virginianus saturatus*). Presented by Mr. Dennis Ashby, Duncan, B.C., November 24th, 1923.

Meadow-lark (*Sturnella magna neglecta*). Presented by Mr. Dennis Ashby, Duncan, B.C., November 24th, 1923.

Buffle-head Duck (*Charetonetta albeola*). Presented by Mr. Dennis Ashby, Duncan, B.C., November 27th, 1923.

The birds in the following list were presented by Mr. C. L. Kaufmann, Victoria, B.C., November, 1923:—

Herring Gull (*Larus argentatus*).
Glaucous-winged Gull (*Larus glaucescens*).
Sooty Shearwater (*Puffinus griseus*).
Northwestern Flicker (*Colaptes cafer collaris*).
Stellar's Jay (*Cyanocitta stellari stellari*).
Golden-crowned Sparrow (2) (*Zonotrichia coronata*).
Nuttal's Sparrow (*Zonotrichia leucophrys*).
Fox Sparrow (2) (*Melospiza melodia*).
Western Savannah Sparrow (*Passerculus sandwichensis alaudinus*).
Lutescent Warbler (*Vermivora celata lutescens*).
Chestnut-backed Chickadee (*Penthestes rufescens rufescens*).
Song Sparrow (2) (*Melospiza melodia*).

Western White-tailed Hawk (*Buteo borealis calurus*). Presented by Mr. Dennis Ashby, Duncan, B.C., December 3rd, 1923.

Leach's Petrel (*Oceanodorma leucorhoa*). Presented by J. Henly, Victoria, B.C., December 4th, 1923.

Bush-tits (4) (*Psaltriparus minimus minimus*). Presented by Mr. R. A. Cumming, Vancouver, B.C., December 19th, 1923.

Western Pine Grosbeak (*Pinicola enucleator*?). Taken at Point No Point, Renfrew District, February, 1923, and presented by Mr. J. G. French, December, 1923.

Arkansas Kingbird (*Tyrannus verticalis*). Taken at French's Beach, Renfrew District, February, 1923, and presented by Mr. J. G. French, December, 1923.

Nest and one egg of Clarke's Nutcracker (*Nucifraga columbiana*). Presented by Mr. J. A. Munro, Victoria, B.C., May 16th, 1923.

Eighteen eggs of European Partridge (*Perdix cinerea*). Presented by Mr. John Abelson, Victoria, B.C., June 28th, 1923.

Collection of eggs. Presented by Mrs. J. D. Jones, Victoria, B.C.. November 30th, 1923.

Prickled Sailor-fish (*Blepsias cirrhosus*). Presented by Master Bernard Hunter, July 31st, 1923, Victoria, B.C.

Nudibranchiate sp.? Presented by Mr. Heritage, Victoria, B.C., October 30th, 1923.

Sponge, taken off the coast of Graham Island, Virago Sound, Q.C.I., 60 fathoms deep. Presented by Captain John Anderson, Victoria, B.C., September 30th, 1923.

Hair-worm (*Phreoryetes manheanus*). Presented by Mr. G. E. Seon, Kelowna, B.C., June 21st, 1923.

American Tiger Moth (*Arctia caja americana*). Presented by Master Tom Garvey, Victoria, B.C., August 9th, 1923.

Beetle (*Rhantus binotatus*). Found at Qualicum, V.I. Presented by Mr. W. H. Thornborrow, Victoria, B.C.

Trilobite from Mount Stephen, Field, B.C. Presented by Mrs. Stuart Armour, Cadboro Bay, B.C., November 2nd, 1923.

Portion of Mammoth Tusk found at Island View Beach, Saanich, B.C. Presented by Mr. B. H. Lamont, Victoria, B.C., June 28th, 1923.

Tooth of *Desmostylus* sp.? found near the mouth of Coal Creek, Sooke, V.I., and presented by Rev. R. Connell and Ira E. Cornwall.

Rubber Snake (boa) (*Charina bottæ*). Presented by Mr. Dick Spurway, Nelson, B.C., May 18th, 1923.

Stone Sinker. Presented by Mr. R. B. Halhed, Chemainus, B.C., May 7th, 1923.

Slate Spear-head. Presented by Mr. R. Deakin, Victoria, B.C., July 30th, 1923.

Stone Paint-dish. Presented by Miss Jean Kirk, Victoria, B.C., September 23rd, 1923.

Stone Battle-axe. Found by Mr. T. Wasilieff, Merville, B.C., September, 1923.

Rubbing-stone. Presented by Mr. T. W. S. Parsons, South Fort George, B.C., November 21st, 1923.

Arrow-point. Found at Fanny Bay, V.I. Presented by Mr. R. Cowie, September, 1923.

Two carved Goat-horn Spoons. Presented by Mr. T. W. Parsons, Prince Rupert, B.C., December, 1923.

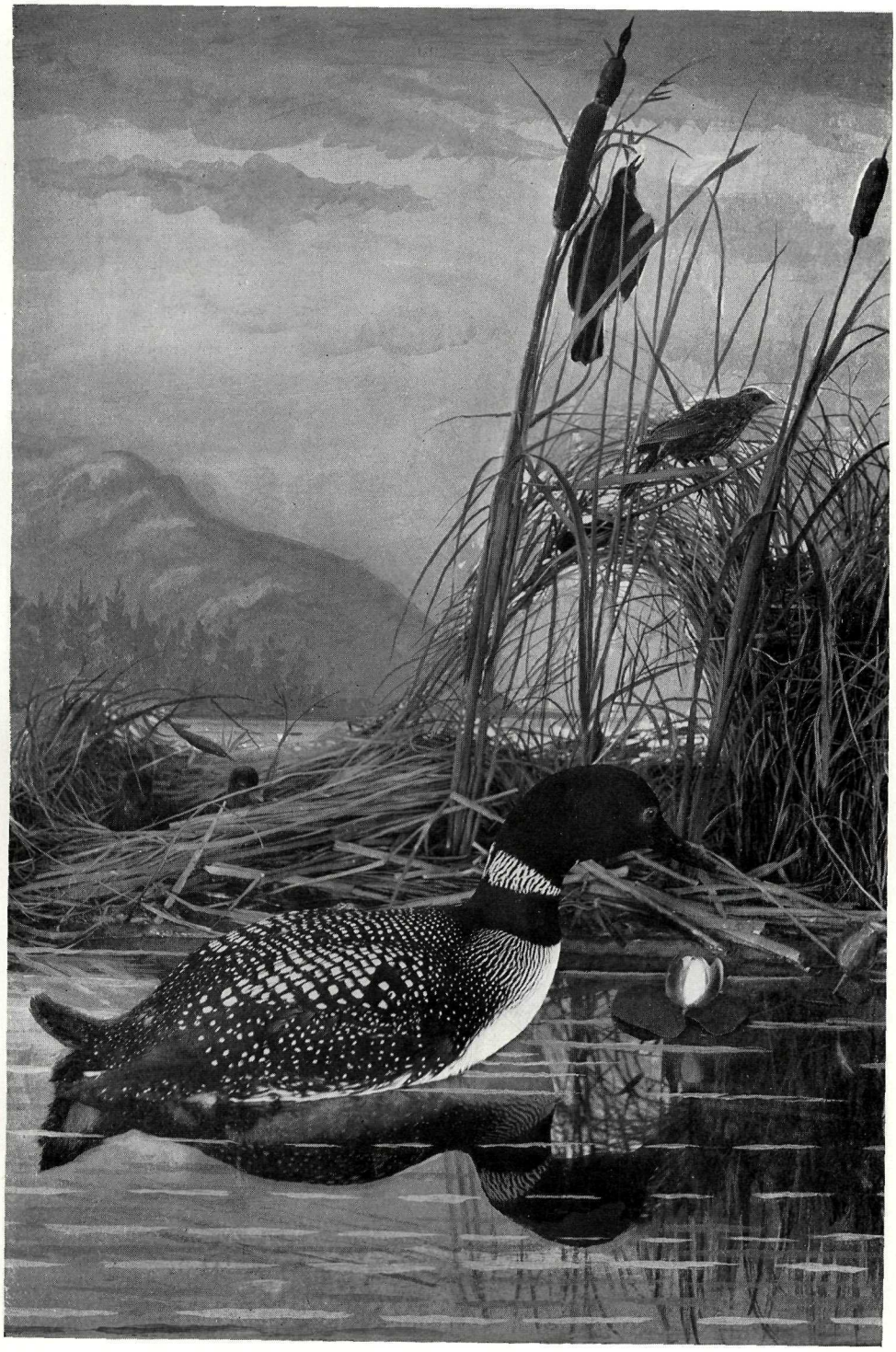
Stone Axe-head. Presented by Mr. T. W. Parsons, Prince Rupert, B.C., December, 1923.

Carved Whalebone Baton. Presented by Mr. T. W. Parsons, Prince Rupert, B.C., December, 1923.

PUBLICATIONS OF OTHER INSTITUTIONS.

(Alphabetically arranged.)

Acadian Entomological Society, Nova Scotia	1
American Museum of Natural History, New York	5
Augustana College Library, Rock Island, Ill.	1
Bernice Pauahi Bishop Museum, Honolulu, Hawaii	5
British Museum, London, England	2
Bristol Museum & Art Gallery, Bristol, England	1
California Academy of Sciences, San Francisco, Cal.	3
California University, Berkeley, Cal.	26
Cardiff Museum, Cardiff, Wales	2
Carnegie Museum, Pittsburgh, Pa.	1
Charleston Museum, Charleston, S.C.	3
Chicago Academy of Sciences, Chicago, Ill.	1
Cincinnati Museum Association, Cincinnati, Ohio	1
City Art Museum, St. Louis, Mo.	4
Colorado Museum of Natural History, Denver, Col.	1
Cooper Ornithological Club, San Francisco, Cal.	1
Cornell University, Ithaca, N.Y.	15
Dominion Government Publications	25
Field Museum, Chicago, Ill.	17
Grand Rapids Public Library, Mich.	1
Illinois State Natural History Survey, Urbana, Ill.	1
Insular Experimental Station, Rio Piedras, San Juan, P.R.	12
John Crerar Library, Chicago, Ill.	1
Library of Congress, Washington, D.C.	2
Lloyd Library	30
Manchester Museum, Manchester, England	1
McGill University, Montreal, P.Q.	1
Minnesota University, Minn.	1
Museum of the American Indian (Heye Foundation), New York	1
Carried forward	166



GREAT NORTHERN DIVER. GAVIA IMBER (GUNN.).
Group in Provincial Museum, Victoria, B. C

PUBLICATIONS OF OTHER INSTITUTIONS—*Continued.*

Brought forward	166
Museum of Fine Arts, Boston, Mass.	2
Nebraska University, Lincoln, Neb.	5
Newark Museum Association, Newark, N.Y.	2
New York Botanical Garden, N.Y.	1
New York State Museum, Albany, N.Y.	1
Ohio Agricultural Experiment Station, Wooster, Ohio	4
Oklahoma University, Norman, Okla.	2
Peabody Museum, Salem, Mass.	1
Peabody Museum, Yale University, New Haven, Conn.	15
Pennsylvania Museum and University	14
Province of British Columbia	3
Province of Alberta	1
Province of Nova Scotia	1
Province of Ontario	1
Public Museum, Milwaukee, Wis.	1
Roger Williams Park Museum, Providence, R.I.	2
Royal Ontario Museum, Toronto, Ont.	2
Smithsonian Institution, Washington, D.C.	22
Southwest Museum, Los Angeles, Cal.	4
Staten Island Institute, New Brighton, N.Y.	8
United States Department of Agriculture, Washington, D.C.	9
University of Washington, Seattle, Wash.	2
Wagner Free Institute of Science, Philadelphia, Pa.	1
Zoological Society, New York, N.Y.	1
Zoological Society, Philadelphia, Pa.	1
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BOTANY.

BY W. R. CARTER.

During the year 1923 many additions have been made to the Herbarium of the Provincial Museum, and the thanks of the Department are extended to the following collectors: Dr. C. F. Newcombe; Rev. R. Connell; Mr. G. V. Copley, of the Provincial Lands Grazing Department; Mr. W. B. Anderson, Dominion Inspector of Indian Orchards; Mr. A. H. Newcombe, and others, for specimens they have donated to the Herbarium.

Throughout the year the usual quantity of plants has been identified for school-children and other local collectors.

A small set of duplicate orchids was sent to the Rev. F. Stephenson, Ely, Cambridge, England, who is studying certain genera of this family. Specimens of our *Erythronium* were loaned to the University of Oregon, and a few specimens of Hepaticæ from the Herbarium were loaned to Mr. A. H. Brinkman, of Alberta, for examination; these specimens are part of the collection donated to the Provincial Herbarium by the late Professor John Macoun.

The thanks of this Department are most cordially extended to Professor C. V. Piper, Agrostologist, U.S. Department of Agriculture, Washington, D.C., and Dr. P. A. Rydberg, New York Botanical Garden, N.Y., for their kindness in identifying many specimens submitted to them.

The following lists, which give actual localities of specimens collected, will give some idea of the range of country traversed by the various collectors.

Plants of special interest collected and presented by Mr. W. B. Anderson:—

Equisetum sylvaticum L. Prince Rupert, B.C.
Scirpus pauciflorus Lightf. Prince Rupert, B.C.
Salix macrostachya Nutt. Agassiz, B.C.
Eriogonum subalpinum Greene. Paradise Valley, B.C.
Polygonum majus Piper. Lytton, B.C. (1922).
Cerastium Beeringianum C. & S. Paradise Valley, B.C.
Anemone Drummondii S. Wats. Paradise Valley, B.C.

Anemone parviflora Michx. Paradise Valley, B.C.
Coptis trifoliata (L.) Salish. Prince Rupert, B.C.
Ranunculus probably *R. alpeophilus* A. Nels. Paradise Valley, B.C.
Ranunculus saxicola Rydb. Paradise Valley, B.C.
Ranunculus vericundus Rob. Paradise Valley, B.C.
Arabis acutina Greene. Lytton, B.C.
Arabis Lyallii S. Wats. Paradise Valley, B.C.
Draba alpina L. Paradise Valley, B.C.
Draba alpina glacialis Adams. Paradise Valley, B.C.
Draba lonchocarpa Rydb. Paradise Valley, B.C.
Draba oligosperma Hook. Paradise Valley, B.C.
Draba prealta Greene. Paradise Valley, B.C.
Stenophragma Thalianum Celak. (*Arabidopsis*). Hazelton, B.C.
Rhodiola integrifolia Raf. Paradise Valley, B.C.
Sedum oreganum Nutt. Agassiz, B.C.
Saxifraga delicatula Small. Paradise Valley, B.C.
Geum calthifolium Menzies. Prince Rupert, B.C.
Rubus Chamæmorus Linn. Prince Rupert, B.C.
Astragalus alpinus L. ? Paradise Valley, B.C.
Astragalus Beckwithii T. & G. Kamloops, B.C.
Hypericum perforatum L. Chilliwack, B.C.
Lythrum Salicaria L. Chilliwack, B.C.
Epilobium alpinum L. Paradise Valley, B.C.
Andromeda Polifolia L. Prince Rupert, B.C.
Loiseleuria procumbens Desv. Prince Rupert, B.C.
Vaccinium oreophyllum Rydb. Paradise Valley, B.C.
Vaccinium scoparium Leiberg. Paradise Valley, B.C.
Vaccinium Vitis-Idæa L. Prince Rupert, B.C.
Androsace subumbellata (Nels.) Small. Paradise Valley, B.C.
Dodecatheon viviparum Greene. Prince Rupert, B.C.
Gilia minutiflora Benth. Spences Bridge, B.C.
Phlox rigida Benth. Fort Steele, B.C.
Phacelia idahoensis Henderson. Paradise Valley, B.C.
Galeopsis Tetrahit L. Agassiz, B.C.
Nicotiana attenuata Torr. Spences Bridge, B.C.
Castilleja crispula ? Piper. Paradise Valley, B.C.
Castilleja subcinerea Rydb. Windermere, B.C.
Linaria minor (L.) Desf. Agassiz, B.C.
Pentstemon albertinus ? Greene. Paradise Valley, B.C.
Symphoricarpos occidentalis Hook. Fort Steele, B.C.
Adoxa Moschatellina L. Hazelton, B.C.
Viburnum opulus americanum Ait. Adams Lake, B.C.
Antennaria luzuloides T. & G. Fort Steele, B.C.
Arnica aspera Greene. Mount Cheam, B.C. (1922).
Erigeron aureus Greene. Paradise Valley, B.C.
Erigeron compositus multifidus (Rydb.) Mack. & Payson. Paradise Valley, B.C.
Erigeron corymbosus Nutt. Fort Steele, B.C.
Erigeron minor (Hook.) Rydb. Fort Steele, B.C.
Eupatorium Bruneri A. Gray. Chilliwack, B.C.
Euthamia occidentalis Nutt. Keremeos, B.C.
Crepis elegans Hook. Golden, B.C.
Hieracium murorum L. Agassiz, B.C. (1922).
Solidago algida Piper. Mount Cheam, B.C. (1922).
Senecio ductoris Piper. Paradise Valley, B.C.

Plants of interest collected and presented by Mr. G. V. Copley:—

Agropyron caninum L. Kingsvale, Nicola, B.C.
Agropyron tenerum Vasey. Kingsvale, Nicola, B.C.
Deschampsia latifolia (Hook. & Scribn.). Mount Baldy, Bridesville, B.C.

Elymus Macounii Vasey. Douglas Lake, Nicola, B.C.
Festuca octoflora Walt. Kingsvale, Nicola, B.C.
Hierochloa odorata (L.) Wahlenb. Chimney Creek, Cariboo, B.C.
Oryzopsis exigua Thurb. Kingsvale, Nicola, B.C.
Panicum barbipulvinatum Nash. Vaseaux Lake, B.C.
Panicum pacificum Hitchc. & Chase. Vaseaux Lake, B.C.
Poa ampla Merv. Nicola, B.C.
Poa compressa L. Williams Lake, Cariboo, B.C.
Poa Fendleriana (Steud) Vasey. Nicola, B.C.
Sporobolus asperifolius (Ness & Meyen) Thurb. Vaseaux Lake, B.C.
Sporobolus contractus Hitchc. Marron Lake, B.C.
Spartina gracilis Trin. Douglas Lake, Nicola, B.C.
Stipa minor (Vasey) Scribn. Nicola, B.C.
Stipa occidentalis Thurb. Coldwater River, Kingsvale, B.C.
Stipa Richardsonii Link. Nicola, B.C.
Carex vespertina (Bailey) Howell. Mount Finlayson, V.I., B.C.
Carex nigricans C. A. Meyer. Mount Baldy, Bridesville, B.C.
Liparis Loeselii (L.) L. C. Rich. Nicola, B.C.
Eriogonum umbellatum Torr. Nicola, B.C.
Polygonum viviparum L. Nicola, B.C.
Atriplex hortensis L. Penticton, B.C.
Beta vulgaris L. Chimney Creek, Cariboo, B.C.
Chenopodium humile Hook. Meadow Lake, Lillooet, B.C.
Corispermum marginale Rydb. Alkali Lake, Lillooet, B.C.
Corispermum villosum Rydb. Deadman's Creek, Savana, B.C.
Suæda occidentalis S. Wats. Stump Lake, Nicola, B.C.
Aconitum columbianum Nutt. Osprey Lake, Princeton, B.C.
Actaea arguta Nutt. Nicola, B.C.
Ranunculus glaberrimus Hook. Grand Forks, B.C.
Alyssum alyssoides (L.) Gonan. Nicola, B.C.
Draba stenoloba Ledeb. Grand Forks, B.C.
Erysimum cheiranthoides L. Kane Valley, Nicola, B.C.
Lepidium campestre L. Mount Finlayson, V.I., B.C.
Radicula obtusa Nutt. Victoria, B.C.
Ribes cereum Dougl. White Lake, Penticton, B.C.
Mitella nuda L. Nicola, B.C.
Astragalus adsurgens Pall. Merritt, B.C.
Astragalus alpinus L. Nicola, B.C.
Astragalus glareosus Dougl. Kruger Mount, Okanagan, B.C.
Oxytropis deflexa D.C. Aspen Grove, Nicola, B.C.
Trifolium microcephalum Pursh. Mount Finlayson, V.I., B.C.
Trifolium microdon H. & A. Mount Finlayson, V.I., B.C.
Trifolium tridentatum Lindl. Mount Finlayson, V.I., B.C.
Geranium Richardsonii F. & M. Mamette Lake, Nicola, B.C.
Sphæralcia munroana Spach. Osoyoos, B.C.
Œnothera biennis (a form). Boundary Falls, B.C.
Lomatium Geyeri (S. Wats) C. & R. Rock Creek, B.C.
Arctostaphylos media Greene. Mount Finlayson, V.I., B.C.
Apocynum cannabinum L. Kettle Valley, B.C.
Convolvulus arvensis L. Lower Nicola, B.C.
Gilia Harknessii Curran. Nicola, B.C.
Lithospermum ruderale Lehm. Deadman's Creek, Savana, B.C.
Mertensia oblongifolia (Nutt.) Don. Rock Creek, B.C.
Stachys scopulorum Greene. Nicola, B.C.
Orthocarpus faucibarbatus Gray. Mount Finlayson, B.C.
Pedicularis bracteosa Benth. Big Bar Creek, Lillooet, B.C.
Rhinanthus Crista-galli L. Aspen Grove, Nicola, B.C.
Veronica xalapensis H.B.K. Vancouver Island, B.C.

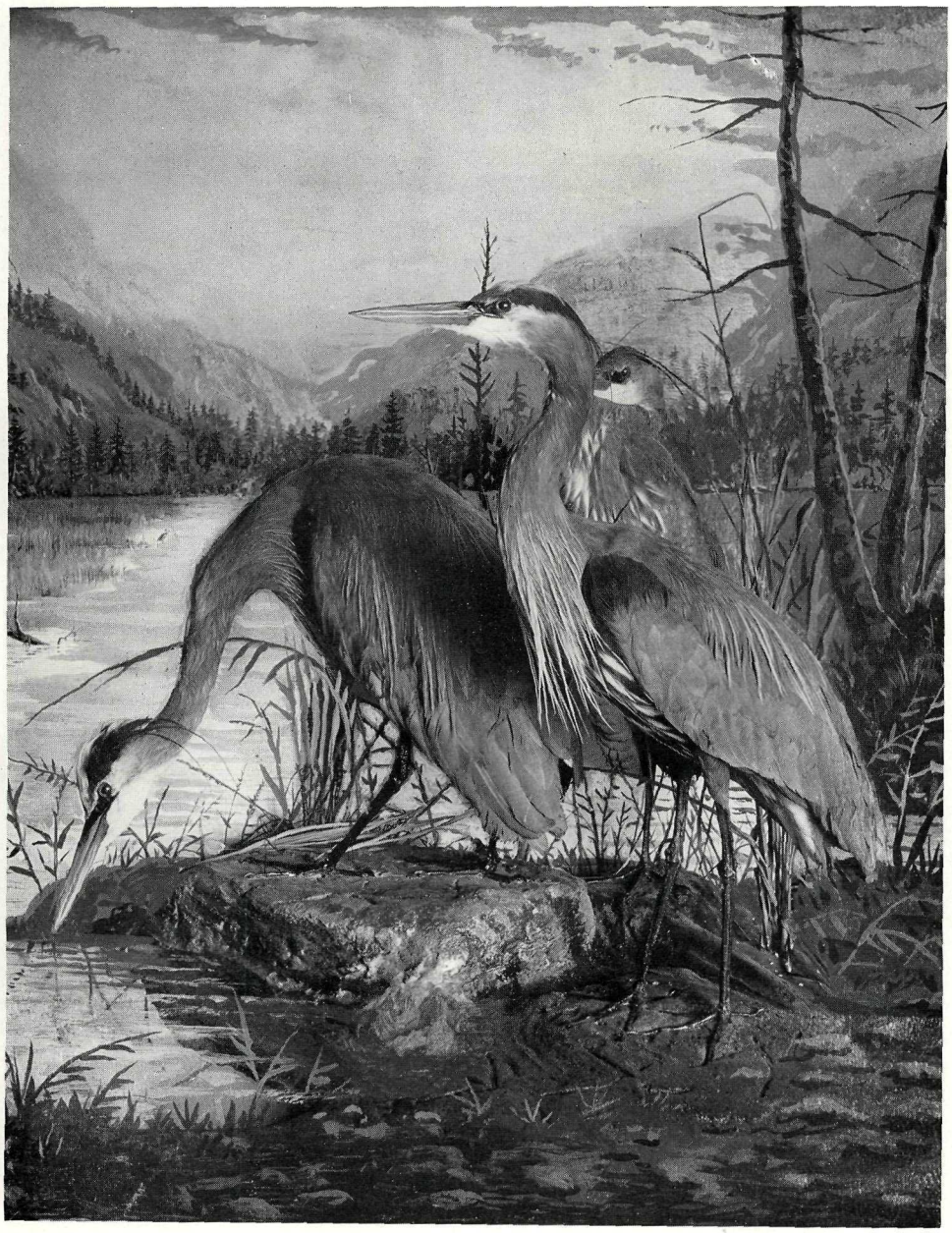
Agoseris scorzoneræfolia (Schrad) Greene. Merritt, Nicola, B.C.
Antennaria anaphaloides Rydb. Nicola, B.C.
Antennaria dimorpha T. & G. White Lake, Penticton, B.C.
Erigeron drœbachiensis Muell. Voght Valley, Penticton, B.C.
Erigeron lonchophyllus Hook. Douglas Lake, Nicola, B.C.
Hellianthella Douglasii T. & G. Nicola, B.C.

The following plants included in Mr. Copley's contributions are from just across the international United States boundary in the State of Washington:—

Purshia tridentata D.C.
Dodecatheon dentatum Hook.
Sphæralcia rivularis Torr.
Collomia aristella (A. Gray) Rydb.
Hydrophyllum albifrons Heller.
Pentstemon speciosus Dougl.

A very interesting collection of plants, principally from the Queen Charlotte Islands, was donated by Dr. C. F. Newcombe, 1923:—

Adiantum pedatum aleuticum Rupr. Lockeport, Q.C.I.
Asplenium viride Huds. Lockeport, Q.C.I.
Polypodium Scouleri Hook & Greville (collected in 1903). Ninstints, Q.C.I.
Lycopodium Selago ? L. Lockeport, Q.C.I.
Luzula campestris (L.) DC. Skidegate, Q.C.I.
Luzula parviflora (Ehrh.) Desv. Skidegate, Q.C.I.
Fritillaria camtschatcensis (L.) Ker-Gawl. Lockeport, Q.C.I.
Streptopus amplexifolius (L.) DC. Lockeport, Q.C.I.
Streptopus roseus Michx. Lockeport, Q.C.I.
Salix sitchensis ? (Sanson) Bong. Skidegate, Q.C.I.
Alnus sitchensis (Regel) Sarg. Skidegate, Q.C.I.
Cerastium viscosum L. (an addition to the Flora of Q.C.I.). Skidegate, Q.C.I.
Stellaria borealis var. *alpestris* (Gries) Gray. Goldstream, V.I., B.C.
Stellaria crispa Cham. & Schlecht (an addition to the Flora of Q.C.I.), Lockeport, Q.C.I.
Montia sibirica Howell. Lockeport, Q.C.I.
Aquilegia formosa Fischer. Skidegate, Q.C.I.
Caltha biflora DC. Skidegate, Q.C.I.
Ranunculus Bongardi Greene. Lockeport, Q.C.I.
Ranunculus occidentalis Nutt. Skidegate, Q.C.I.
Arabis hirsuta (L.) Scop. Skidegate, Q.C.I.
Barbarea vulgaris H. Br. Skidegate, Q.C.I.
Cardamine angulata Hook. Lockeport, Q.C.I.
Cardamine oligosperma Nutt. Limestone Island, Q.C.I.
Cochlearia officinalis Linn. Lockeport, Q.C.I.
Hemieva ranunculoides Raf. Bella Coola, B.C.
Tellima grandiflora Dougl. Lockeport, Q.C.I.
Ribes laxiflorum Pursh. Lockeport, Q.C.I.
Fragaria chiloënsis (L.) Duch. Skidegate, Q.C.I.
Rubus spectabilis Pursh. Lockeport, Q.C.I.
Hosackia americana (Nutt.) Piper. Oak Bay, Victoria, B.C.
Viola adunca Smith. Skidegate, Q.C.I.
Epilobium adenocaulon Haussk. Skidegate, Q.C.I.
Hippuris tetraphylla L. Bella Coola, B.C. (1922).
Œnanthe sarmentosa Presl. Lockeport, Q.C.I.
Osmorrhiza divaricata Nutt. Skidegate, Q.C.I.
Menziesia ferruginea Smith. Lockeport, Q.C.I.
Dodecatheon frigidum Hook. Limestone Island, Q.C.I.
Convolvulus Soldanella L. Saanichton, V.I., B.C.
Romanzoffia unalaschkensis Cham. Albert Head, V.I., B.C.
Castilleja pallida (L.) Spreng. Skidegate, Q.C.I.
Collinsia tenella Dougl. Skidegate, Q.C.I.
Rhinanthus Crista-galli L. Mount Douglas, Victoria, B.C.



NORTH-WEST COAST HERON. ARDEA HERODIUS FANNINII (CHAPMAN).
Group in Provincial Museum, Victoria, B. C.

Galium aparine L. Skidegate, Q.C.I.
Valerianella samolifolia (DC) Gray. Skidegate, Q.C.I.
Microseris Bigelovii Gray. Gonzales Hill, Victoria, B.C.
Prenanthes hastata (Pers.) Heller. Thurston Harbour, Q.C.I.

Plants collected and donated by Mr. A. H. Newcombe:—
Allium attenuifolium Kellog. Observatory Hill, Victoria, B.C.
Actaea spicata arguta Nutt. (addition to the Flora of Q.C.I.).

Plants collected and donated by Rev. R. Connell:—
Ranunculus acris L. Sandhill Creek, V.I.
Castilleja miniata Dougl. Sandhill Creek, V.I.
Scrophularia californica Cham. Alligator Creek, V.I.
Luina hypoleuca Benth. Muir Creek, V.I.
Prenanthes hastata (Pers.) Heller. Muir Creek, V.I.
Senecio triangularis Hook. Alligator Creek, V.I.

Other plants presented:—
Pseudotsuga mucronata Raf. Alberni, V.I., by J. Frank Thomson.
Gilia aggregata (Pursh) Spreng. Penticton, B.C., by W. Downes.
Artemisia frigida Willd. Penticton, B.C., by W. Downes.
Artemisia ludoviciana Nutt. Penticton, B.C., by W. Downes.
Hippuris tetraphylla L. Prince Rupert, B.C., by Harlan I. Smith.
Romanzoffia unalaschkensis Cham. William Head, V.I., by Ira E. Cornwall.
Hyosyamus niger Linn. Salmon Arm, B.C., by J. W. Gibson.
Datura Stranmonium L. Saltspring Island, B.C., by P. de Noe Walker.
Lloydia serotina Reich. Wahleach Range, Agassiz, B.C., by F. Perry.

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

Carex stenochlæna (Holm) Mackenzie. Mount Arrowsmith, V.I., July 26th, 1915. W. R. Carter.

Carex vulpinoidea Michx. Goldstream, V.I., July 1st, 1920. G. V. Copley.

Lepidium campestre L. Elk Lake watershed, May, 1923. Master Raven. Specimens also collected later, Mount Finlayson and Telegraph Bay, V.I., by G. V. Copley.

Scandix Pecten-Veneris L. Victoria, B.C., April 13th, 1923. G. V. Copley.

Centaurea maculosa Lam. Victoria, B.C., August 8th, 1921. W. R. Carter.

Crepis taraxacifolia Thuill. Mayne Island, B.C., June 20th, 1914. John Macoun.

ENTOMOLOGY.

By E. H. Blackmore, F.E.S.

The season of 1923 has been a most peculiar one from a collecting standpoint. Insects that are generally common have been very scarce, while others that have been regarded as somewhat rare have been taken in series.

Reports from many localities throughout Southern British Columbia all agree as to the remarkable absence of noctuid moths. This makes the third year in succession that the scarcity in this large family has been particularly noticeable.

The weather was exceedingly poor for collecting until the middle of July, as from the early spring until that time there were a great number of rainy days. The balance of the season right up to the end of the fall was very fine and dry, with a corresponding increase of insect-life, particularly amongst the Geometridæ.

The European satin-moth (*Stilpnotis salicis* Linn) still continues to spread, two or three specimens having been taken in Victoria by Mr. W. R. Carter, Assistant Biologist of the Provincial Museum, and a couple of individuals were captured by Captain J. Wise at Saanichton, B.C.

Acknowledgments.

The thanks of the Department are extended to the following specialists for their kindness in determining and verifying material submitted to them during the past season; Dr. W. Barnes, Foster H. Benjamin, Annette F. Braun, August Busck, Carl Heinrich, Dr. A. W. Lindsey, Dr. J. H. McDunnough, Wm. Schaus, and L. W. Swett.

BRITISH COLUMBIA INSECTS NEW TO SCIENCE.

The number of new insects described from British Columbia material as new to science during the year amount to forty-two species. They are divided between the following four orders: Lepidoptera, 16; Hymenoptera, 1; Diptera, 24; and Plecoptera, 1.

LEPIDOPTERA.

The sixteen species of Lepidoptera are distributed amongst the different families as follows: Lycænidæ, 2; Sphingidæ, 1; Noctuidæ, 3; Geometridæ, 1; Gelechidæ, 1; Olethreutidæ, 7; and Tortricidæ, 1.

Lycænidæ.

Plebius sæpiolus insulanus Blackmore. Described (Can. Ent., Vol. 55, page 98, April, 1923) from twenty specimens taken by the writer at Victoria, B.C., and Goldstream, B.C. This new race differs from typical *sæpiolus* in the much brighter blue of the male on the upper side and on the under-side by the clear bluish-white of the ground colour instead of greyish-white, as in the typical form. In the female the upper side of *insulanus* is an even dark brown with a few scattered blue scales basally, while typical *sæpiolus* is heavily shot with blue on both wings. Typical *sæpiolus* occurs at Atlin, B.C.

Plebius icarioides montis Blackmore. Described (*ibidem*, page 99) from eight specimens. Holotype, allotype, and four paratypes taken on Mount McLean, near Lillooet, B.C., by A. W. Hanham; one paratype from Mount Cheam, near Agassiz, B.C.; and one from Hope Mountains, B.C. (R. V. Harvey).

We now have three races of this Californian species in British Columbia—namely, *pembina* Edw., *blackmorei* B. & McD., and *montis* Blackmore. In the males *montis* differs from *pembina* in the much lighter shade of violaceous blue and in the narrower black border; from *blackmorei* by the totally different shade of blue, the latter being of a peculiar silvery blue; on the under-side it differs from *pembina* in the much lighter ground colour and in the lighter spotting of the fore wings, which, however, are much heavier than they are in *blackmorei*.

Since the above description was published I have seen three specimens of *montis* taken this year on a mountain near Lytton, B.C. It is evidently a high-altitude form.

These three races of *icarioides* Bdv. will now stand in our list as follows:—

Plebeius icarioides race *pembina* Edw. Southern British Columbia.

Plebeius icarioides race *blackmorei* B. & McD. Vancouver Island.

Plebeius icarioides race *montis* Blackm. Mountains of British Columbia.

Sphingidæ.

Sphinx mordecai McDunnough. Described (*ibidem*, page 148, June, 1923) from eleven specimens taken at Penticton, B.C. (W. B. Anderson), Wellington (G. W. Taylor), Vancouver (Livingston), Vernon (E. P. Venables), and Peachland (J. B. Wallis).

This is the species which has been known for so many years as *Sphinx vancouverensis* Hy. Edw. According to Dr. McDunnough's article, I understand that typical *vancouverensis* is the same insect that we have latterly been calling *perelegans* and which has been formerly recorded from various points in the Interior as *drupiferarum* (*vide* "The Sphingidæ of British Columbia," Blackmore, Pro. B.C. Ent. Soc., page 26, Feb., 1921).

Perelegans was described from "Big Trees, Calif.," by Hy. Edw. in Pro. Cal. Acad. Sci., Vol. V., page 109, 1874, and *vancouverensis* was described on page 111 of the same number from a single specimen taken by Dr. Bremner at Esquimalt, near Victoria, B.C. Dr. McDunnough is of the opinion that these two names may represent one species, but for the present proposes that the name *vancouverensis* be used in a racial sense.

This species is larger and darker than *mordecai* and presents other minor differences which renders separation easy.

In future our two species of this genus will stand as follows:—

Sphinx perelegans Hy. Edw.

race *vancouverensis* Hy. Edw. Vancouver Island; Southern British Columbia.

Sphinx mordecai McD. Generally distributed throughout the Province.

Noctuidæ.

Euxoa lindseyi Blackmore. Described (Can. Ent., Vol. 55, page 214, Sept., 1923) from seven specimens—five taken by the writer at Victoria, B.C., and Goldstream, B.C., and two from the Barnes collection, one taken at Victoria, B.C., and one at Calgary, Alta.

Oncocnemis parvanigra Blackmore. Described (*ibidem*, page 215) from four specimens—three taken at Kaslo (J. W. Cockle) and one at Mount McLean (A. W. Hanham).

Litholomia napæa umbrifasciata Blackmore. Described (*ibidem*, page 216) from fifteen specimens taken by the writer at Victoria, B.C.

Further notes on the above will be found under "Illustrated Lepidoptera" and illustrations of each species on Plate V.

Geometridæ.

Enypia venata ab. *elaborata* Cassino & Swett. Described (Lepidopterist, Vol. IV., page 13, June, 1923) from a single male taken at Wellington, B.C., by the late Rev. G. W. Taylor on July 2nd, 1904.

This striking form differs from the type in having the fore wings pure white and the usual venular dots merged into a wide suffused black band. We may say here that *venata* is fairly common on Vancouver Island and is extremely variable both in coloration and markings. In the writer's series of about thirty specimens they range in colour from a light stone grey to a rich warm brown.

Gelechidæ.

Gelechia trichostola Meyrick. Described (Exotic Microlepidoptera, Vol. III., page 22, June, 1923) from two specimens taken at Victoria, B.C., in September, 1919, by Dr. A. J. Turner, of Brisbane, Queensland.

I have a long series of previously undetermined *Gelechia* which I have identified as the above species. They were taken by the writer on various dates in March and September, and agree with the description in size, colour, and maculation. They were all taken at rest either on the trunk or the foliage of the scrub oak (*Quercus Garryana*). It is evidently a hybernating species.

The male measures 19 m.m. in expanse, with the female slightly smaller. It is brown in colour, irregularly suffused with dark fuscous irroration. On the fore wing is a small black linear mark beneath costa near the base, and an elongate black spot at the base of the inner margin; a few whitish scales between first and second discal dots and an angulated transverse streak of brown ground colour about three-quarters out from base. Hind wings grey, fringe pale grey. A distinguishing character in the male is a very long dark-grey pencil of hair underneath the hind wings, extending from base of costa to beneath posterior portion of cell.

Olethreutidæ (Eucosminæ).

Thiodia fertoriana Heinrich. Described (Revision No. Amer. Eucosminæ, Bull. 123, U.S.N.M., page 264, April, 1923) from three specimens taken at Goldstream, B.C., on May 10th, 1903.

The specimens were found amongst the undescribed material in the collection of Dr. Wm. Barnes, and although not bearing the collector's name were in all probability taken by Mr. A. W. Hanham, who collected in that district at that period.

Eucosma metariana Heinrich. Described (*ibidem*, page 133) from nine specimens—six taken at Shasta Retreat, Calif.; two at Hot Springs, Green River, Wash.; and one at Victoria, B.C. (Blackmore). (*See* "Illustrated Lepidoptera.")

Epiblema purpurissata Heinrich. Described (*ibidem*, page 149) from two specimens bred from wild rose at Vernon, B.C.

Epiblema periculosana Heinrich. Described (*ibidem*, page 268) from three specimens taken on Mount McLean, near Lillooet, B.C., by A. W. Hanham.

Epinotia digitana Heinrich. Described (*ibidem*, page 215) from two specimens—the type taken at Kaslo, B.C., by Dr. H. G. Dyar on July 28th, 1903, and the paratype taken by Professor C. V. Piper at Pullman, Wash. This is the same insect that had been determined by Kearfott as *transmissana* Walk. and is so listed in Dyar's Kootenai List and the Check-list of British Columbia Lepidoptera (1906).

Transmissana Walk. must now be removed from out British Columbia List and *digitana* Heinrich put in its place. *Digitana* is very close in colour and maculation to *nigralbana* Wals. The latter also occurs on Vancouver Island.

Epinotia meritana Heinrich. Described (*ibidem*, page 226) from thirteen specimens. The type and eight paratypes were reared from larvæ mining pine-needles by H. J. Peck, of the Utah Agricultural Experiment Station; the other four paratypes were taken by W. R. Carter at Victoria, B.C. The latter were found at rest on the trunks of Douglas fir (*Pseudotsuga mucronata*). This is a small species measuring from 10–11 mm. in alar expanse. The fore wings are white, banded and cross-lined with blackish fuscous; the hind wings are smoky fuscous, with shining lead-grey fringes. So far it has been found here in a very limited area.

Epinotia vagana Heinrich. Described (*ibidem*, page 230) from twelve specimens—five from Liaga, Wash.; five from Victoria, B.C. (Blackmore); one from Duncan, B.C. (Hanham); and one from Hoquiam, Wash. (*See* "Illustrated Lepidoptera.")

Tortricidæ.

Cacœcia columbiana McDunnough. Described (Can. Ent., Vol. 55, page 167, July, 1923) from a single female taken by Dr. W. R. Buckell at Salmon Arm, B.C.

HYMENOPTERA.

Tenthredinidæ (Saw-flies).

Dolerus nicœus MacGillivray. Described (*ibidem*, page 68, March, 1923) from a female specimen taken at Chilliwack, B.C. This new species of saw-fly is about 11 mm. in length, with the body entirely black and the head and thorax hoary. The wings are slightly smoky, with the veins and stigma black.

DIPTERA.

The arrangement and sequence of families and genera in the following list of new species is in accordance with Aldrich's "Catalogue of North American Diptera":—

Culicidæ (Mosquitoes).

Ædes hewitti Hearle. Described (Can. Ent., Vol. 55, page 5, Jan., 1923) from fourteen specimens, all taken at Yale, B.C., by the author. This new species is evidently very local, as although a survey of the mosquito fauna of the whole of the Lower Fraser Valley was undertaken by Mr. Hearle in 1919, Yale was the only locality wherein it was found.

Stratiomyidæ (Soldier-flies).

Stratiomyia discaloides Curran. Described (*ibidem*, Vol. 54, page 281, Dec., 1922) from three specimens—two taken at Chilcotin, B.C. (E. R. Buckell), and one at Kelowna, B.C. (M. H. Ruhmann).

Stratiomyia griseata Curran. Described (*ibidem*, page 283) from two specimens—type from Aspen Grove, B.C. (P. N. Vroom), and paratype from Lillooet, B.C. (A. W. Phair).

Therevidæ (Stiletto-flies).

Thereva brunnea Cole. Described ("Rev. Family Therevidæ," Pro. U.S.N.M., No. 2450, page 108) from nineteen specimens. The male type taken at Victoria, B.C., by W. Downes and the female allotype by W. B. Anderson at the same place. Paratypes were taken at Savary Island, B.C. (R. S. Sherman); Vancouver, B.C. (R. S. Sherman; R. C. Treherne); and Chase, B.C. (W. B. Anderson).

Thereva nigripilosa Cole. Described (*ibidem*, page 110) from three specimens—the type bred from larva at Victoria, B.C., by W. Downes and the paratypes collected by C. B. Garrett at Cranbrook, B.C.

Asilidæ (Robber-flies).

Eucyrtopogon (gen. nov.) *comantis* Curran. Described (Can. Ent., Vol. 55, page 116, May, 1923) from three specimens collected by E. R. Buckell—the type taken at Chilcotin, B.C., and the paratypes at Vernon, B.C.

Eucyrtopogon spinigera Curran. Described (*ibidem*, page 117) from a single female specimen taken at Victoria, B.C., by R. C. Treherne.

Eucyrtopogon diversipolis Curran. Described (*ibidem*, page 118) from four specimens. Holotype and allotype taken at Chilcotin, B.C., by E. R. Buckell and two paratypes taken by C. Garrett at Banff, Alta.

Eucyrtopogon calcarata Curran. Described (*ibidem*, page 119) from ten specimens. The types were taken at Banff, Alta. (N. B. Sanson); the paratypes are from Cranbrook, B.C. (C. B. Garrett); Nicola, B.C. (P. N. Vroom); Aspen Grove, B.C. (Vroom); and Quilchena, B.C. (Vroom).

Cyrtopogon willistoni Curran. Described (*ibidem*, Vol. 54, page 277, Dec., 1922) from over 100 specimens from British Columbia. Holotype from Chilcotin, B.C. (E. R. Buckell), and allotype from Aspen Grove, B.C. (Vroom).

Cyrtopogon inversus Curran. Described (*ibidem*, Vol. 55, page 172, July, 1923) from six specimens. The male and female types were taken by P. N. Vroom at Aspen Grove, B.C., while the paratypes came from Darcy, B.C. (W. B. Anderson); Chilcotin, B.C. (E. R. Buckell); Nicola, B.C. (Vroom); and Hedley, B.C. (Anderson).

Crytopogon predator Curran. Described (*ibidem*, page 188, Aug., 1923) from a single female taken by W. B. Anderson at Fort Fraser, B.C.

Holopogon albipilosus Curran. Described (*ibidem*, page 207, Sept., 1923) from five specimens. Types and two paratypes taken by N. L. Butler at Vernon, B.C., and one paratype taken at Chilcotin, B.C., by E. R. Buckell.

Nicocles canadensis Curran. Described (*ibidem*, page 208) from five specimens. Holotype male from Saanich, B.C. (W. Downes); allotype female, Seattle, Wash.; paratypes, Royal Oak, B.C. (Treherne); Mount Douglas, B.C. (Downes); and Seattle, Wash.

Dolichopodidæ (Long-footed Flies).

Porphyrops grandis Curran. Described (*ibidem*, page 210) from two specimens taken by R. Glendenning at Agassiz, B.C.

Syntormon tricoloripes Curran. Described (*ibidem*, page 209) from four specimens taken at Cranbrook, B.C., by C. B. Garrett.

Scellus amplus Curran. Described (*ibidem*, page 73, March, 1923) from a single male taken by W. Downes at Saanich, B.C.

Syrphidæ (Flower-flies).

Pipiza atrata Curran. Described (*ibidem*, Vol. 54, page 283, Dec., 1922) from one male specimen taken by E. R. Buckell at Chilcotin, B.C.

Chilosia subchalybea Curran. Described (*ibidem*, Vol. 55, page 276, Dec., 1923) from two specimens taken at Cranbrook, B.C. (Garrett).

Platychirus peltatoides Curran. Described (*ibidem*, page 274) from six specimens. The male type from Penticton, B.C. (E. R. Buckell); female type from Vernon, B.C. (M. H. Ruhmann); and four paratypes taken at Penticton, B.C. (Treherne); Victoria, B.C. (W. B. Anderson); Royal Oak, B.C. (Treherne); and Ilwaco, Wash.

Leucozona lucorum var. *americana* Curran. Described (*ibidem*, page 38, Feb., 1923) from six specimens. Type male from Hull, Que.; type female from Metlakatla, B.C. (Rev. J. H. Keen); and four paratypes from Hull, Que.; Smith's Cove, N.S.; Chilcotin, B.C. (Buckell); and one, no data.

Tachinidæ (Caterpillar-flies).

Ginglimyia bicolor Curran. Described (*ibidem*, page 246, Oct., 1922) from four females taken by W. Downes at Saanich, B.C.

Lonchæidæ.

Lonchæa atritarsis Malloch. Described (Pro. Ent. Soc., Wash., Vol. 25, page 47, Feb., 1923) from a single male specimen taken at Kaslo, B.C., by A. N. Caudell.

Trypetidæ (Peacock-flies).

Eurosta solidaginis var. *subfasciatus* Curran. Described (Ent. News, Vol. 34, page 302, Dec., 1923) from seven specimens taken in British Columbia. Male and female types reared from Solidago galls by E. R. Buckell at Vernon, B.C.

Plecoptera (Stone-flies).

Nemoura cornuta Claassen. Described (Can. Ent., Vol. 55, page 285, Dec., 1923) from a single male specimen taken at Nanaimo, B.C. (Biological Station), by E. P. van Duzee.

LEPIDOPTERA NOT PREVIOUSLY RECORDED FROM BRITISH COLUMBIA.

Fifteen species and races (excluding Microlepidoptera) have been added to the British Columbia list of Lepidoptera since last year's Provincial Museum Report was written. The numbers preceding the names are in accordance with those contained in Barnes & McDunnough's Check-list (1917).

Noctuidæ.

1270. *Euxoa feniseca* Harv. One specimen taken at Nicola Lake, B.C., by E. R. Buckell on August 24th, 1922. Described from California in 1875. The type is in the British Museum.

1283. *Euxoa excogita* Smith. A single specimen taken by T. A. Moilliet at Vavenby, B.C., on August 26th, 1921. Described in 1900 (Pro. U.S.N.M., Vol. 22, page 423) from ten specimens taken at Glenwood Springs, Colorado, by Dr. Barnes.

1289A. *Euxoa stigmatalis atrofusca* Sm. This is also a unique taken by Mr. Moilliet at Vavenby, B.C., on August 14th, 1921. Described (*ibidem*, page 447) as a distinct species from specimens taken in Colorado and at Pullman, Wash. It is now considered to be a variety of *stigmatalis* Smith.

1453. *Agrotis atrifrons* Grt. Two specimens—one taken by E. R. Buckell at Nicola Lake, B.C., on August 28th, 1922, and the other taken at Lillooet, B.C., by A. W. Phair on August 12th, 1917. The latter had been previously determined for us as *piscipellis* Grt. and was so listed in Ann. Rep. Prov. Mus., 1917, page 13. The two species are closely allied and very similar in appearance. Mr. Benjamin informs me that *piscipellis* has usually a more or less dark collar and the thorax seldom shows any definite line of black at the base of the tegulæ, while *atrifrons* shows this line.

1517. *Apharetra pyralis* Sm. One specimen taken by L. E. Marmot at Maillardville, B.C., on August 15th, 1922. (*See* "Illustrated Lepidoptera.")

* *Lampra forbesi* Benjamin. Several specimens taken by Mr. G. O. Day at Quamichan Lake and Maple Bay, near Duncan, B.C. This species and *nefascia* are very closely allied and difficult to distinguish by superficial characters, but are easily separated by the genitalia, which are quite distinct. Mr. Benjamin made a slide of one of Mr. Day's specimens and it agrees in every particular with the type of *forbesi*. *Forbesi* was described (Bull. So. Calif. Acad. Sci., Vol. 20, page 98, Dec., 1921) from nine specimens, all taken in Utah.

1605. *Protagrotis obscura* B. & McD. Two specimens taken by Mr. E. R. Buckell at Nicola Lake, B.C., on July 29th, 1922.

1647. *Lasiestra phoca* Moesch. A short series taken on Mount McLean, near Lillooet, B.C., by Mr. A. W. Hanham in August, 1921. (*See* "Illustrated Lepidoptera.")

1905. *Orthosia mys* Dyar. Three specimens taken by Hon. J. G. Colville at Saanichton, October 17th to 20th, 1922. Described from California. This is an especially good capture and they are the first typical specimens taken in British Columbia. Mr. Day, of Duncan, took a single specimen many years ago which had been determined by Wolley Dod as this species, but it is in reality the form *coloramica* B. & McD., described from Arizona. The latter is considerably darker in colour on the primaries and secondaries have the veins outlined with reddish scaling.

2122. *Brachylomia populi* Stkr. One specimen taken at Seton Lake, near Lillooet, B.C., by Desmond Martin during the early part of August, 1923. (*See* "Illustrated Lepidoptera.")

2237. *Homoglæa hircina* Morr. A short series taken by Mr. T. A. Moilliet at Vavenby in March, 1922. (*See* "Illustrated Lepidoptera.")

2342B. *Oligia tonsa lævigata* Sm. Two specimens—one, a male, taken by E. R. Buckell at Nicola Lake, B.C., on July 18th, 1922, and the other, a female, taken at Saanichton, B.C., on July 7th, 1922, by Hon. J. G. Colville. It is rather strange that these two specimens, the only records that we have for the Province, should be taken in two entirely different faunal areas. Typical *tonsa* and the race *subjuncta* were illustrated on Plate III. of the Ann. Rep. Prov. Mus., 1921. The whole group is extremely rare in the Province.

Geometridæ.

4009. *Hydriomena nubilofasciata* Pack. and

4009A. *Hydriomena nubilofasciata raptata* Swett. Mr. W. R. Carter took a very long series of these geometers in a pine-woods near his home at Esquimalt (a suburb of Victoria, B.C.) during the latter end of February and the beginning of March of this year (1923). From February 26th to March 2nd 126 specimens were taken in excellent condition. The first batch of thirty-six specimens were taken on February 26th, between 8 and 9 p.m., resting on the underside of the lower pine-boughs. The weather was decidedly frosty, with about 3 inches of snow on the ground. The whole series showed a remarkable range of variation.

Mr. L. W. Swett kindly undertook to compare specimens with the types in the Packard and Swett collections and has succeeded in matching exactly the types of *nubilofasciata*, *vulnerata*, and *raptata*. There are also several intermediate forms and some specimens which do not agree with any of the published descriptions.

It is self-evident that the two latter names are not real geographical races, but simply forms of one very variable species.

4289. *Eufidonia notataria* Walk. Several specimens taken by Mr. W. B. Anderson at Prince Rupert, B.C., on May 23rd, 1923. (*See* "Illustrated Lepidoptera.")

RARE AND UNCOMMON LEPIDOPTERA TAKEN IN BRITISH COLUMBIA DURING 1923.

Victoria.—Very little of interest has been taken amongst the Macrolepidoptera during the season in this vicinity. Mr. W. R. Carter took a series of *Conoides plumogeraria* Hulst. at the end of March and noticed several *Erannis vancouverensis* Hlst. flying in November. The writer was fortunate enough to take four specimens of *Venusia obsoleta* Swett. in the first few days in May. This is the first time I have taken it and the first record for Victoria since the late Captain R. V. Harvey took it in 1908.

Saanichton.—During the season Captain J. Wise took some very nice geometers, including *Lygris harveyata* Tayl.; *L. atrifasciata* Hlst.; *Dysstroma sobria swetti* Blackm.; *Chloroscа nevadaria* Pack.; *Sabulodes cervinaria* Pack.; and *Eupithecia scabrogata* Pears. The latter are the first records of this species that I have had since Mr. T. Bryant took two specimens at Wellington, B.C., in 1903. The species is figured on Plate IV. of the Prov. Mus. Report for 1921.

Colwood.—A single specimen of *Tæniosca discivaria* Walk. was taken by the writer at rest on a tree-trunk. This is the first record for Vancouver Island.

Shawnigan Lake.—Mr. J. Clarke collected in this district for a few days in July and took a fine specimen of *Arzama obliqua* Walk., also a specimen in good condition of *Trachea impulsa* Gue. The latter is rare in collections.

Duncan.—Amongst Mr. A. W. Hanham's captures in this district the following are the most noticeable: *Catocala relicta* race *elda* Behr. (rare); *Autographa metallica* Grt.; *Olene styx* B. & McD. (rare); and *Cleora albescens* Hlst. (uncommon).

Maillardville.—Mr. L. E. Marmot took a perfect specimen of *Feralia deceptiva* B. & McD. (uncommon), a single specimen of *Cucullia florea* Grt. (rare), and two specimens of *Aplectoides occidens* Hamp. We are glad to get this latter record as it has been considered quite a rarity in the Province (*vide* Ann. Rep. Prov. Mus., 1921, page 31).

Seton Lake.—Master Desmond Martin spent July and August in this district, which is situated some 3 miles from Lillooet. He captured some very nice material, the best of the diurnals being *Strymon titus* Fabr. and *S. sæpium* Bdv., the former being especially rare. A specimen of *Tolype dayi* Blackm. was taken, which extends its known distribution. Amongst the Noctuidæ the following were the most desirable: *Agrotis oblata* Morr.; *Eriopyga perbrunnea* Grt. (rare); and *Catocala nevadensis* race *montana* Beut. In the Geometridæ a specimen of *Macaria bicolarata* Fabr. was taken; this is very rare in British Columbia. I have only seen two other specimens, one from Armstrong and one from Kaslo. *Itame denticulodes* Hulst. and *Plagodis approximaria* Dyar were also taken, both of which are rare in collections.

Vavenby.—The material collected in this locality by Mr. T. A. Moilliet and his son reflected the general conditions prevailing throughout the Province. Amongst the Geometridæ there was nothing of any special interest, but in the Noctuidæ there were several species which we are pleased to have. The following are the most desirable: *Heliothis phloxiphaga* G. & R.; *Anytus evelina* French (only previous record from the Province is Rossland); *Cryptocala gilvipennis*

Grt. (rare); *Scotogramma trifolii* Rott.; *Polia sutrina Grt.* (very rare on the Mainland); *Pyrrhia umbra experimens* Wlk.; and *Autographa orophila* Hamp. (rather rare). A fine specimen of *Pachysphinx modesta* Harris was also taken.

Marron Lake.—A few specimens were taken by Mr. C. deB. Green in the latter part of September; the two most desirable species being *Euxoa andera* Sm. and *Trachea mactata allecto* Sm., both of which are rather rare in collections.

Mr. W. B. Anderson, Dominion Inspector of Indian Orchards, states that although last year was a bad one from a collecting standpoint, this year was very much worse. Amongst the comparatively few species taken, the best were *Heodes cupreus* Edw., taken at Paradise, B.C., a mining camp in the Selkirk Range at an altitude of 7,300 feet and about 20 miles from Invermere. This brilliant "copper" butterfly has only previously been recorded in the Province from Mount McLean. A single specimen of *Apantesis parthenice* Kirby was taken at Invermere, B.C., *Melicleptria sueta* Grt. was taken at Chase, B.C. This latter species is very rare in the Province, our previous records being from Vaseaux Lake and the Hope Mountains.

MICROLEPIDOPTERA.

Owing to the extensive collecting done in this group during the previous three seasons, much of the material sent in was found to be a duplication of species already set up; consequently I only mounted some 880 specimens this season. However, many new records for the Province were discovered and series of hitherto rare species were taken.

Collections have been made at Victoria, Brentwood, Saanichton, Colwood, Goldstream, Shawnigan Lake, Duncan, Maillardville, Seton Lake, Marron Lake, and Vavenby.

The following list of species are new to the Province and are additional to those previously published in the Annual Reports of the Provincial Museum for 1920, 1921, and 1922. Included in this list are species taken in 1921 and 1922, but which have only recently been definitely determined.

The numbers and arrangements are in accord with Barnes & McDunnough's Check-list (1917), with the exception of the Eucosminæ, which are arranged according to Heinrich's "Revision of the Eucosminæ of North America" (1923).

Collectors: W. B. Anderson, E. H. Blackmore, E. R. Buckell, Dr. W. R. Buckell, W. R. Carter, J. Clarke, Hon. J. G. Colville, G. O. Day, C. deB. Green, A. W. Hanham, L. E. Marmont, T. A. Moilliet, and Captain J. Wise.

Pyralidæ.

5344. *Crambus præfectullus* Zinck. Adams Lake (W. R. B.).
5417. *Ommatopteryx ocellea* Haw. Nicola Lake (E. R. B.).
5474. *Jocara trabalis* Grt. Marron Lake (C. deB. G.).
5566. *Dioryctria ponderosæ* Dyar. Duncan (G. O. D.).
5631B. *Salebria virgatella inconditella* Rag. Shawnigan Lake (J. C.); Duncan (A. W. H.).
5670. *Epischnia albiplagiatella* Pack. Nicola Lake (E. R. B.).

Pterophoridæ.

5865. *Platyptilia marmarodactyla* Dyar. Revelstoke Mountain (W. R. B.).
* *Platyptilia mæa* B. & L. Fort Steele (W. B. A.).

Cosmopterygidæ.

5982. *Cystiœcetes nimbosus* Braun. Victoria (E. H. B.); Maillardville (L. E. M.).
6017. *Mompha murtfeldtella* Cham. Shawnigan Lake (J. C.); Duncan (A. W. H.); Maillardville (L. E. M.).

Gelechidæ.

6083. *Telphusa belangerella* Cham. Maillardville (E. H. B.).
6214. *Gelechia trophella* Busck. Saanichton (J. G. C.; J. W.).
6236. *Gelechia fluvialella* Busck. Salmon Arm (W. R. B.).
6263. *Gelechia versutella* Zell. Victoria (J. C.).
* *Gelechia trichostola* Meyr. Victoria (Dr. A. J. Turner; E. H. B.; W. R. C.).

Olethreutidæ (Eucosminæ).

6766. *Barbara colfaxiana siskiyouana* Kearf. Duncan (G. O. D.).
* *Thiodia fertoriana* Hein. Goldstream.
* *Eucosma metariana* Hein. Victoria (E. H. B.).
* *Epiblema purpurissatana* Hein. Vernon.
* *Epiblema gratuitana* Hein. Victoria (E. H. B.); Duncan (A. W. H.).
* *Epiblema periculosana* Hein. Mount McLean (A. W. H.).
7157. *Zeiraphera ratzeburgiana* Ratz. Victoria (E. H. B.; W. R. C.).
6954. *Epinotia miscana* Kearf. Mount McLean (A. W. H.).
* *Epinotia digitana* Hein. Kaslo (Dr. H. Dyar).
* *Epinotia meritana* Hein. Victoria (W. R. C.).
* *Epinotia vagana* Hein. Victoria (E. H. B.).

Olethreutidæ (Olethreutinæ).

6807. *Exartena quadrifidum* Zell. Chase (W. B. A.); Duncan (A. W. H.).
6819. *Olethreutes deceptana* Kearf. Victoria (A. W. H.).
6833. *Olethreutes chalybeana* Wals. Shawnigan Lake (J. C.).

Tortricidæ.

7366. *Cacœcia pallorana* Rob. Duncan (A. W. H.).
* *Cacœcia columbiana* McD. Salmon Arm (W. R. B.).
7415. *Peronea oxycoccana* Pack. Maillardville (L. E. M.).

Phalonidæ.

7543. *Hysterosia waracana* Kearf. Duncan (G. O. D.; A. W. H.).
7544. *Hysterosia cartwrightana* Kearf. Vavenby (T. A. M.).

Glyphipterygidæ.

7605. *Allononyma diana* Hub. Goldstream (A. W. H.).

Yponomeutidæ.

7684. *Argyresthia quadristrigella* Zell. Victoria (W. R. C.); Saanichton (J. G. C.).
7708. *Argyresthia pedmontella* Cham. Victoria (W. R. C.); Brentwood (E. H. B.).
7710. *Argyresthia mesocausta* Meyr. Victoria (E. H. B.).

Gracilariidæ.

7894. *Lithocolletis basistrigella* Clem. Victoria (E. H. B.; W. R. C.).
7906. *Lithocolletis alnicolella* Wlsm. Maillardville (L. E. M.).
7911. *Lithocolletis scudderella* F. & B. Victoria (E. H. B.); Maillardville (L. E. M.).
7928. *Lithocolletis fragilella* F. & B. Victoria (E. H. B.); Saanichton (J. G. C.); Maillardville (L. E. M.).
7942. *Lithocolletis hamadryadella* Clem. Victoria (E. H. B.; W. R. C.).
8011. *Parectopa salicifoliella* Cham. Vavenby (T. A. M.).
8013A. *Ornix guttea solitariella* Dietz. Victoria (E. H. B.).
Gracilaria syringella Fab. Maillardville (L. E. M.).

Scythrididæ.

* *Epermenia alameda* Braun. Duncan (A. W. H.).

Lyonetiidæ.

8125. *Bucculatrix canadensisella* Cham. Victoria (E. H. B.; W. R. C.); Maillardville (L. E. M.).
8135. *Bucculatrix pomifoliella* Clem. Maillardville (L. E. M.).

Tineidæ.

8223. *Scardia anatomella* Grt. Vavenby (T. A. M.).
8268. *Tinea niveocapitella* Cham. Saanichton (J. G. C.).

Nepticulidæ.

8373. *Nepticula latifasciella* Cham. Victoria (E. H. B.; W. R. C.).
8383. *Nepticula pomivorella* Pack. Victoria (E. H. B.).
8401. *Nepticula diffasciæ* Braun. Victoria (E. H. B.; W. R. C.).

ILLUSTRATED LEPIDOPTERA (PLATE V.).

Noctuidæ.

* *Euxoa lindseyi* Blackmore. This new species is rather uncommon, as I have only taken five specimens in twelve years' collecting on the Island. The ground colour is cinereous grey, with sparse fuscous markings. It is closely allied to *catenula* Grt., which occurs on the Mainland.

1328. *Euxoa murdocki* Smith. A single specimen of this rare species was taken by Mr. E. R. Buckell at Nicola Lake, B.C., on August 24th, 1922. I have only seen one other specimen from British Columbia (taken by Mr. A. W. Phair at Lillooet). The species is recorded in our Check-list from "B.C.," but Smith's North-west British Columbia really meant Alberta, in the vicinity of Red Deer and Edmonton. The above two specimens are the only authentic British Columbia records.

1517. *Aphareta pyralis* Sm. This species is a new record for British Columbia and was taken by Mr. L. E. Marmont at Maillardville on August 15th, 1922. It is a very interesting capture and was originally described (Ent. News, Vol. 7, page 26, 1896) from two specimens taken by the late F. H. Wolley Dod at Calgary, Alta.

1647. *Lasiestra phoca* Moesch. A short series taken by Mr. A. W. Hanham at Mount McLean in August, 1921. It had been confused with the race *luteola* Sm. taken at the same time and place, but it is consistently smaller and differs in minor particulars, especially on the under-side of the secondaries. *Phoca* was described from Labrador in 1864 and it also occurs in Colorado.

* *Oncocnemis parvanigra* Blackm. The first specimen of this new species was taken by Mr. J. W. Cockle at Kaslo on August 12th, 1909. No further specimens were captured until 1921, when Mr. Cockle took another one on August 6th, and Mr. Hanham captured one on Mount McLean on August 14th of the same year. The only male specimen was also taken by Mr. Cockle on August 10th, 1922. It is close to *tenuifascia* Sm.

2122. *Brachylomia populi* Strecker. A beautiful specimen of this species was taken last August by Desmond Martin at Seton Lake, near Lillooet. This is the first record that we have of this species from British Columbia, although it has been recorded from Calgary and Red Deer, in Alberta. It was originally described from Colorado.

* *Litholomia napæa* race *umbrifasciata* Blackm. This is our common Vancouver Island form, which is quite distinct from typical *napæa*, the latter also occurring in the Interior of British Columbia. In *umbrifasciata* the ground colour is a greyish-white and has a contrasting dark-brown median band, while in *napæa* the colour is dark grey, with the maculation somewhat obscured. It is also consistently larger.

2223. *Parastichtis decipiens* Grt. The specimen figured was taken by Dr. W. R. Buckell at Salmon Arm. The species must be very local as we have no record of it from any other locality. *Decipiens* was described from Indiana in 1881. It is closely related to *P. acta* Grt., which is common on Vancouver Island in the late fall.

2237. *Homoglæa hircina* Morr. A short series of this species, which is new to the Province, was taken by Mr. T. A. Moilliet at Vavenby at the end of March, 1922. It is variable in colour, but does not differ materially from Eastern specimens. It is considerably smaller than either *H. carbonaria* Haw. or *H. dives* Sm., both of which occur in British Columbia, the former on the Mainland and the latter on Vancouver Island.

Notodontidæ.

3652. *Ianassa semirufescens* Wlk. The specimen illustrated was taken by Mr. L. E. Marmont on July 12th, 1923. It is rather a rare species in the Province. In the 1906 Check-list *I. semirufescens* var. *perangulata* Hy. Edw. is recorded from Wellington and Kaslo, and I strongly suspect that these records refer to *semirufescens*. *Perangulata* is now treated as a distinct species, although very similar superficially.

PLATE V.

NOCTUIDÆ—NOTODONTIDÆ—GEOMETRIDÆ.

Euxoa lindseyi Blackm.
(Allotype female.)
Victoria, B.C. (E. H. Blackmore).
(New to science.)

Litholomia napæa umbrifasciata Blackm.
(Partotype male.)
Victoria, B.C. (E. H. Blackmore).
(New to science.)

Ianassa semirufescens Walk.
Fraser Mills, B.C. (L. E. Marmont).
(Rather rare.)

Brachylomia populi Stkr.
Seton Lake, B.C. (D. Martin).
(New to British Columbia.)

Homoglæa hircina Morr.
Vavenby, B.C. (T. A. Moilliet).
(New to British Columbia.)

Parastichtis decipiens Grt.
Salmon Arm, B.C. (W. R. Buckell).
(Very local.)

Apharetra pyralis Sm.
Fraser Mills, B.C. (L. E. Marmont).
(New to British Columbia.)

Lasiestra phoca Moesch.
Mount McLean, B.C. (A. W. Hanham).
(New to British Columbia.)

Euxoa murdocki Sm.
Nicola Lake, B.C. (E. R. Buckell).
(Very rare.)

Oncocnemis parvanigra Blackm.
(Allotype female.)
Kaslo, B.C. (J. W. Cockle).
(New to science.)

Eufidonia notataria Walk.
Prince Rupert, B.C. (W. B. Anderson).
(New to British Columbia.)

MICROLEPIDOPTERA.

Ommatopteryx ocellea Haw.
Nicola Lake, B.C. (E. R. Buckell).
(New to British Columbia.)

Scardia anatomella Grt.
Vavenby, B.C. (T. A. Moilliet).
(New to British Columbia.)

Salebria virgatella inconditella Rag.
Shawnigan Lake, B.C. (J. Clarke).
(Rather rare.)

Evergestis insulalis B. & McD.
Saanichton (J. Wise).
(Uncommon.)

Dioryctria ponderosæ (Dyar).
Quamichan Lake, B.C. (G. O. Day).
(New to British Columbia.)

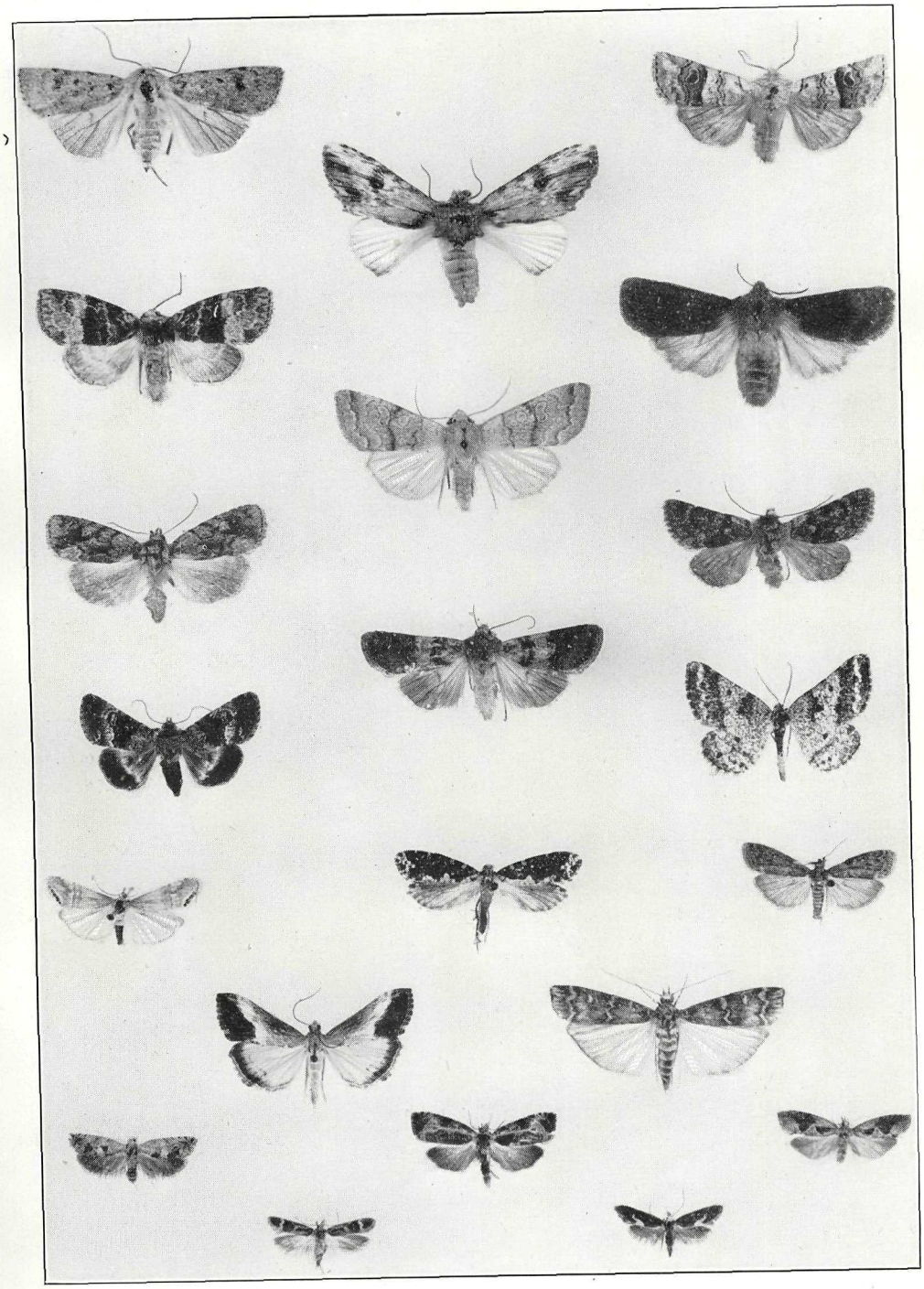
Eucosma metariana Hein.
Victoria, B.C. (E. H. Blackmore).
(New to science.)

Exartema quadrifidum Zell.
Chase, B.C. (W. B. Anderson).
(New to British Columbia.)

Epinotia vagans Hein.
Victoria, B.C. (E. H. Blackmore).
(New to science.)

Gelechia trophella Busck.
Saanichton (J. C. Colville).
(New to British Columbia.)

Epicallima coloradella Wlshm.
Victoria, B.C. (W. R. Carter).
(Rather rare.)



Geometridæ.

4289. *Eufidonia notataria* Wlk. Several specimens of this pretty little geometer were taken by Mr. W. B. Anderson on May 23rd, 1923, at Prince Rupert. This is the first record of this species in British Columbia, although it occurs in Alberta and eastward to the Atlantic Coast.

Pyralidæ.

4992. *Evergestis insulalis* B. & McD. The specimen illustrated was taken by Captain J. Wise at Saanichton on July 2nd, 1923, and although the species occurs regularly but sparingly on Vancouver Island, it is very seldom that a specimen is taken in such fine condition. The species was described (Cont. Lep. No. Amer., Vol. 2, page 229, Aug. 1914) from specimens taken at Duncan and Victoria.

5417. *Ommatopteryx ocellea* Haw. This exceedingly delicate species was taken by Mr. E. R. Buckell at Nicola Lake on July 18th, 1923, and is a new record for the Province. It is a native of the Mediterranean coasts and has been accidentally imported into a number of countries, including Asia, Africa, North America, and Australia.

5566. *Dioryctria ponderosæ* Dyar. This is another new record for the Province and was taken by Mr. G. O. Day at Quamichan Lake, near Duncan. It must be very rare as well as local, Mr. Day having only taken two specimens in sixteen years' collecting, and we have no other record.

5631B. *Salebria virgatella inconditella* Rag. The specimen illustrated was taken by Mr. J. Clarke at Shawnigan Lake on July 14th, 1923, and is new to our list. Mr. A. W. Hanham also took a specimen, but not in such good condition, at Quamichan Lake late in July.

Gelechidæ.

6214. *Gelechia trophella* Busck. A short series of this rather striking gelechid was taken by Hon. J. G. Colville at Saanichton during June, 1922, and two specimens were taken by Captain Wise in June of this year at the same place. We have not seen it from any other locality. It was described (Pro. U.S.N.M., Vol. 25, page 860, 1903) from Platte Canyon, Colorado. The larvæ were found feeding on oak.

Œcophoridæ.

6492. *Epicallima coloradella* Wlsm. Mr. W. R. Carter took a short series of this species during the past summer. It has always been considered somewhat of a rarity in British Columbia collections. It has been previously recorded from Kaslo (Cockle) and I have seen one specimen taken at Duncan by Mr. Day.

Olethreutidæ.

6807. *Exartema quadrifidum* Zell. This pretty grey and maroon species was taken by Mr. W. B. Anderson at Chase on July 18th, 1923. A specimen was also taken in June by Mr. Hanham at Quamichan Lake. It is a new record for the Province.

* *Eucosma metariana* Heinrich. The ground colour of this new species is white, with brown lines and spots, and it measures about 14 mm. in alar expanse. It is not at all common, as I have only taken three or four specimens in as many years, including the paratype. It occurs in July, and as far as I know is very local. I have only found it in one very small area.

* *Epinotia vagana* Hein. This new species is rather striking in colour, the costal half of the fore wings being a bright purplish red. It measures about 18 mm. in alar expanse. The larvæ feed on wild crab-apple and the adult flies in August and September. Described in part from five specimens taken by the writer at Victoria and one specimen taken by Mr. Hanham at Duncan.

Tineidæ.

8223. *Scardia anatomella* Grt. A single specimen of this species, which is a new record for the Province, was taken by Mr. T. A. Moilliet at Vavenby on June 8th, 1923. It is a very striking species and was originally described from New York in 1882.

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