PROVINCE OF BRITISH COLUMBIA

REPORT

OF THE

PROVINCIAL MUSEUM

OF

NATURAL HISTORY

FOR THE YEAR 1930

PRINTED BY
AUTHORITY OF THE LEGISLATIVE ASSEMBLY.

VICTORIA, B.C.:
Printed by CHARLES F. BANFIELD, Printer to the King's Most Excellent Majesty.
1931.

To His Honour JAMES ALEXANDER MACDONALD,
Administrator 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 1930.

SAMUEL LYNESS HOWE,
Provincial Secretary.

Provincial Secretary's Office,
Victoria, B.C., March 26th, 1931.

PROVINCIAL MUSEUM OF NATURAL HISTORY,
VICTORIA, B.C., March 26th, 1931.

The Honourable S. L. Howe,
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, 1930, 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 S. L. Howe, *Minister.*

P. de Noe Walker, *Deputy Minister.*

PROVINCIAL MUSEUM OF NATURAL HISTORY.

Staff:

Francis Kermode, *Director.*

William A. Newcombe, *Assistant Biologist.* Nancy Stark, *Recorder.*

John F. Clarke, *Associate Curator of Entomology.*

Frank J. Risser, *Attendant.*

SKIDEGATE, QUEEN CHARLOTTE ISLANDS. 1878.

PLATE I.

REPORT *of the*
PROVINCIAL MUSEUM OF NATURAL HISTORY
FOR THE YEAR 1930.

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 following figures show the difference between those who registered and those who were checked by the attendants. While only 28,920 people registered, the total of the check was 56,739.

	Registered.	Checked.
January	1,125	2,351
February	1,086	2,301
March	1,075	2,295
April	1,164	2,446
May	1,846	3,733
June	3,008	5,725
July	6,770	12,796
August	6,978	13,043
September	3,096	6,059
October	1,122	2,322
November	924	2,059
December	726	1,609
Totals	28,920	56,739

ACTIVITIES.

In comparing our attendance records with those of the previous year a slight decrease will be noted, which is accounted for by the decided decline in the number of tourists visiting Victoria in the summer of 1930; the balance of the year comparing very favourably with that of recent years.

However, I am pleased to say the same interest or even more is taken by students. Normal School continues to use the collections extensively in their natural-history studies, and many of the teachers of the public and private schools in Victoria and surrounding municipalities have made use of the Museum when giving lessons on the Fauna and Flora of British Columbia. Many of the boys of the "newsboy excursions" to Victoria from the Mainland and Puget Sound cities also appeared to find a great deal to interest them in the Museum, as did the students of the University of Oregon Summer School, who again visited us on their way to Alaska.

Although no field parties were sent out, our accession lists show many valuable additions to the collections, for which I have to thank our many contributors not only for their donations, but also for a great deal of valuable information.

The Director made a special trip north during August and arranged with Mr. Monroe, Government Agent at Prince Rupert, to have the late Dr. Hyde's anthropological collection shipped to Victoria for examination and preservation until such time as final disposition is made of the estate.

Correspondence with nature students in many parts of the Province has increased steadily, which with that to other natural-history institutions occupies a great deal of the time of our small staff.

Owing to the many inquiries we receive for information on the totem poles of the Province a short paper is included in the report. The authority for the information is taken from references in "Logs and Journals of the early fur-traders" on the Coast, and from that to be noted in the first photographs of the various villages, together with the observations made by the author at many of the old village-sites. The illustrations showing where possible Provincial Museum specimens in their original settings are, unless otherwise stated, from photographs taken by the late Dr. C. F. Newcombe, who collected the greater portion of the Museum's anthropological material.

Professor Harold St. John, formerly of State College of Washington, at present with the Botanical Department of the University of Hawaii, Honolulu, who for many years has been of great assistance to us with our botanical problems, has contributed a paper on the genus *Olsynium* of the Iris family, in which he includes a species new to Canada collected by W. B. Anderson.

In conclusion, I want to express my sincere thanks to Mr. J. F. Clarke for the special visit he made to Victoria to assist us with our entomological material and to the scientists of many institutions to whom we have had occasion to send specimens for determination.

On occasions it having been found necessary to have extra guards placed in the building, I wish to express my thanks to Inspector Parsons, of the British Columbia Police, for placing men at our disposal.

BRITISH COLUMBIA TOTEM POLES.

By W. A. Newcombe.

The Provincial Museum collection of totem poles represents types from all the linguistic groups of British Columbia Indians, with the exception of a specimen from the Tsimshian. The carvings known as "totem poles" were made from solid logs of red cedar (*Thuya plicata*), with the carved surfaces painted in native colours, chiefly red, black, and green in the older specimens; the balance of the post showing no other treatment than the necessary adzing to trim off rough surfaces; though many of the northern poles were hollowed at the back to make them easier to handle.

Totem poles have been grouped into the following classes: "The Memorial," a crest pole erected by the heirs of the deceased; the chief type of the Tsimshian. Among the Haida, though they had many of this kind, the "house frontal" poles were found in greater numbers; the carvings either denoting crests or characters in stories. A hole about 2 by 3 feet was often made at the base which served as the only entrance to the house. A Haida custom was also the use of "Mortuary poles"; these were solid logs sometimes over 4 feet in diameter, about 30 feet high. At the top, in front, a section was removed to receive the coffin. Wide horizontal boards, often carved, were fastened over this opening. Crests of the deceased were the carvings represented. A fourth group, the carved inside house supports; these, together with various forms of grave figures (often called totem poles), were formerly used over a much greater area than the memorial and house frontal poles.

The inside-house poles were found in most of the Coast villages from Victoria, B.C., to Lynn Canal, Alaska. In the north many were elaborately carved with the crests of the owner, or occasionally illustrated legends. Among the Kwakiutl they were heraldic, referring to the traditions of the house-owner; those of the Salish and Nootkan, if carved at all, represented an event that had happened to the owner.

The grave figures have been noted from Washington State to the Yukon, those used by the Interior Salish and Déné as well as the Coast Salish generally taking a human form; though among the northern coast tribes large carvings of animals or birds served the same purpose.

We have no definite data on the origin of this peculiar custom of carving poles, but from what little information we have been able to secure it appears to have spread both north and south from the northern boundary of the British Columbia Coast. It is open to argument as to whether the Haida or Nisrae (Nass River, Tsimshian) were the founders. Captain Bartlett, who visited Langara Island, Q.C.I., in 1790, gives the first illustration of a "house frontal pole," though they had been reported here by one of Meares's captains (Captain Douglas) the year before.

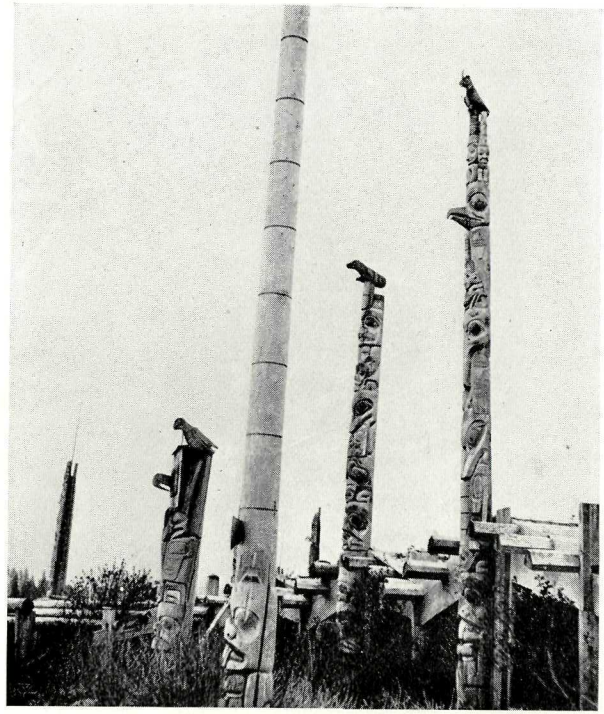


FIG. 1. TANU, QUEEN CHARLOTTE ISLANDS.

FIG. 2. TANU, QUEEN CHARLOTTE ISLANDS.

INSIDE POLE FROM SKIDEGATE, Q.C.I.

A volume of Captain Cook's third voyage, 1778, has an illustration of a house interior at Nootka, which gives our first record of an inside pole. For the antiquity of the custom of making memorial columns and mortuary poles we have to rely on Indian tradition, an unsatisfactory method, as the North-west Indians appear to have had no reliable way of recording time. Captain Marchand, in a French vessel, visited the north-west coast of Queen Charlotte Islands in 1791, and one of his boat parties noted grave carvings on a small island in Parry Passage. Captain Vancouver, who surveyed the mainland coast from Juan de Fuca Strait northward to Alaska, first came across what were apparently small totem poles in Johnson Channel, not far from the present Ocean Falls, but one of the illustrations made in 1793, of Cheslakee's village at the mouth of the Nimpkish, shows the majority of the houses with totemic designs painted on the front. It has been stated as evidence that the Haida and other outlying tribes did not have totem poles until after the advent of fur-trading on the coast, because no mention of them is made in the various published works of these voyages; but it should be understood that these captains, not knowing the waters and being afraid of Indian treachery, remained well offshore, doing their trading under sail.

I have no doubt though that the iron secured by these natives in return for sea-otter skins greatly reduced the cost of manufacturing poles, making it possible for the lesser chiefs and the more wealthy individuals of the various villages to imitate the custom of their superiors. Our first definite information on this point is found in a Roquefeuil entry of 1818, when visiting Masset, where he states: "the houses were particularly remarkable for the monstrous and colossal figures which decorate the houses of the principal inhabitants and the wide gaping mouths of which serve as a door." A somewhat similar expression is used by Jonathan Green, an American missionary, who visited Skidegate in 1829. The carving and erecting such a group of poles would have been spread over a number of years, as the cost of one was not only its manufacture and setting-up, but at each of the different stages of progress was accompanied by various ceremonies, in the nature of "potlatches," which would have impoverished, for the time being, not only the owner but all his immediate relatives as well, with the idea of making a greater display of wealth than some rival for tribal honours.

If accepting this theory, one could safely say that the use of totem poles was a well-established custom among the Haida by 1800.

Unfortunately we have no similar evidence to support the traditions of the Tsimshian. The inhabitants of the islands adjacent to Banks Island, now known as the Kitkatlas, but formerly as "Sebassas," were frequently visited by early traders, but no evidence of totem poles has come to light for this area, in the logs and journals that have been published—the old Nisrae (Nass) villages were situated above tidal waters of the Nass River, vessels trading with these Indians having to anchor many miles from the nearest settlements. This tribe was considered the wealthiest on the north-west coast on account of the great supply of "oolachan-oil" made each year on the river. This oil was traded not only with the adjacent Coast tribes for canoes, sea foods, etc., but also to the Skeena Tsimshian and Déné for moose and caribou hides, vegetable foods, etc. Though I agree with the signs of affluence found in this locality, I am not satisfied with the theory that the Nass Indians were the originators of the totem pole. The only illustrated evidence we have both from here and the Skeena River villages is of quite recent date. These photographs all show poles with carving similar to that found on their masks and ceremonial objects, not the bold distinctive type, that the Haida only used on totems and other objects to be seen at a distance, as if the Haida realized that the fine, detailed carving which they used on the household utensils and ceremonial objects was not suitable for outside work, being undistinguishable at a very short distance. This theory would lead one to consider that the Tsimshian tribes had only recently adopted the large memorial pole, and that their carvers had not developed a type of carving, in which the characters could be read on approaching the village, when the custom was abandoned.

I am often asked by visitors if the totem pole was used as an "idol." In the numerous articles published on these objects, as well as many manuscript notes I have been able to read, I can find no reference to any form of idolatry in connection with them.

The main object for the erecting of the various types of totem poles was for the display of wealth with the idea of shaming a rival, or a memorial or mortuary pole in memory of a leading member of the tribe. Little value appears to be placed on it after the passing of the generation in which it was erected, if one judges by the condition of the poles in the old villages and the number that have been used for firewood or other purposes about the village.

The accompanying illustrations are inserted with the hope that the foregoing article may be made more intelligible. Where possible, I have used photographs showing the Provincial Museum specimens in their original locations. The descriptions being as follows:—

Plate I. Skidegate, Queen Charlotte Islands, 1878. The photograph taken by Dr. G. M. Dawson only takes in the eastern half of the village, but gives one a very good idea of the appearance of an old Haida village. In the second house from the left, marked with a cross, the inside poles (illustrated in Plate III.) supported the main beam of the gable-roof.

Plate II., Fig. 1. Tanu, Queen Charlotte Islands. The two poles on the right of the photo are: House frontal; the next is a memorial pole, with the beaver crest at the base; and the fourth a Haida mortuary pole (P.M. No. 1392), with an eagle sitting on top, thunder-bird on the horizontal board coverings, and a beaver at the base.

Plate II., Fig. 2. Tanu, Queen Charlotte Islands. An eagle and whale monument of the Haida (P.M. No. 1393). The whale is about 16 feet long.

Plate III. A Haida "inside-house pole" (P.M. No. 1). This pole originally stood in Skidegate village, Queen Charlotte Islands. It represents some of the principal crests of a Skidegate chief. The upper figure is a raven with two frogs hanging from its mouth, and below it is the mythical mountain-hawk holding a whale in its talons.

Plate IV., Fig. 1. Angidah, Nass River.

Plate IV., Fig. 2. Kitladamix, Nass River.

These two cuts illustrate the old type of totem found among the Nisrae Tsimshian, whose carvers, some authorities believe, were the founders of the custom.

Plate V. Tsawadi, Knight Inlet. From a photograph taken by R. Maynard in 1873. The tall pole on the right of the picture is similar to P.M. Nos. 1859 and 1863; this is the original type of pole of the Kwakiutl and the specimen shown was apparently old at the time of taking the photograph. The inside pole supporting the house-beam shows the "thunder-bird," and the "dsonoqua," the mythical "wild woman of the woods." (P.M. No. 1854), from Koskimo, V.I., supported a similar beam.

NOTE.—The elaborately carved and painted outside poles found among the Kwakiutl to-day are a modern design. Anthropologists first noting them at Alert Bay about 1890.

Plate VI. Tsawadi, Knight Inlet. Inside poles. Many of the older houses had two or more carved poles supporting a timber upon which rested the central house-beam. The three poles shown are P.M. Nos. 1860, 1861, 1862, with "dsonoqua" and bear carvings of the Kwakiutl.

Plate VII., Fig. 1. Sarita, Barkley Sound. A Nootkan "inside-house pole" (P.M. No. 2105). This was the only form of totem pole commonly used by the Nootkan.

Plate VII., Fig. 2. Ohiat, Barkley Sound. These two potlatch figures known as "welcome poles" (P.M. Nos. 2102 and 2103) are the only two large specimens I have information on in my Nootkan records, though small carvings like these were commonly used by the Kwakiutl.

Plate VIII. Talio, South Bentinck Arm. A Bella Coola Salish "house frontal pole" (P.M. No. 2308).

Plate IX., Fig. 1. Talio, South Bentinck Arm. Two house frontal poles will be noticed with the high arch at their base, which served as the main entrance to the house. The pole on the right is now P.M. No. 2308. I have only records of similar poles from Bella Coola Salish and the Northern Kwakiutl villages of Bella Bella and Owikeno. The houses on posts should also be noted. The first reference we have to this village with houses on "stilts" was made by Lieutenant Johnstone, in command of one of Captain Vancouver's boat parties, in 1793. This form of building was often resorted to in the area where houses were built on river estuaries, as these situations are subject to freshets and occasionally a form of "tidal wave."

Plate IX., Fig. 2. Salish inside-house poles (P.M. No. 2355). Few Salish houses had carved house-poles. The greatest number have been recorded from Comox, V.I., and Musquiam, at the mouth of the Fraser; only one or two pair were found in the Songhee village, Victoria, and five in an old house at Quamichan (a modern house at the latter village has six). Comox were the only Salish villages, according to the earliest information available, to have outside totem poles; a custom they probably acquired from the Kwakiutl. The type of pole being similar to that shown in Plate V.

Plate IX., Fig. 3. Ruby Creek, B.C. Grave figures such as these, often called "totem poles," have been photographed in many localities in Southern British Columbia.

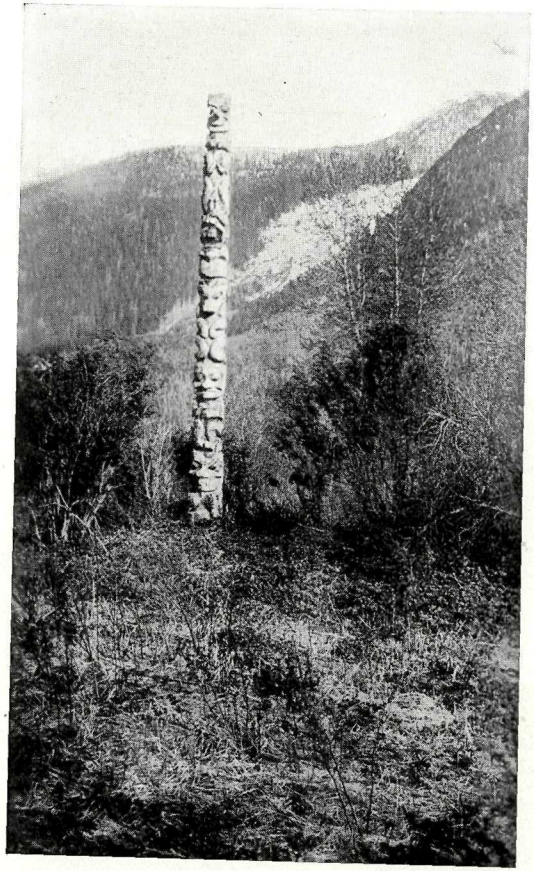
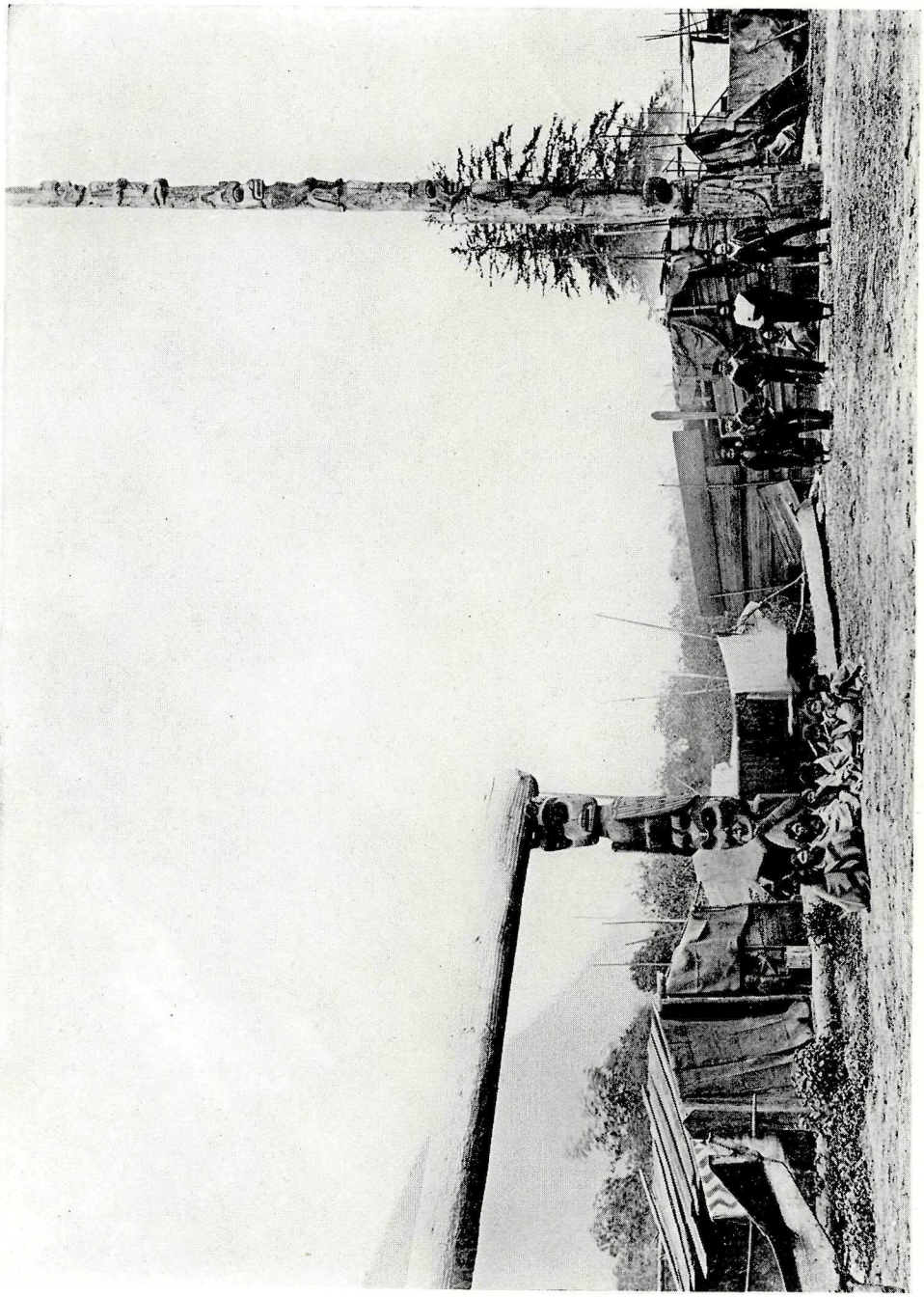


FIG. 1. ANGIDAH, NASS RIVER.

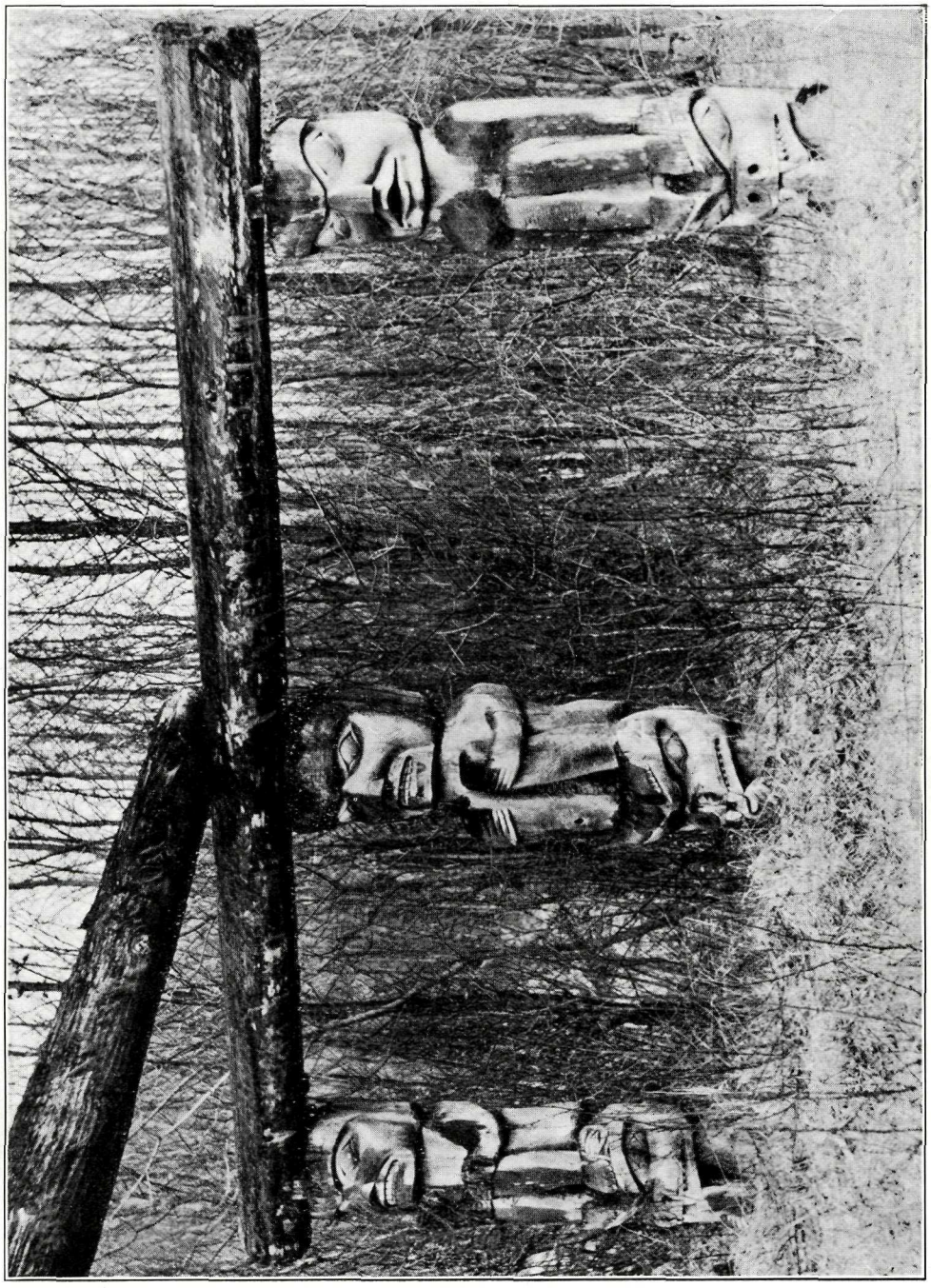
FIG. 2. KITLADAMIX, NASS RIVER.

PLATE V.



TSAWADI, KNIGHT INLET, ABOUT 1873.

PLATE VI.



TSAWADI, KNIGHT INLET.

FIG. 2. OHIAT, BARKLEY SOUND.

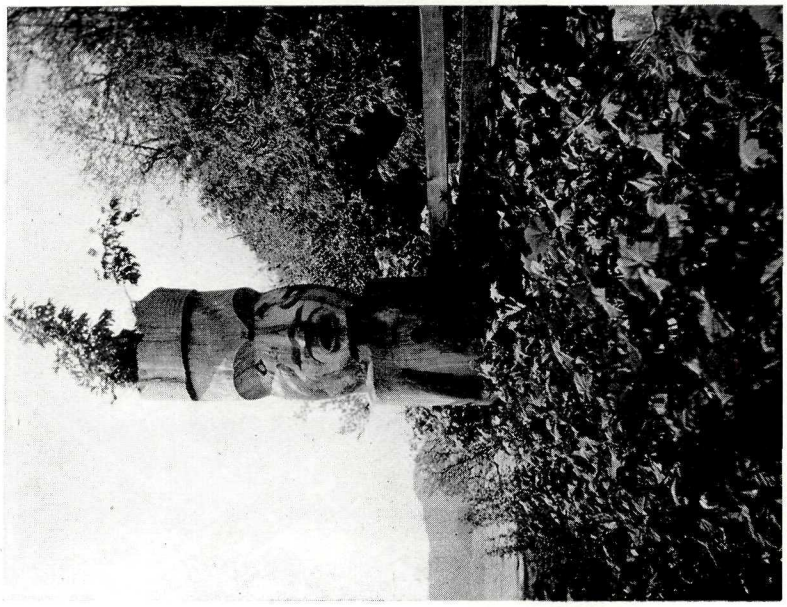
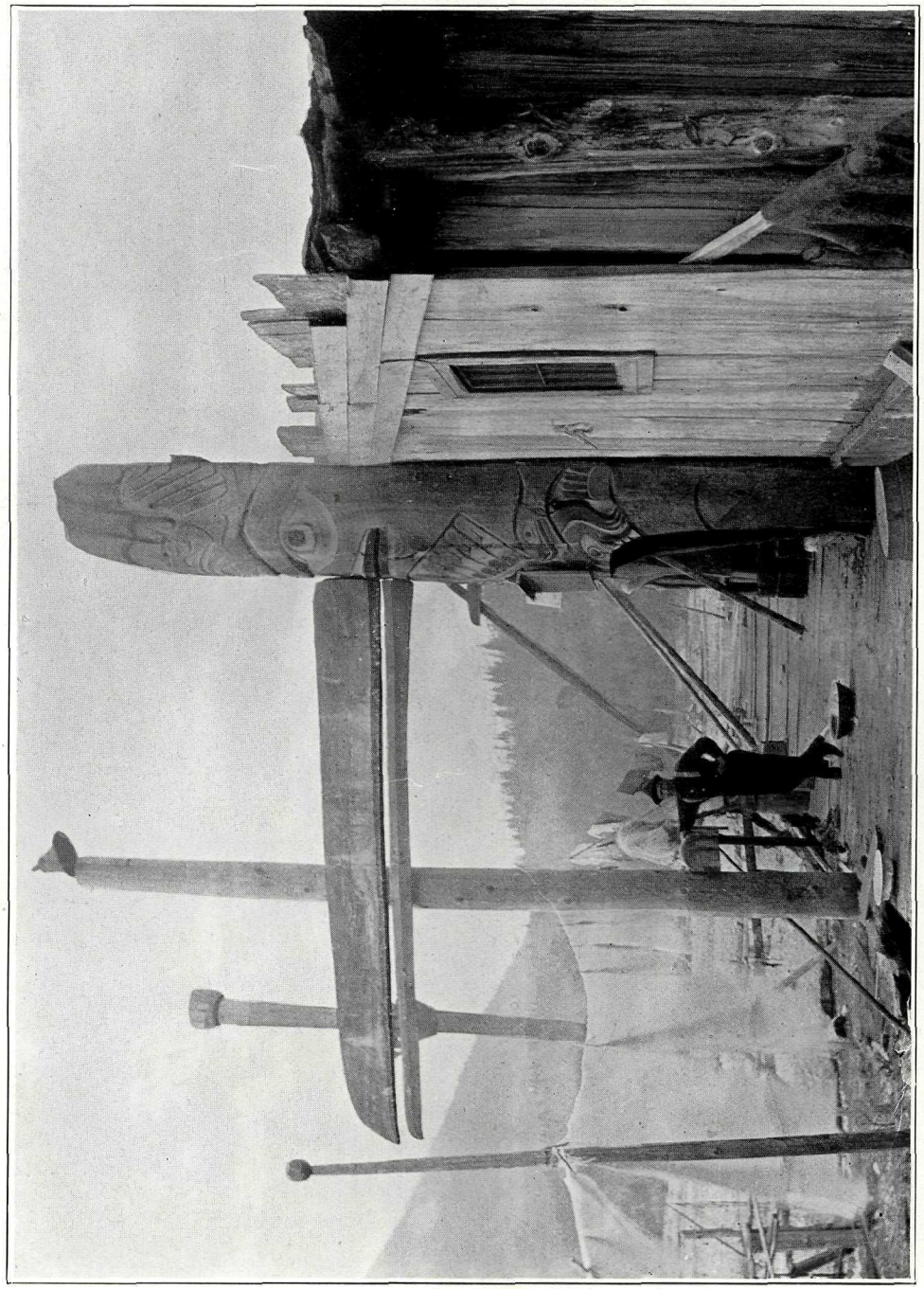


FIG. 1. SARITA, BARKLEY SOUND.



TALIO, SOUTH BENTINCK ARM.

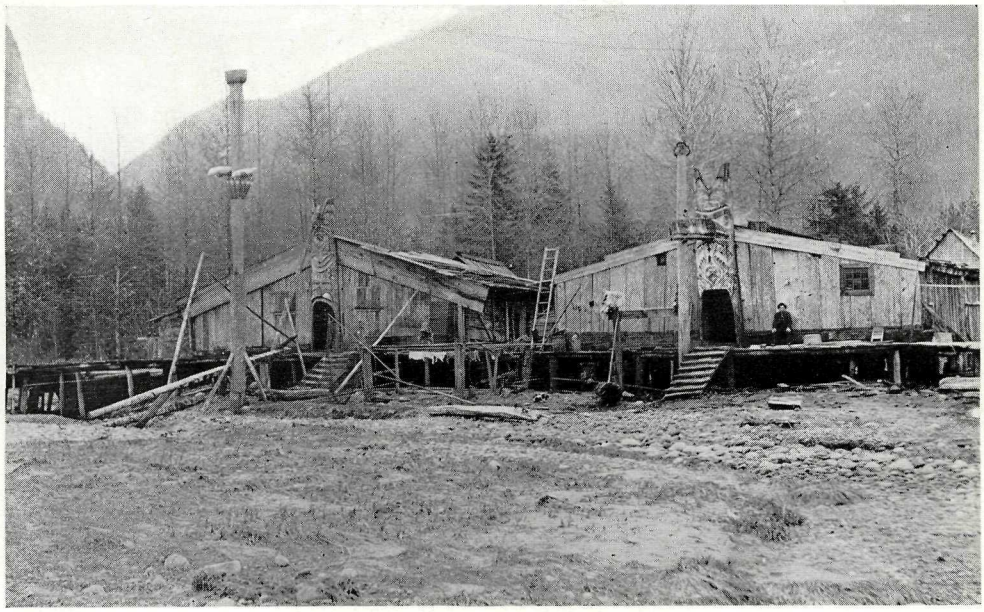


FIG. 1. TALIO, SOUTH BENTINCK ARM.

FIG. 2. SALISH INSIDE POLE.

FIG. 3. GRAVE POSTS, RUBY CREEK.

REDUCTION OF OLSYNIUM.

By Harold St. John.

(Contribution from the Botany Department of the State College of Washington, No. 32.)

Early spring brings to each region its own spectrum of gay flowers. One of the showiest of the display in the Pacific North-west is the "Grass Widow," which dangles magenta cups from the summit of its slender, swaying stems. They are so numerous that they survive and still abound in spite of extensive picking. The writer first gained familiarity with these plants in the "Palouse Country" while living at Pullman, Washington. He records these notes in order to clarify their scientific name and classification and to record a northern extension into Canada.

The "Grass Widow" was discovered by David Douglas "Near the Great (Celilo) Falls of the River Columbia." This is in the barren, rocky region near the Dalles, Oregon. He records, on page 164 of his Journal, what is doubtless this species as "(26) *Sisyrinchium* sp.; annual; 8 inches to a foot high; on the summit of the low hills; plentiful; a white-flowered variety is usually found with it." It was probably collected on April 24th, 1826.

Later it was published as *Sisyrinchium grandiflorum* Dougl. in Lindley, Bot. Reg. 16: pl. 1364, 1830. Because of an earlier *S. grandiflorum*, it was renamed *S. Douglasii* A. Dietr., Sp. Pl. 2: 504, 1833. Then it was made a new genus, *Olsynium grandiflorum* (Dougl.) Raf., New Fl. Am. 1: 72, 1836. The American specialist, E. P. Bicknell, accepted this segregate genus and made the combination *O. douglasii* Bickn. in the Bulletin of the Torrey Botanical Club 27: 237, 1900. The genus *Olsynium* has been rather generally accepted in the west, though it was rejected by Prof. J. K. Henry and by Dr. W. L. Jepson.

In 1923 a second species of this group was described, *Olsynium inflatum* Suksd., Werdenda 1: 8, 1923, based on material from Spangle, Washington. None of the subsequent floras have accepted this species.

Let us examine first the generic status of these plants. In the books of Piper, of Abrams, of Rydberg, and of others who accept the generic split, *Sisyrinchium* is characterized by having the filaments united to the top and the flower usually blue (rarely rose-purple, adds Rydberg); while *Olsynium* has the filaments united only at the base and the flowers reddish-purple. For the separation of genera these characters are weak and few. A similar segregate, *Hydastylus*, is set off as it has the filaments united for more than half their length and the flowers yellow. It is obvious that the colour of the flower has been given great weight. If the species could always be definitely placed in either the yellow, the blue, or the reddish-purple group, and if there were other important correlated characters, this basis would be satisfactory. However, among the more than seventy species, there are a number with flower colours intermediate between the blue and the reddish-purple. Also the degree of union of the filaments varies, and, though morphological and a more important character, fails to furnish grounds for a satisfactory division. Rafinesque asked but meagre grounds for his new genera. If Bicknell gave an adequate discussion of the supposed generic characters of *Olsynium*, the writer has failed to find it during his search through Bicknell's papers in the Torrey Bulletin. The plant has the habit of a *Sisyrinchium* and there seems no adequate reason for removing it from that genus. It was retained in *Sisyrinchium* by J. G. Baker in his Systema Iridacearum, Journ. Linn. Soc. Bot. 16: 61, 1878; also in his Irideæ in 1892. It has received the same placement in the two editions of Engler and Prantl's Naturliche Pflanzenfamilien. *Olsynium* is then reduced to the synonomy of *Sisyrinchium*.

Key Characters.

Filament tube with a slight gradual enlargement near the base; largest capsules 8.5–11 mm. long.
  Perianth dark magenta purple. *Sisyrinchium Douglasii.*

Filament tube sharply inflated near the base; largest capsules 5–8 mm. long.
  Perianth pinkish purple. *S. inflatum.*
  Perianth white. *S. inflatum*, f. *alba.*

Sisyrinchium Douglasii A. Dietr., Sp. Pl. 2: 504, 1833; *S. grandiflorum* Dougl., Bot. Reg. 16: t. 1364, 1830; *Olsynium grandiflorum* (Dougl.) Raf., New Fl. Am. 1: 72, 1836; *O. douglasii* (A. Dietr.) Bickn., Bull. Torrey Bot. Club 27: 237, 1900.

The specific name *grandiflorum* is rejected here because it is a later homonym. At the International Botanical Congress in England in 1930 it was agreed to amend the International Rules in so far as to outlaw all later specific homonyms.

In habit, stems, and foliage there are no good characters to separate this from the related species. When grown together the flowers are strikingly different in colour, form, and size. Mr. W. N. Suksdorf was kind enough to send living plants to the writer in the spring of 1924. These plants of *S. Douglasii* from Western Klickitat County were flowered beside plants of *S. inflatum* from Pullman. With the fresh material it was easy to verify the characters. So strikingly different are they that no observer would think of them as the same species.

In the spring of 1929 the writer, while descending from Goldendale, Washington to Lyle, along the spectacular gorge of the Klickitat River, for the first time saw the two species growing together in the field. They were strikingly different and showed no signs of hybridizing or merging. Poorly dried herbarium specimens lose most of the colour characters, and close up so as to obscure the base of the filament tube. However, a careful student can soon learn to determine even such unsatisfactory material. If the herbarium sheet is held up against a strong light, and the flower studied with a hand-lens, the profile of the filament tube is usually visible.

Mr. Suksdorf in Werdenda 1: 7, 1923, pointed out a number of significant characters of this plant, its somewhat larger flowers, and the narrower, half-open form of the corolla. The writer has added only the fruit character. When all the capsules of the spathes are measured the two sets of measurements overlap. It was noticed that from each spathe, regardless of the number of flowers, the uppermost capsule was always the largest. When these alone were measured a clear differentiation in size was obtained. This is mentioned in the key. It is not necessary here to include a full description of the species, as the general features are well described in many books, and the special distinctions are outlined in the present discussion and key.

The range of *S. Douglasii* is much smaller than is commonly supposed. It is nearly restricted to the region west of the Cascade Mountains. It does enter through the Columbia Gorge and swing up to the Upper Yakima Valley, as do *Quercus Garryana* and a number of other "West Side" species.

Loans of specimens from several herbaria have greatly aided the completion of this study. Grateful acknowledgments are extended to the curators of the following herbaria. Abbreviations are used in the enumeration of specimens to indicate the herbarium in which they are preserved.

(B.C.)= Provincial Museum of Natural History, Victoria, British Columbia.
(Cal.)= University of California, Berkeley, California.
(Minn.)= University of Minnesota, Minneapolis, Minnesota.
(Mo.)= Missouri Botanical Garden, St. Louis, Missouri.
(O.)= University of Oregon, Eugene, Oregon.
(O.S.C.)= Oregon State Agricultural College, Corvallis, Oregon.
(U.S.)= United States National Herbarium, Washington, D.C.
(W.)=Washington State Museum, University of Washington, Seattle, Washington.
(W.S.C.)= State College of Washington, Pullman, Washington.

British Columbia: Victoria, *John Macoun* 4388 (U.S.); Victoria, *W. B. Anderson* 8415 (B.C.).

Washington: Port Angeles, *J. M. Grant* 1 (U.S.); Sqwim, *J. M. Grant* (Minn.); Whidby Island, *N. L. Gardner* (W.); Lyle, *J. A. Drushel* 3647 (Mo.); Western Klickitat County, 1881, *W. N. Suksdorf* (Cal.; U.S.); Bingen, *W. N. Suksdorf* 2818 (O.); Bingen, *W. N. Suksdorf* 11357 (Cal.; Mo.); Warwick, *St. John et al.* 9803 (W.S.C.); Klickitat, 1882, *Thomas Howell* (O.); Wenatchee Mountain, 1901, *K. Whited* (O.S.C.).

Oregon: Wyeth, *J. W. Thompson* 4034 (Mo.; O.S.C.); Hood River Valley, 1880, *L. F. Henderson* (O.); Hood River, *L. F. Henderson* 956 (O.S.C.); Hood River, *H. D. Langille* 68 (U.S.); Hood River, 1881, *Howell* (O.); Mosier, 1893, *Howell* (Cal.; O.); The Dalles, 1875, *Mrs. Wilson* (Mo.; U.S.); The Dalles, 1886, *C. Davidson* (Mo.); The Dalles, *E. P. Sheldon* 10058 (Minn.; O.; U.S.); Lexington, *J. B. Leiberg* 43 (U.S.); Monmouth, 1894, *W. J. Spillman* (Minn.); Eight Dollar Mountain, near Selma, *L. F. Henderson* 5770 (Mo.); Grant's Pass, *W. W. Canby* 12 (O.S.C.); Eastern Oregon, 1880, *J. Howell* (O.).

California: Yreka, *G. D. Butler* 561 (Cal.); hills, Modoc County, *M. F. Gilman* 581 (Cal.).

Sisyrinchium inflatum (Suksd.) St. John, new combination; *Olsynium inflatum* Suksd., Werdenda 1: 8, 1923; *O. grandiflorum* of Piper & Beattie, Fl. S.E. Wash. 67, 1914, not of Raf.; of Rydberg, Fl. Rocky Mts., ed. 1 and 2; 175, 1917 and 1922.

This recently described plant has smaller, paler flowers, with almost rotate segments.

ERRATA.

Plate XI.: For subtitle, read: Stations for *Sisyrinchium Douglasii*, triangles; for *S. inflatum*, round dots.

Fig. 1. *Sisyrinchium Douglasii,* X 1 ; capsule, X 4.

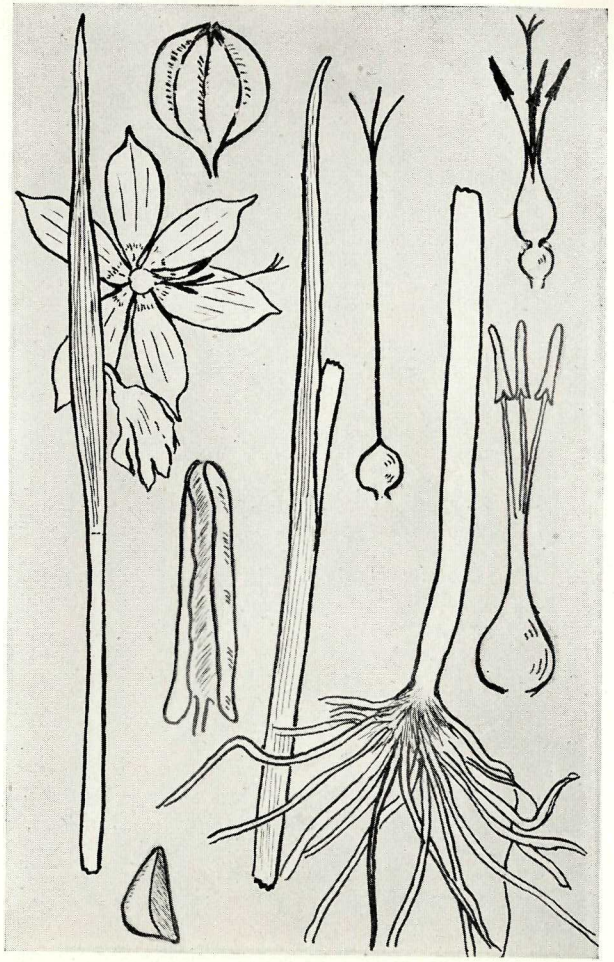
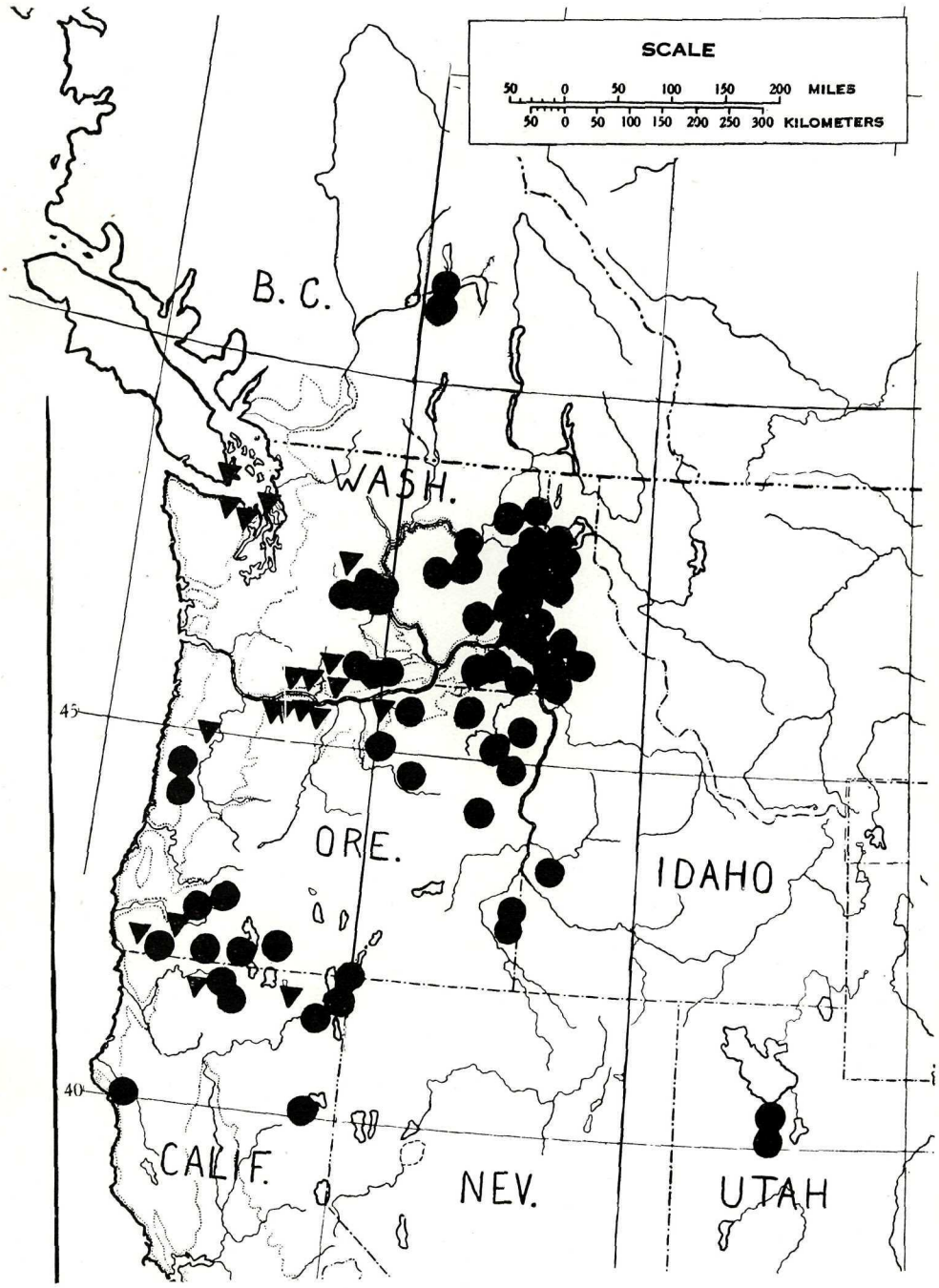


Fig. 2. *Sisyrinchium inflatum,* x 1 ; capsule, x 3 ; pistil, x 3 ; stamens and pistil, x 2 ; anther, x 12 ; stamens, x 4 ; seed, x 12.

PLATE X.



THE PACIFIC NORTH-WEST.

Stations for *Sisyrinchium Douglasii*, round dots; for *S. inflatum*, trinagles.

From Yakima County, Washington, to the Willamette Valley, Oregon, and southward to California, its range more or less coincides with that of *S. Douglasii*, but it crosses the Cascade Mountains and ranges from Eastern British Columbia to Idaho and Utah.

British Columbia: Adams Lake, *W. B. Anderson* 7511 and 8416 (B.C.). This is the first record of this species for Canada.

Washington: Wenatchee, *K. Whited* 58 (U.S.); Wenatchee Mountains, *J. S. Cotton* 1184 (U.S.); Wenatchee Mountains, *D. Griffiths* and *J. S. Cotton* 133 (U.S.); Ellensburg, *K. Whited* 282 (U.S.); Yakima County, 1899, *J. B. Flett* (U.S.); Yakima region, *T. S. Brandegee* 458 (Mo.); Mount Rainier Forest Reserve, Camp 7, *J. B. Flett* 1113 (U.S.); Bluelight, *H. St. John, G. N. Jones, J. A. Moore,* and *F. Warren* 9784 (W.S.C.); Klickitat, 1878, *T. J. Howell* (Mo.); observed at Clark, Wilbur, and Coulee City by *H. St. John*; Columbia River Valley, Stevens County, *M. B. Gabby,* 30 (W.S.C.); Babitz Landing, Pend Oreille County, *H. St. John, F. L. Pickett, R. T. Davison,* and *F. A. Warren* 7050 (W.S.C.); Spokane, 1892, *L. F. Henderson* (W.); Spokane, 1893, *J. H. Sandberg* and *J. B. Leiberg* (Minn.); Spokane, 1916, *H. von Schrenk* (Mo.); Browns Mountain, Spokane, 1925, *R. Davison* (W.S.C.); Hangman Creek, *J. H. Sandberg* and *J. B. Leiberg* 34 (Cal.; U.S.; W.S.C.); Spangle, *W. Suksdorf* 8507 (Cal.; Mo.; W.S.C.), the type collection; Rock Lake, *H. St. John, F. L. Pickett,* and *F. A. Warren* 6869 (W.S.C.); Bonnie Lake, *H. St. John, F. L. Pickett,* and *F. A. Warren* 3194 (W.S.C.); Kamiak Butte, *H. St. John* 6064 (W.S.C.); Pullman, 1893, *C. V. Piper* (W.S.C.); 1893, *F. L. Moore* (W.S.C.); 1894, *C. V. Piper* (Minn.; W.S.C.); 1895, *L. J. Smith* (W.); 1896, *B. L. Climer* (W.S.C.); *A. D. E. Elmer* 74 (Cal.; Minn.; Mo.; W.S.C.); 1897, *E. P. Sheldon* (W.S.C.); 1899, *B. Hunter* (W.S.C.); *R. Hunt* and *A. Kimmel* 63 (W.S.C.); *H. St. John* 2989 (W.S.C.); 1926, *H. Day* (W.S.C.); *C. S. Parker* 340 (W.S.C.); Wawawai Canyon, *C. S. Parker* 378 (W.S.C.); Anatone, *H. St. John* and *R. Palmer* 9613 (W.S.C.); Pomeroy, 1921, *W. D. Courtney* (W.S.C.); Waitsburg, *R. M. Horner* 26 (U.S.); Washington Territory, *Dr. Cooper* (U.S.); Washington Territory, 1883, *G. R. Vasey* (U.S.).

Idaho: South end of Lake Pend Oreille, 1891, *J. B. Leiberg* (O.); Coeur d'Alene, *H. J. Rust* 2 (U.S.); Post Falls, *H. St. John, V. Gessell, G. N. Jones, L. Ridout,* and *E. W. Woods* 4330 (W.S.C.); Worley, *H. St. John et al.* 4250 (W.S.C.); Kootenai County, 1887, *J. H. Sandberg* 181 (Minn.); Kootenai County, 1890, *J. B. Leiberg* (Minn; Mo.); Kootenai County, 1892, *J. B. Leiberg* (O.); Moscow, 1894, *L. F. Henderson* (U.S.); Moscow, *L. R. Abrams* 513 (Cal.; Mo.); Lewiston, *J. H. Sandberg, D. T. MacDougal,* and *A. A. Heller* 100 (U.S.); Arrow Junction, 1922, *R. H. Brown* (W.S.C.); Lake Waha, 1884, *J. B. Leiberg* (O.); Nez Perces County, *J. H. Sandberg* 10177 (Minn.); Gath, *G. Ainslie* 16 (U.S.); Caldwell, *W. J. Boone* (W.S.C.).

Oregon: Corvallis, 1916, *L. M. George* (O.S.C.); Benton County, *M. Craig* 8161 (O.S.C.); Wimer, *E. W. Hammond* 370A (U.S.); Grant's Pass, *P. E. Goddard* 305 (Cal.); Evans Creek, Jackson County, *E. W. Hammond* 370A (Mo.); summit of Siskiyou Mountains, Jackson County, *L. F. Henderson* 12447 (O.); Selma, *L. F. Henderson* 7143 (O.); Swan Lake Valley, *E. I. Applegate* 689 (U.S.); Keno, *E. I. Applegate* 2029 (U.S.); Fossil, *L. F. Henderson* 5093 (Mo.; O.); Meacham, 1927, *H. A. Scullen* (O.S.C.); Hereford, 1928, *W. Coble* (O.S.C.); Sled Springs, Wallowa Forest, *J. T. Jardine* 273 (U.S.); Union County, *W. C. Cusick* 47; Eastern Oregon *W. C. Cusick* 1615 (Cal.; Minn.; Mo.; U.S.); Eastern Oregon, 1880, *T. J. Howell* (U.S.); Jordan Valley, *L. F. Henderson* 6720 and 6721 (O.); Jordan Valley, *O. Fretwell* 2 (O.).

California: Harris, 1905, *E. E. Tracy* (Cal.); Yreka Hills, *G. D. Butler* 1123 (Cal.; Mo.; U.S.); Yreka, *E. L. Greene* 694 (Mo.); Goose Lake Valley, *Mrs. R. M. Austin* 11 (Cal.); Goose Lake Valley, *Mrs. R. M. Austin* 497 (U.S.); Lake City Pass, 1894, *Mrs. R. M. Austin* (Cal.; U.S.); Fort Bidwell, *Mrs. M. H. Manning* 82 (Cal.; U.S.); Milford, 1890, *M. S. Baker* (Cal.).

Utah: Terminus, 1890, *M. E. Jones* (Cal.; Mo.; U.S.); Stockton, 1887, *M. E. Jones* (U.S.); Utah, *W. H. Seaman* (U.S.).

Sisyrinchium inflatum (Suksd.) St. John, forma *alba* St. John, new forma.

Floribus albis. Differing from the species by having the flowers white.

Washington: Spokane, April, 1922, *Mary E. Sampson* (W.S.C.); Glade Creek, 2 miles north of Bluelight, Yakima County, April 12th, 1929, *H. St. John, G. N. Jones, J. A. Moore,* and *F. Warren* 9785 (type in W.S.C.).

Oregon: Blue Mountains, 1926, *B. D. Hug,* in part (O.S.C.).

University of Hawaii: Honolulu, Hawaiian Islands.

ENTOMOLOGY.

By J. F. Clarke.

Acknowledgments.

We are greatly indebted for valuable assistance in determining our material to the following authorities of their respective groups: To Dr. McDunnough, National Museum of Canada, Mr. Carl Heinrich and Mr. August Busck, of the U.S. National Museum, Lepidoptera; Mr. R. A. Cushman and Grace Sandhouse, Hymenoptera; J. B. Wallis, of Winnipeg, Dytiscidæ and Hydrophilidæ; Dr. E. C. Van Dyke, University of California, Coleoptera; E. R. Buckell, Vernon, B.C., Orthoptera; and to W. Downes and W. H. A. Preece, of the Dominion Entomological Branch, Victoria, for general information on many branches of entomology.

We also wish to express our sincere thanks to the many collectors for their welcome contributions.

Progress.

This past year has again brought forth many species of interest; Mr. A. W. A. Phair, who has collected extensively in the Lillooet District, has sent in many rare specimens, some of which are yet to be determined. It is sincerely hoped that he will continue to contribute material from his locality.

Mr. Lallemand donated a number of specimens, chiefly Coleoptera from Lillooet, and G. Stace Smith, of Copper Mountain; Mr. G. Larnder, North Vancouver; J. B. Wallis, Winnipeg; and T. P. O. Menzies, Vancouver, material new to our collection.

Among Mr. Phair's Lepidoptera there is one new record for the Province, *Eucosma crambitana* Wlshm., which was collected at Lillooet. The specimen is larger than the average, measuring 35 mm. in expanse. (Plate XII., Fig. 2 (*b*).)

In the Blackmore collection an undetermined species has stood for a number of years labelled *Epicallima* sp.? This supposed *Epicallima* species has turned out to be the European *Mompha conturbatella* Hübner, which has not before been recorded from North America. Mr. Busck writes, concerning the species: "This is a rare find and an interesting record; the species occurs in Siberia and has clearly come that way—the larvæ live in the spun shoots of *Epilobium angustifolium* (fireweed)." It is rather surprising that more specimens of this species have not turned up since fireweed is such a common plant in the Province. This species was collected by L. E. Marmont at Fraser Mills, June 22nd, 1924. We owe our thanks to him for this interesting record. (Plate XII., Fig. 2 (*a*).)

Telphusa longifasciella Clem. (Mount Douglas Park, Vancouver Island, August 3rd, 1929, J. F. Clarke) is apparently another new record for the Province. (Plate XII., Fig. 2 (*c*).)

There are several other species which may also prove to be new to science, but we must wait for publication of descriptions before we can list them.

Species described as New to Science.

Coleoptera.

Family Dytiscidæ.

Cœlambus columbianus Brown, Can. Ent., Vol. 62, No. 4, p. 87, 1930. From specimens from Copper Mountain, May to October (G. Stace Smith, collector).

Agabus smithi Brown, Can. Ent., Vol. 62, No. 4, pp. 88–89, 1930. From specimens from Copper Mountain, May to August (G. Stace Smith, collector).

Family Staphylinidæ.

Philonthus ovaliceps Fall, Can. Ent., Vol. 62, No. 11, p. 253, 1930. Specimens recorded from Terrace, B.C.

Family Rhipiphoridæ.

Rhipiphorus columbianus Brown, Can. Ent., Vol. 62, No. 4, pp. 89–90, 1930. From specimens from Lillooet, July.

Family Scarabæidæ.

Apodius smithi Brown, Can. Ent., Vol. 62, No. 1, pp. 2–3, 1930. From specimens from Copper Mountain, October, 1929, on snow (G. Stace Smith).

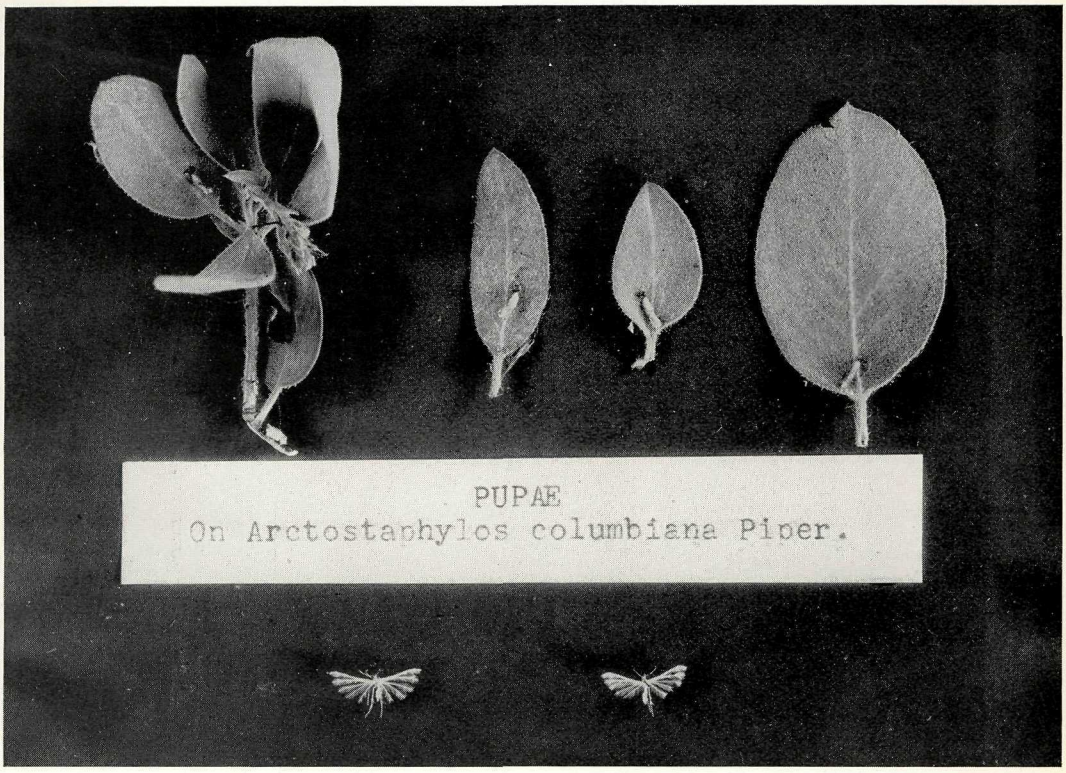
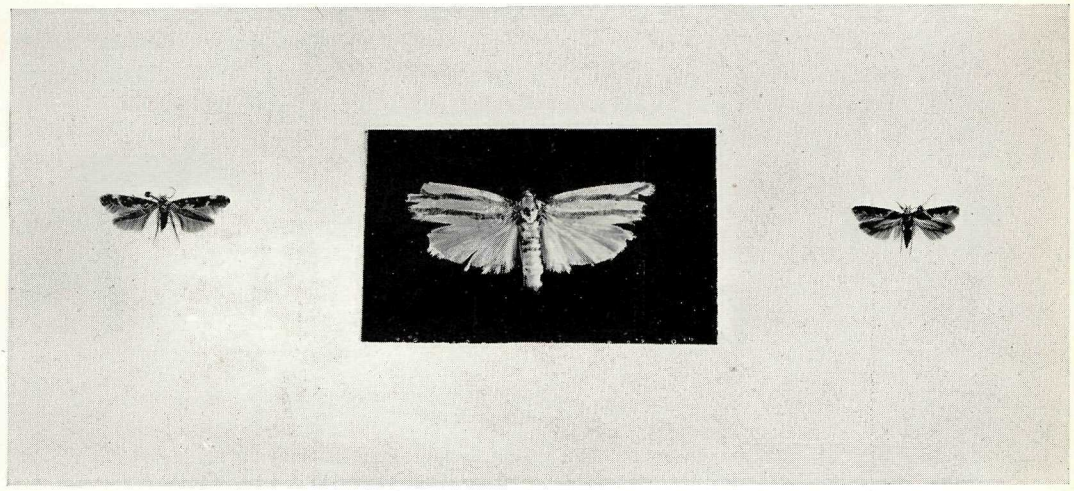


Fig. 1. *Trichoptilus pygmæus* Walshm. (*See* 1929 Report, page 13.)



(*a.*) (*b.*) (*c.*)

Fig. 2. (*a*) *Mompha conturbatella* Hübner; (*b*) *Eucosma crambitana* Wlshm.; (*c*) *Telphusa longifasciella* Clem.

LEPIDOPTERA.

Family NOCTUIDÆ.

Scotogramma oregonica var. *columbica*, McDunnough, Can. Ent., Vol. 62, No. 8, pp. 181–182, 1930. From specimens from Keremeos, July (C. B. Garret, collector).

HYMENOPTERA.

Family TENTHRIDINIDÆ.

Selandria (Aneugmenus) urbis Ross, Can. Ent., Vol. 62, No. 8, pp. 186–187, 1930. Collected at Vancouver, May to July, by H. H. Ross.

NOTE.—In a small series of Hymenoptera we sent Dr. R. A. Cushman, he found a new species of *Banchus* and one of *Echthrus*, both of which he is planning to describe in the near future.

CORRECTIONS AND ADDITIONS TO THE CHECK-LIST OF MACROLEPIDOPTERA FOR 1927.

Family PHALÆNIDÆ.

Subfamily Phalæninæ.

Genus *Chlorizagrotis*.

auxiliaris Grote.
soror Smith.
♂ *introferens* Grote.
form *agrestis* Grote.
mercenaria Grote.
form *montanus* Cook.

The above synonomy is the result of investigations made by Mr. William C. Cook, of Bozeman, Montana, during his study on cutworm moths.

Subfamily Hadeninæ.

Dr. McDunnough has described a new form, *Scotogramma oregonica* form *columbica*, from the Province.

ACCESSION NOTES.

BY W. A. NEWCOMBE.

ANTHROPOLOGY AND ARCHÆOLOGY.

We were fortunate in securing interesting Déné material from F. C. Swannell, including a rare bark-stripping implement, made from ? caribou antler, with an incised circle and dot design. Mr. C. W. Moore, of Fort George, donated valuable specimens illustrating the mounting of stone spear-heads, adzes, and scrapers. Mr. Devereux's specimen of a skin-fleshing implement from Pine River is better than anything we had of this type.

The face-mask presented by Mrs. P. Des Brisay was from Church House, a district from which we previously had no anthropological material.

The ? bark-chopper from G. Olmstead, Saltspring Island, and the ? fish-knife from R. B. Halhed, Chemainus (both specimens from middens), are types new to me. They are both made of thick slate and have a hole shaped to fit the thumb when the implement is held so as to draw towards the body.

Stone clubs from the Salish are also rare and Mr. Olmstead's donation made a valuable addition to our fighting weapons.

The small dish of mica-schist from Mr. Godsal apparently belongs to the class of Salish stone carvings, the use of which no definite explanation has been secured by archæologists—though the supposition is they were used in preparing charms or poisons.

PALÆONTOLOGY.

Capulus corrugatus Whiteaves. Mr. Gregson's specimen, though not an addition, is the best example of this species that we have.

A. H. Marrion reported a new locality for glacial shells at Mill Bay, V.I., donating a cluster of *Sepula* tubes similar to those found in the Sucia Island, Washington State, formation.

Botany.

Chamæcyparis nootkatensis (Lamb) Spach. (Yellow Cedar). Rev. Robert Connell found this tree growing in the Sooke Canyon at about a 500-foot elevation, and which is, I believe, the southern record for the species on Vancouver Island.

Quercus Garryana Dougl. (Garry Oak). Northern records. Specimens of the tree from Savary Island, north-east end of the Strait of Georgia, were sent in by Mr. S. Boys. They extend the range of this species to approximately the 50° parallel. I was also pleased to see that a number of specimens at Comox, the northern limit on Vancouver Island, are being carefully guarded.

Lewisia rediviva Pursh. (Sandhill Rose). A valuable series of this lovely species was secured from P. de Noe Walker, collected in the Kamloops District.

Nymphæa tetragona Georgi. (White Water-lily). Specimens collected at Aleza Lake, Fort George District, by B. G. Griffith, Forest Branch, are the first to be recorded in Canada west of Ontario, according to Dr. M. O. Malte, National Herbarium, Ottawa.

Dentaria macrocarpa Nutt. (Toothwort). Collected by W. B. Anderson at Langley, made an additional species in our Herbarium.

Prunus demissa Nutt. (Choke-cherry). Saltspring Island. Specimens were received from Miss D. Margison.

Potentilla villosa Pall. (Cinquefoil). A particularly large specimen was sent in by G. Fraser from Ucluelet.

Callitriche palustris L. (Water Starwort). This addition to the Herbarium was found at Whaletown, Cortes Island, by S. Boys.

Agoseris villosa Rydb. (False Dandelion). This species, new to our collection, was found among valuable distributional material presented to the Museum by F. Perry, collected at McGillivray Mountain, Lillooet District.

Ichthyology.

Brama raii Bloch. (Pomphret). Although this species is said to be fairly plentiful off the coast, I have only come across it once—a specimen caught in deep water on a black-cod line off Kaisun, Q.C.I., in 1903. Captain Balcom and Mr. Snow caught their specimens on trolling lines near the surface.

Marine.

Mollusca.

Yoldia thraciæformis Storer. This species, collected by Mr. Wailes off Yellow Point, Nanaimo District, is the only addition to our B.C. Mollusca collection.

Approximately 5,000 specimens of Foreign Marine and fresh-water mollusca were donated by Major and Mrs. Seale. Lack of space prohibits us from placing a series on exhibition, many of the species being closely allied to those found in our fossil formations.

Crustacea.

Acantholithodes hispidus (Stimpson). Determined by Miss J. Hart. This specimen was given to Mr. Kermode by Mr. P. H. Johnson, who had secured it from a halibut-boat, fishing off the west coast of Queen Charlotte Islands.

Ornithology.

Philacte canagica (Sevast) (Emperor Goose). A wing of this rare British Columbia bird was brought down from Estevan, V.I., by J. S. E. Meiss. Six of the species were noted by him with a band of brant about December 1st, 1930. Our only other specimen was shot near Chemainus, V.I., in 1894.

Skins of Rhinoceros Auklet (*Cerorhinca monocerata* (Pallas)) and Cassin's Auklet (*Ptychoramphus aleuticus* Pallas) from Rev. C. J. Young made very welcome additions to our study collection.

Though the interesting series donated by Mr. Cumming did not add species to the skin collection, a number of the skins represented "seasonal plumages" new to us. Mr. Cumming also gave us a series of Ancient Murrelet eggs with great colour variations.

MAMMALS.

Marmota vancouverensis Swarth (Vancouver Island Marmot). Mr. Sjoberg's killing a specimen at so low an elevation and so far south on the island was a great surprise; the majority of specimens having been collected on mountains on the south side of Alberni Canal and at the head of Cowichan Lake.

ACCESSIONS.

ANTHROPOLOGY AND ARCHÆOLOGY.

Déné (Chilcotin).

Sap-scraper, bone, for gathering the sap of *Pinus contorta*, which was used as a food in either a fresh or dried state. Anahim Lake (F. Swannell).

Cinch-hook, made from horn, the type commonly used since the introduction of horses among the Indians. Nemaia Valley (F. Swannell).

Basket, spruce-root, coiled weave with imbricated designs of net and arrow point. Chilcotin District (F. Swannell).

Basket, "pack type," coiled weave with "arrow-point" design. Chilcotin District (F. Swannell).

Déné (Carrier).

Snow-shoes, made by Frank Seymour.

Spear-head, adze, and skin-scraper, mounted on handles to illustrate their former use; by Frank Seymour.

Pestle, large specimen of mica-schist.

NOTE.—Frank Seymour is a very old Indian of the Fort George District and the specimens were donated to the Museum by C. W. Moore, of Fort George, on Mr. Swannell telling him of our difficulties in securing Déné material.

The following Carrier specimens were secured from Mr. Swannell's private collection: Two hand-hammers; one adze-head; four skin-scrapers; one sandstone disk, use?; fifteen arrow-heads; one knife, wooden handle; six birch-bark utensils; one piece of cedar-bark rope; one pair of child's moccasins; one pair of beaded gloves; and one beaded leather revolver-holster.

Déné (Babine).

One needle or awl, bone. Babine Lake (F. Swannell).

One bark-stripper, bone, with etched pattern of circle and dots. Nadina River, Francois Lake (F. Swannell).

Déné (Sikanni).

One spear-point.

One spoon of mountain-sheep horn. Finlay River (F. Swannell).

One pair of moccasins, rough-tanned. McLeod Lake (F. Swannell).

Déné (Beaver).

One skin-fleshing implement, moose tibia. Pine River (T. Devereux).

One pouch, beaded leather. Moberly Lake (F. Swannell).

One pair of moccasins, silk-thread designs. Moberly Lake (F. Swannell).

One pair of moccasin tongues, silk-thread designs (Mrs. Wm. Fleet Robertson).

Salish (Coast).

Stone sinkers. Courtenay (A. B. Dundas); Chemainus (R. B. Halhed).

Whetstones. Kirby Creek, Sooke District (H. Kirby); Montague Harbour (Mr. and Mrs. Barrow); Saltspring Island (J. T. Collins).

Skin-scrapers. Sooke (F. H. Davey); Galiano Island (Mr. and Mrs. Barrow); Oak Bay (Inspector T. Parsons).

Arrow and spear points. Victoria (R. Melville); Galiano Island (W. A. Newcombe and Mr. and Mrs. Barrow); Chemainus (R. B. Halhed); Shawnigan Lake (F. Swannell).

Celts. Chemainus (6) (R. B. Halhed); Kawkawa Lake, Hope, B.C. (J. A. Lindgren); Mill Bay, V.I. (G. D. Sprot); Victoria (A. H. Maynard); Shawnigan Lake (F. Swannell).

Fish-knife, slate. Chemainus (R. B. Halhed).

Bark-chopper, slate. Saltspring Island (G. Olmstead).
Dish, clamshell-shaped, stone. Oak Bay, V.I. (F. W. Godsal).
Club, stone. Saltspring Island (G. Olmstead).
Pestle, stone. Tod Inlet, V.I. (W. E. Losee).
Hammer, stone. West Vancouver (C. Millard).
Pendant, stone. Oak Bay, V.I. (Inspector T. Parsons).
? Wedge, cast of. Galiano Island (J. Shaw).
Wedge, elk-horn. Chemainus (R. B. Halhed).
Harpoon-barb, bone. Chemainus (R. B. Halhed).
Bone points. Chemainus (R. B. Halhed).
Needle or ram rod, made from an arrow-shaft. Cowichan (Lieutenant G. T. Emmons).
Mask, wood, carved human face. Church House (Mrs. P. Des Brisay).
Neck-band, ceremonial, cloth with beaded designs. New Westminster (purchased).
Leg-bones, human. Lower Fraser River (Miss A. P. John).

Salish (Thompson).

Paint, red ochre. Lytton (Lieutenant G. T. Emmons).

Nootkan.

Arrow-points (2), copper (purchased).
Basket and lid, rush and squaw-grass (Mrs. Wm. F. Robertson).

Kwakiutl.

Food, dried seaweed (purchased).
Bark-chopper, whalebone, with carved and painted design of a "Sisiutl" (donated by A. M. Lyons, Port Hardy, per Colonel J. S. Tait).
? Bark-chopper, whalebone, carved and painted design of "Killer Whale" (donated by A. M. Lyons per Colonel J. S. Tait).
Figure, use?, of whalebone, carved and painted "Sun" face, and a "bear" on the body (donated by A. M. Lyons per the Honourable S. L. Howe, Provincial Secretary).

Haida.

Canoe, model, with painted designs on bow and stern (purchased).
Paddles (2), with painted designs of "sea-lion" (purchased).
Totems (3), slate models (purchased).

Tsimshian.

Totem, wood model, made by Alfred, a Tsimshian chief (donated by C. W. Moore, of Fort George).

Tlingit.

Basket and lid (Mrs. Wm. F. Robertson).

Miscellaneous Anthropology.

Trade beads, dug up in "middens." Sooke River (Dr. Calvert).
Trade beads. Hudson's Bay Co. (Mrs. Wm. F. Robertson).
Axe and handle, iron-welded, dug up. Victoria (H. N. Graham).
Pipe, slate, with stem of cranberry, Cree Tribe (donated by T. A. McMahon).
Basket, birch-bark and rush. Ontario (Rev. C. J. Young).
Anthropological negatives, British Columbia subjects (Harlan I. Smith).

PALÆONTOLOGY.

Cretaceous, etc.

Pseudomonotis ? subcircularis. Ne-parle-pas Rapids, Peace River (F. C. Green, Surveyor-General).
Capulus corrugatus. Comox (J. G. Gregson).
Serpula sp. tubes. Albert Head (Miss J. Hart).

? *Ichthythaurus*, bones. Ottertail River (J. Pocock per F. Swannell).
? *Equisetum* sp. stems. Comox (J. G. Gregson).
Wood. Caribou Mountain (Topographical Survey per F. C. Green, Surveyor-General).

Glacial.

Leda ? *pernula* Muller. *Cardium decoratum* Grnk.
Macoma ? *inquinata* Deshayes and ? *Astyris* sp. Mill Bay, V.I. (G. D. Sprot).
Serpula sp. tubes. Mill Bay, V.I. (A. H. Marrion).

Post-Glacial.

Mya truncata L. and *Saxicarva rugosa* L. Oak Bay District (H. Toms).

BOTANY.

Specimens were received from: Ucluelet, G. Fraser; Shirley District, Mrs. Clarke; Sooke District, Lady Rosalind Northcote, Rev. Connell, Mrs. E. G. Spier; Colwood District, Pat Martin; Victoria vicinity, H. Toms, Rasamond Turner, C. C. Pemberton, W. Harvey; Vancouver Island, east coast, Miss P. M. Sprot, H. K. Harrison, H. Rawlins; Strait of Georgia islands, southern, Miss D. Margison, Mrs. Ruckle, G. D. Sprot; Strait of Georgia islands, northern, J. Pool, S. Boys; Pine Island, Queen Charlotte Sound, Rev. C. J. Young, P. G. Pike; Masset, Rev. C. J. Young; Vancouver District, H. E. Saddler, J. Hall; Kamloops District, T. H. Bond, M. B. Jackson, P. de N. Walker, St. Ann's Academy, Kamloops; Big Bend, Columbia River, F. Neaves; Lillooet District, F. Perry; Quesnel, J. C. Bridgman; Aleza Lake, B. G. Griffith; Fraser Lake, S. H. Ray.

A collection of mosses from Southern Vancouver Island from Mrs. H. Mackenzie.

Exhibit specimens of commercial woods, Dr. Barr, Forest Branch, Department of Lands.

REPTILIA.

Garter-snake (young) (*Thamnophis o. ordinoides* B. & G.). Victoria (P. Moffit).
Garter-snake (young) (*Thamnophis o. ordinoides* B. & G.). Esquimalt District (E. A. Cooke), December 4th.
Garter-snake (young) (*Thamnophis o. ordinoides* B. &. G.). Cowichan Lake, B.C. (W. H. Moore).

AMPHIBIA.

(6) Pacific Coast Newt (*Triturus torosus* (Rathke)). Cowichan Lake (W. H. Moore).
Rusty Salamander (*Aneides ferreus* Cope). Mount Douglas, V.I. (W. H. Moore).
Northwestern Toad (*Bufo b. boreas* B. & G.). Cowichan Lake (W. H. Moore).
Pacific Tree-frog (*Hyla regilla* (B. & G.). Mount Douglas, V.I. (W. A. Newcombe).
Oregon Red-legged Frog (*Rana a. aurora* B. & G.). Cowichan Lake (W. H. Moore).
NOTE.—Mr. W. H. Moore also donated specimens of this group collected in Wisconsin and Oregon. Among those from the latter locality is a Fork-tailed Salamander.

ICHTHYOLOGY.

Rat-fish (*Hydrolagus colliei* (Lay & Bennett)). Victoria (Mrs. Lambert).
Pilchard (young) (*Clupanodon cœruleus* Girard). Esquimalt (E. A. Cooke).
Stickleback (*Gasterosteus cataphractus* (Pallas)). Cowichan Lake (W. H. Moore).
Pomphret (*Brama raii* (Bloch)). South end of Queen Charlotte Islands (Captain Balcom).
Pomphret (*Brama raii* (Bloch)). Off Kyuquot Sound (John Snow).
Prickly Bullhead (*Cottus asper* Richardson). Cowichan Lake (W. H. Moore).
Northern Sculpin (*Oligocottus borealis* Jordan & Snyder). Victoria (W. H. Moore).

ENTOMOLOGY.

Lepidoptera.

Specimens were received from: W. D. Sheepwash, of Sooke; P. A. Havelaque, Tofino; Mr. Inglis, Chemainus; Mrs. G. D. Sprot, Mill Bay, V.I.; J. B. Godfrey, Bamberton, V.I.; B. Bikker, Saanich; H. Toms, Oak Bay; Dr. Price, Mrs. Dr. Dier, Mrs. Burnett, Mrs. E. H. Blackmore, J. F. Clarke, F. Risser, Victoria; T. P. O. Menzies, A. W. A. Phair, C. F. Lallemand, Lillooet District.

Coleoptera.

T. P. O. Menzies, C. F. Lallemand, Lillooet; G. Stace Smith, Copper Mountain; G. H. Larnder, North Vancouver; G. V. Copley, Alexis Creek; W. Downes, Langley; J. B. Wallis, Western Canada; Mrs. Frank and F. H. Mason, Oak Bay District; R. Swanson, Sooke Lake; A. J. H. Wooten, South Saanich; W. B. Gibson, Jr., Victoria.

General Entomology.

A. W. A. Phair, Lillooet; Mrs. E. G. Spier, Beecher Bay; V. B. Harrison, Nanaimo; J. B. Thompson, Victoria District; E. A. Cooke, Mrs. Godfrey Booth, Victoria; J. W. Mawle, Metchosin; E. R. Buckle, Okanagan.

Miscellaneous.

Hairworms (*Gordiacea* sp.). F. Ward, Malahat District, V.I.
Spiders. E. Moyes, J. Stark, S. Watson, Victoria, B.C.
Trapdoor Spider. C. Bazett, California.

MARINE.

Echinoderms.

Pteraster tesselatus Ives. Victoria (W. A. Newcombe).
Evasterias troschelii (Stimpson). Victoria (W. A. Newcombe).
Echinarachnius excentricus Esch. Beaver Creek, V.I. (Edna G. Ford).
Echinarachnius excentricus Esch. Albert Head, V.I. (W. A. Newcombe).

Mollusca.

Yoldia thraciæformis Storer. Yellow Island, Nanaimo District (G. H. Wailes).
Pecten caurinus Gould. Queen Charlotte Islands (W. H. Dempster).
Mytilus californianus Conrad. Tofino, V.I. (Rev. C. J. Young).
Mytilus edulis L. Juan de Fuca Strait (W. H. Moore).
Spisula alaskana Dall. Masset, Queen Charlotte Islands (Rev. C. J. Young).
Olivella ? boetica Carp. Savary Island (S. Boys).
Alectrion mendicus Gould. Savary Island (S. Boys).
Acmæa pelta Esch. Juan de Fuca Strait (W. H. Moore).
Acmæa scutum patina Esch. Juan de Fuca Strait (W. H. Moore).
Mopalia lignosa Gould. Metchosin, V.I. (Miss S. B. Moore).
5,000 specimens of Foreign Mollusca (Major and Mrs. Seale).

Crustacea.

Acantholithodes hispidus (Stimpson). Off Queen Charlotte Islands (P. H. Johnson).
Hemigrapsus nudus (Dana). Mill Bay, V.I. (W. H. Moore).
Pagurus gilli Benedict. Victoria (W. A. Newcombe).
Pagurus tenuimanus Dana. Victoria (W. A. Newcombe).
Mitella polymerus Sowerby (Goose Barnacle). Gordon Head, V.I. (J. D. Morgan).
Amphipoda sp. Cowichan Bay (E. A. Cooke).

Miscellaneous.

Velella pacifica Esch. (the local Portuguese Man-of-war). Kyuquot Sound (E. M. Haynes).
Melibe leonina Gld. Cordova Bay, V.I. (A. Heathcote).
Melibe leonina Gld. Saanich Inlet (S. Whittaker).
Parasitic Worms from *Sebastodes* sp. Cowichan Bay (E. A. Cooke).
Sponge sp. Muir Creek, Sooke District (Mrs. G. D. Sprot).

ORNITHOLOGY.

Horned Grebe (*Colymbus auritus* L.). Jerico Beach, Point Grey (Rev. C. J. Young).
Rhinoceros Auklet (*Cerorhinca monocerata* (Pallas)). Pine Island, Queen Charlotte Sound (Rev. C. J. Young).

Cassin's Auklet (*Pitychoramphus aleuticus* (Pallas)). Pine Island, Queen Charlotte Sound (Rev. C. J. Young).

Marbled Murrelet (*Brachyramphus marmoratus* (Gmelin)). Langara Island, Queen Charlotte Islands (R. A. Cumming).

Leach's Petrel (*Oceanodroma leucorhoa* (Vieillot)). Cox Island, Queen Charlotte Islands (R. A. Cumming).

Cinnamon Teal (*Querquedula cyanoptera* Vieillot). Lulu Island, Fraser River (R. A. Cumming).

Pintail (*Dafila acuta* (L.)). Sea Island, Fraser River (R. A. Cumming).

Ring-necked Duck (*Marila collaris* (Donovan)). Lost Lake, Saanich District (purchased).

Ring-necked Duck (*Marila collaris* (Donovan)). Esquimalt Lagoon (purchased).

American Golden-eye (albinistic) (*Clangula clangula americana* Bonaparte). Kamloops District (E. H. Mackenzie).

Old-squaw (*Harelda hyemalis* (L.)). Sea Island, Fraser River (R. A. Cumming).

Emperor Goose (wing of) (*Philacte canagica* (Sevastianoff)). Estevan, V.I. (J. S. Meiss).

Trumpeter Swan (*Olor buccinator* (Rich)). Found shot at Northey Lake, Comox District, by Mr. Endall. Presented by T. Pearse.

Coot (*Fulica americana* Gmelin). Lulu Island, Fraser River (Rev. C. J. Young).

Long-billed Dowitcher (*Macorhamphus griseus scolopaceus* (Say)). Lulu Island, Fraser River (R. A. Cumming).

Hudsonian Curlew (*Numenius hudsonicus* Latham). Masset, Queen Charlotte Islands (R. A. Cumming).

Black Oyster-catcher (*Hæmatopus bachmani* Audubon). Masset, Queen Charlotte Islands (R. A. Cumming).

Mountain Quail (*Oreortyx picta confinis* Anthony). Malahat, V.I. (purchased).

(2) Willow Ptarmigan (*Lagopus l. lagopus*). White Horse, Y.T. (purchased).

Western Red-tailed Hawk (*Buteo borealis calurus* Cassin). South Pender Island (Mrs. Crane).

Western Red-tailed Hawk (*Buteo borealis calurus* Cassin) Nanaimo District (Game Warden J. W. Graham).

Screech Owl (*Otus asio kennicotti* (Elliot)). Victoria (A. E. Pickford).

Screech Owl (*Otus asio kennicotti* (Elliot)). Quatsino Sound (Mrs. C. L. Bland).

Dusky Horned Owl (*Bubo virginianus saturatus* Ridgway). Malahat, V.I. (purchased).

Snowy Owl (*Nyctea nyctea* (L.)). Comox District (T. Pearse).

Kingfisher (*Ceryle alcyon* (L.)). Victoria (F. Popham).

Traill's Flycatcher (*Empidonax* t. *trailli* (Audubon). South Vancouver (R. A. Cumming).

Queen Charlotte Jay (*Cyanocitta stelleri carlottæ* Osgood). Rose Spit, Queen Charlotte Islands.

Northwestern Red-wing (*Agelaius phœniceus caurinus* Ridgway). Vancouver District (R. A. Cumming).

Brewer's Blackbird (*Euphagus cyanocephalus* (Wagler)). Lulu Island (R. A. Cumming).

(2) California Purple Finch (*Carpodacus purpueus californicus* Baird). Duncan, V.I. (Game Warden Marshall).

California Purple Finch (*Carpodacus purpueus californicus* Baird). Surrey Centre (Rev. C. J. Young).

Nuttall's Sparrow (*Zonotrichia leucophrys nuttalli* Ridgway). South Vancouver (R. A. Cumming).

Golden-crowned Sparrow (*Zonotrichia coronata* Pallas). South Vancouver (R. A. Cumming).

Timberline Sparrow (*Spizella taverneri* Swarth & Brooks). Atlin (H. Swarth per B. W. Everman).

Cedar Waxwing (*Bombycilla cedorum* Vieillot). South Vancouver (R. A. Cumming).

Northern Shrike (*Lanius borealis* Vieillot). Vancouver (R. A. Cumming).

Red-eyed Vireo (*Vireosylva olivacea* (L.)). South Vancouver (R. A. Cumming).

Pipit (*Anthus rubescens* (Tunstall)). Vancouver (R. A. Cumming).

(3) Western Robin (*Planesticus migratorius propinquus* Ridgway). South Vancouver (R. A. Cumming).

Besides the above species, which were placed in the study collection, the following specimens were sent in for determination:—

Brewer's Blackbird from Port Harvey. Collected by Provincial Constable G. H. Clark at our request (this bird having been reported as the Chinese Starling in the Alert Bay District).

California Purple Finch, Victoria, by Miss E. Govett and G. Moraes.

Western Tanager, Saltspring Island, Miss W. E. Hillier.

California Yellow Warbler, South Saanich, A. R. Sherwood.

Pileolated Warbler, Victoria, E. A. Cooke.

Oology.

Tufted Puffin egg. Bare Island, Clayoquot Sound (Rev. C. J. Young).

Two Tufted Puffin eggs. Lucy Island, Queen Charlotte Islands (R. A. Cumming).

Six Rhinoceros Auklet eggs. Pine Island, Queen Charlotte Sound (Rev. C. J. Young).

Cassin's Auklet egg. Pine Island, Queen Charlotte Sound (Rev. C. J. Young).

Sixteen Ancient Murrelet eggs. Lucy Island, Queen Charlotte Islands (R. A. Cummings).

Fork-tailed Petrel egg. Pine Island, Queen Charlotte Sound (Rev. C. J. Young).

Two Violet-green Cormorant eggs. Lucy Island, Queen Charlotte Islands (R. A. Cumming).

Skylark egg. South Saanich (Rev. C. J. Young).

Chipping Sparrow nest. Victoria (A. Shotbolt).

Chipping Sparrow nest, Victoria (H. Bowerman).

Warbler ? sp. nest and eggs. Victoria (H. Bowerman).

Bush-tit nest and four eggs. South Vancouver (R. A. Cumming).

Western Robin nest and one egg. Oak Bay (J. Syme and D. Chisholm).

Western Robin nest and eggs. Victoria (Francis Cullin).

Oology Foreign to B.C.

Ostrich egg. Johannesburg, South Africa (J. Dean).

Red-eyed Vireo, Nashville Warbler, and Ruby-throated Humming Bird nests. U.S.A. (Miss D. Gordon Cox).

Ninety assorted British and American eggs (Chas. Parker).

Fifteen assorted British and American eggs (Rev. C. J. Young).

Mammalogy.

The following collection of small mammals donated by R. A. Cumming have been determined by R. M. Anderson, Chief, Division of Biology, National Museum, Ottawa:—

Mountain Water Shrew (*Sorex palustris navigator* (Baird)). Botanie Mountain.

Wandering Shrew (*Sorex* v. *vagrans* Baird). Seymour Mountain.

Olympic Shrew (*Sorex* v. *setosus* Elliot). South Vancouver.

(3) Columbian Chipmunk (*Eutamias amœnus affinis* (Allen)). Botanie Mountain.

Mount Baker Chipmunk (*Eutamias a. felix* (Rhoads)). Seymour Mountain.

Streator Red Squirrel (*Sciurus hudsonicus streatori* Allen). Botanie Mountain.

(2) Cascades Chickaree (*Sciurus douglasii cascadensis* Allen). South Vancouver.

Queen Charlotte Island White-footed Mouse (*Peromyscus maniculatus keeni* (Rhoads)). Rose Spit, Queen Charlotte Islands.

(2) Sagebrush White-footed Mouse (*Peromyscus m. artemisiæ* (Rhoads)). Botanie Mountain.

(4) Puget Sound White-footed Mouse (*Peromyscus m. austerus* (Baird)). South Vancouver.

Puget Sound White-footed Mouse (*Peromyscus m. austerus* (Baird)). Seymour Mountain.

(2) Western Bushy-tailed Rat (*Neotoma cinerea occidentalis* (Baird)). Botanie Mountain.

British Columbia Red-backed Mouse (*Evotomys gapperi saturatus* Rhoads).

(2) Gray Meadow Mouse (*Microtus nanus canescens* Bailey). Botanie Mountain.

(2) Townsend Meadow Mouse (*Microtus townsendii* (Bachman)). Vancouver.

The following miscellaneous specimens under this heading were also received during 1930:—

Queen Charlotte Black Bear skin (*Euarctos americanus carlottæ* (Osgood)) (Mrs. Wm. Fleet Robertson).

Silver Fox (*Vulpes alascensis abietorum* (Merriam)) (Gilt Edge Fox Co. per D. M. McDonald).

Hair-seal skull (*Phoca r. richardii* (Gray)). Becher Bay (W. A. Newcombe).

Vancouver Island Marmot (*Marmota vancouverensis* Swarth). Jordan River, V.I., 1,360 feet elevation. Presented by K. J. Sjoberg per D. I. Walker.

Mice (*Peromyscus* sp.). Pine Island, Queen Charlotte Sound (Rev. C. J. Young).

Moose-horns (*Alces a. americana* (Clinton)). The skulls of two animals with the horns locked. Kiskatinaw River, Peace River District (purchased from Louis Shopper).

Killer Whale skull (*Orcinus rectipinna* (Cope)). Found in a kitchen-midden, Fulford Harbour, by Mr. Akerman. Presented by Rev. Father Scheelen.

Mammalogy Loans.

Eight mounted heads from Lieutenant-Commander and Mrs. Barnes, including: Two Black Bear, Oyster River, V.I.; two Grizzly Bear, Cariboo District, B.C.; one Elk, Comox District, B.C.; two Mule-deer, Moore Mountain, B.C.; one Mountain-sheep, B.C. Interior.

The following mounted specimens from Dr. Troughton: One Mule-deer head, B.C. Interior; one set Mule-deer horns, B.C. Interior; two Mountain-sheep heads, B.C. Interior.

PUBLICATIONS RECEIVED FROM OTHER INSTITUTIONS.

American Association of Museums, Washington, D.C.	13
Art Historical & Scientific Society, Vancouver	3
Australian Museum, Sydney, Australia	11
Biological Board of Canada	5
Biological Society of Washington	2
Boston Society of Natural History	3
Bristol Museum and Art Gallery, England	1
Buffalo Society of Natural Sciences, Buffalo, N.Y.	1
Bureau of Fisheries, Madras, India	1
California Academy of Sciences, San Francisco	7
California State, Sacramento	10
Cambridge University Library	1
Cardiff Naturalists' Society	1
Carnegie Institute, Pittsburgh, Pa.	1
Carnegie Museum, Pittsburgh, Pa.	1
Chicago Academy of Sciences	4
Cleveland Museum of Natural History	8
Colorado Museum of Natural History, Denver, Colo.	2
Dominion Government Publications	23
Field Museum of Natural History	8
Grand Rapids Public Library (Michigan)	1
Gray Herbarium, Harvard University, Mass.	3
Illinois Natural History Survey	6
Insular Experiment Station, Rio Piedras, P.R.	5
John Crerar Library, Chicago	1
Kansas Academy of Science, Manhattan, Kansas	1
Logan Museum, Beloit College, Wisconsin	1
Manchester Museum	4
Manx Museum and Ancient Monuments Trustees	2
Museum of Fine Arts, Boston, Mass.	3
National Museum, Melbourne, Australia	1
Newark Museum Association, Newark, N.J.	3
New York Botanical Garden	1
New York Zoological Society	3
Nova Scotian Institute of Science	1
Ohio Agricultural Experiment Station	1
Carried forward	143

PUBLICATIONS RECEIVED FROM OTHER INSTITUTIONS—*Continued.*

Brought forward	143
Oxford University Press	5
Peabody Museum of Salem	2
Peabody Museum, Yale University	5
Pennsylvania Museum, Philadelphia, Pa.	9
Philadelphia Academy of Natural Sciences	2
Public Museum, Milwaukee, Wis., U.S.A.	2
Rochester Academy of Science, Rochester, N.Y.	4
Royal Ontario Museum, Toronto	1
Royal Scottish Museum, Edinburgh	1
San Diego Society of Natural History	22
Scripps Institution of Oceanography	5
Smithsonian Institution, Washington	58
State College of Washington, Pullman, Wash.	7
Staten Island Institute of Arts and Sciences	5
U.S. Department of Agriculture	13
University of California, Berkeley	38
University of Minnesota, Agricultural Experiment Station	1
University of Montreal, Montreal, Quebec	2
University of Oklahoma	3
University of Toronto, Toronto, Ontario	5
University of Washington, Seattle, Wash.	3
Wagner Free Institute of Science, Philadelphia	4
Wales National Museum, Cardiff, Wales	1
Zoological Society of Philadelphia	2
Total	343

We are indebted to the following for pamphlets received during the year: Dr. A. Svihla, Harlan I. Smith, and Miss Eileen Whitehead Erlanson.

VICTORIA, B.C.:
Printed by CHARLES F. BANFIELD, Printer to the King's Most Excellent Majesty.
1931.

1,825-531-4615