

It flows for a distance through meadow land in a valley ; here mollusca are seldom found. The next portion continues through a valley thickly wooded, with alders overhanging the water and covering the narrow belt of marsh ; beyond these the steep banks and upper land are covered with pine growth. Land shells occur rarely along this area : *Succinea ovalis*, *Patula striatella*, *Strobilops labyrinthica*, *Zonites exiguus* etc., have been found here. The brook has a fine lot of *Margaritana margaritifera* of large size and fine specimens. *Pisidium variabile*, *abditum* and *adamsii* occur in the mud, the last of these in an area of a few feet, but having some fine examples. *Planorbis* and *Physa* also occur sparingly. The third area is a mile or two of tide marsh ; here one may study the problem of salt and freshwater distribution. The writer gave an afternoon to this work a few days ago with the following result : In the upper quarter of the marsh *Pisidium* occurs more or less abundantly, and *Amnicola* is to be found in great profusion ; following the windings careful siftings were made. *Pisidium* disappeared after the first quarter of the distance to the sea ; I am quite sure that salt water has little or no influence here. *Amnicola* was met with where *Pisidium* had disappeared, but only for a short distance. The portion following this in the second quarter was entirely wanting in shells, but gradually salt water forms showed themselves, i. e., *Macoma* and *Litorina*. The marsh itself now gives an interesting field of study. Plant life is very rich, but that is not our subject. Pot holes now reveal the presence of multitudes of *Litorinella minuta* living on the thread-like marine plants. The Goose Fair Brook enters the sea in the middle of a long beach, generally known as Old Orchard beach. Its marine shells are chiefly *Litorina littoria* and *Macoma*, the latter often badly eroded. I have seen living specimens with the animal exposed in places where erosion had destroyed the shell. Not far from the shore there must be beds containing *Tellina tenera*, *Ceronia arcata* and others, as specimens are washed up by storms. I trust that these few observations may help to settle the question of the distribution of marine and freshwater forms. At any rate this is one point in the evidence.

SOME NEW OR RARE SPECIES OF MARINE MOLLUSCA RECENTLY
FOUND IN BRITISH COLUMBIA.

The following note may be of interest to collectors of West Coast Mollusca. It adds sixteen species to our fauna not hitherto reported

from British Columbia (though some have been found in neighbouring seas), and four species are new to science. My best thanks are due to Dr. Dall for kindly determining new and doubtful material, and species so identified are marked in the accompanying list by an asterisk.

It will be noticed that the range of several Californian species receives a considerable extension, as in the case of *Diala marmorea* Cpr., *Eulima falcata* Cpr., *Ischnochiton radians* Cpr., *Lepidopleurus rugatus* Cpr., *Chrysallida cincta* Cpr., *Phasianella pulloides* Cpr., *Tornatina harpa* Dall, and *Turbonilla stylina* Cpr., etc.

Of northern species the southward range is extended of *Buccinum plectrum* Stimps. (now first established as living in our waters) of *Trichotropis borealis* Br. & Sby., and of *Sipho verkrüzeni* Kobelt. The two last mentioned species occur at Alert Bay in company with an unusual abundance of boreal and circumpolar species such as *Buccinum cyaneum* Brug., *Bela violacea* M. & A., *Margarita helicina* O. Fab., *Cryptobranchia concentrica* Midd., *Lepidopleurus cancellatus* Sby., *Crenella decussata* Mont., etc.

Of the four new species, three belong to genera new to our waters; viz. *Rissoina*, *Mölleria* and *Phasaniella*. The fourth species belongs to a subgenus (*Mumiola*) of *Odostomia* especially Japanese in its recorded species.

Most of the following additions are of small shells, of which, however, we are still far from having on record a normal proportion.

The stations quoted in the following lists are arranged in their order passing from the south towards the north.

Station 1. Near Victoria, Vancouver Island, in 60 fathoms, fine clean sand. Collected by the Natural History Society of B. C. March 14, 1896.

Station 2. Near Alert Bay, Queen Charlotte Sound, northeast of Vancouver Island, 20 fathoms, small gravel. Collector, C. F. N. July, 1895.

Station 3. North side of the entrance to Cumshewa Inlet, Queen Charlotte Islands, 10-20 fathoms, small broken shells and sand. Collector, C. F. N. Sept., 1895.

Station 4. East end of Skidegate Inlet, Queen Charlotte Islands, sand and mud. Collector, C. F. N. August, 1895.

Station 5. Dawson Harbour, west end of Skidegate Inlet, Queen Charlotte Islands, 20 fathoms., broken shells. Collector, C. F. N. Sept., 1895.

List of Species.

- * *Admete Couthouyi* Jay. Cumshewa Inlet, living.
- * *Angulus variegatus* Cp. Victoria, Station 1.
- * *Bela fidicula* Gld. "variety approximating *B. scalaris* Möller." Alert Bay, Station 2.
- * *Bela tabulata* Cpr. A remarkably slender variety occurred at Station 2 with the last.
- * *Bela violacea* Migh. & Ads. Not uncommon at Alert Bay, Station 2.
- * *Bittium quadrifilatum* Cpr. At all stations in the Queen Charlotte Islands. A Californian shell new to B. C.
- * *Buccinum cyaneum* Brug., var. *Mörchianum* Fischer. Very fine and plentiful, living at low water near Station 2, Alert Bay. Not reported from any other locality.
- * *Buccinum plectrum* Stimpson. Two dead and a few living specimens at Station 1, Victoria. Dead specimens have before been recorded since 1878 as *B. polare* var. *compactum* Dall, and as *B. percrassum* Dall. It has also been found at Rivers Inlet, B. C. (C. F. N.) and in Queen Charlotte Sound by Dr. G. M. Dawson.
- * *Cadulus aberrans* Whiteaves. Several specimens at Station 1, Victoria. Only once taken before in B. C.
- * *Cæcum crebricinctum* Cpr. Living in great abundance at Station 3, Queen Charlotte Islands. Only a single dead specimen before noted.
- * *Cancellaria modesta* Cpr. One dead specimen dredged in 15 fathoms, near Victoria in 1894, the first reported in B. C. It measures 33 mm. in length and is the largest species of its genus here.
- * *Cancellaria unalaskensis* Dall. A few found at Stations 3 and 5 in the Queen Charlotte Islands.
- * *Chrysodomus rectirostris* Cpr. Three living specimens of this rare shell at Station 1, Victoria.
- * *Chrysodomus (Sipho) Verkrüzeni* Kobelt. Three young living specimens dredged near Alert Bay by Mr. W. Harvey in 1894.
- * *Crenella decussata* Mont. Abundant at Station 2 near Alert Bay.
- * *Dentalium pretiosum* Nuttall. A single living specimen at Station 5, Dawson Harbour, Q. C. I.
- * *Dentalium rectius* Cpr. A few living at Station 1, Victoria. Only noted here once before.
- * *Diala marmorea* Cpr. At Station 5, Dawson Harbour, Q. C. I. New to these waters.

Doridium Adellæ Dall. Clayoquot Sound, B. C., and near Victoria. Taken in 1893, by C. F. N. Not hitherto recorded from B. C.

* *Eulima falcata* Cpr. At Station 2, near Alert Bay. Also taken at low water. A rare Californian shell not on our lists, but probably identical with the form recorded as *E. distorta* and *E. incurva*.

* *Halistylus pupoideus* Dall. Very abundant, living at Station 3, Cumshewa Inlet.

Ischnochiton interstinctus Gld. On rocks at low water near Station 4. A Californian species new to our Province. Sixteen specimens of various markings.

Lazaria subquadrata Cpr. Dead shells and single valves at Stations 3 and 5 in the Queen Charlotte Islands, the northern limit of this species so far as known.

* *Leda acuta* Conr. A few living and many dead specimens at Stations 3, 4 and 5, Q. C. I.

* *Leda fossa* Baird. A few specimens at Station on 3, Cumshewa Inlet. In 1894 I dredged three living specimens near Victoria.

* *Lepidopleurus rugatus* Cpr. Under rocks at low water near Victoria, April, 1894, C. F. N.

* *Macoma goldiformis* Cpr. Stations 3 and 4 in the Queen Charlotte Islands.

Mactra falcata. Station 3, Cumshewa Inlet.

* *Mölleria Quadraë* Dall, sp. nov. A few living and dead specimens at Station 3, Cumshewa Inlet.

* *Mumiola tenuis* Dall, sp. nov. Station 3, with the last.

* *Odostomia (Chrysallida) cincta* Cpr. In 30 fathoms near Victoria, March, 1896. New to B. C.

* *Phasianella (Eucosmia) lurida* Dall, sp. nov. Station 5, Skidegate Channel. Encrusted with a polyzoan.

* *Phasianella pulloides* Cpr. Station 5, Dawson Harbour. Skidegate with the last, and in shell sand from Nootka Sound.

* *Rissoina Newcombei* Dall sp. nov. Station 3, Cumshewa Inlet, Queen Charlotte Islands.

* *Tellina inflatula* Dall. Stations 3 and 4 in the Queen Charlotte Islands. The northern limit so far as known.

Tonicella submarmorea Midd. Not rare at low water at Station 2, Alert Bay, and quite plentiful at Station 4, Skidegate Inlet.

* *Tornatina harpa* Dall. Not rare at Stations 3, 4 and 5, Queen Charlotte Islands. The northern known limit.

Trachydermon (Cyanoplax) Raymondi Pilsbry. Not rare at Stations 2 and 4, Alert Bay and Skidegate, Q. C. I.

* *Trichotropis borealis* Br. & Sby. Station 2, Alert Bay. New to this Province.

Turbonilla chocolata Cpr. Both at Stations 2 and 4.

* *Turbonilla stylina* Cpr. Cumshewa Inlet, Q. C. I., at Station 3. A Californian shell, new to B. C.

* *Turbonilla torquata* Gld. With the last.

* *Turbonilla tridentata* Cpr. At Station 3, Cumshewa Inlet. Though found in Puget Sound many years ago, it has not before been reported from British Columbia.

* *Venericardia borealis* Conr. At stations 2 (Alert Bay) and 4, Skidegate Inlet.

C. F. NEWCOMBE.

DESCRIPTIONS OF NEW PISIDIA.

BY DR. V. STERKI.

Pis. fallax n. sp.

Mussel rather small; it is of the same type with *Pis. compressum* Pr. but smaller, more rounded in outline, the upper margin is less strongly curved, not angular, the ridges on the beaks are comparatively larger and situated less high up; the striation is finer, crowded, somewhat irregular and sharp; the color commonly greenish or yellowish-horn in the younger, more yellow in older specimens; the hinge is strong, more regularly curved than in *compressum*, the hinge plate broad, the cardinal tooth of the right valve more oblique, the lateral teeth strongly projecting inward; nacre more glassy-whitish; ligament strong.

Size: long 3.2, alt. 2.9-3, diam. 2.1.

Habitat: Tuscarawas River and Sugar Creek, Ohio.

It was first noticed in October and November, 1891, when hundreds of specimens were collected, and so every year since, in company with *Pis. compressum*, *cruciatum* and *punctatum*. Also found in the stomach of the "Buffalo Sucker" (fish) with *Pis. cruciatum* and other molluscan shells. It is decidedly and constantly distinct, not a variety or depauperate form of *Pis. compressum*. The latter has been collected in this vicinity in many places and in very different forms. Old specimens of *Pis. fallax* are almost always badly eroded, and covered with a thick, blackish coat, while *Pis. compressum* from the same places, were intact and clean.



Newcombe, C F. 1896. "Some new or rare species of marine Mollusca recently found in British Columbia." *The Nautilus* 10, 16–20.

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