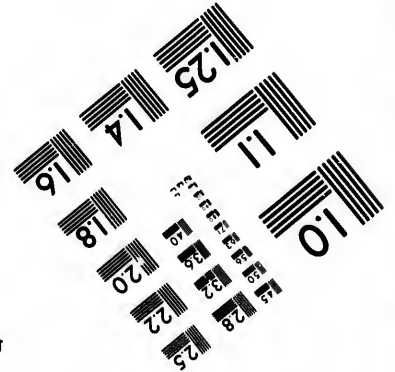
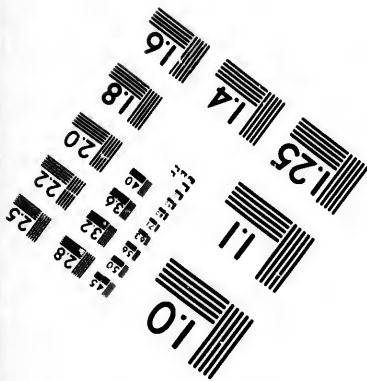
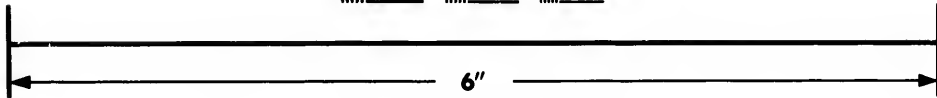
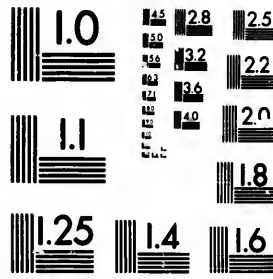


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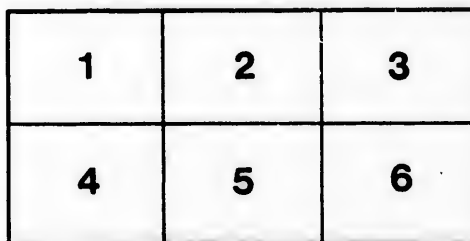
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(From the Report of Progress of the Geological Survey of Canada, 1878-79.)

ON SOME
MARINE INVERTEBRATA
FROM THE
QUEEN CHARLOTTE ISLANDS.

BY
J. F. WHITEAVES.



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ON SOME MARINE INVERTEBRATA

FROM THE

QUEEN CHARLOTTE ISLANDS.*

BY J. F. WHITEAVES.

The whole of the specimens belonging to the species enumerated in the following lists were collected by Dr. G. M. Dawson and his brother, Mr. Rankine Dawson, in the summer season of 1878, on the eastern coast of the Queen Charlotte Islands, along its whole extent, and off the northern extremity of Graham Island, between Virago Sound and North Island.

With the exception of a few and for the most part common littoral forms, which were found to be very generally distributed, it has been thought desirable to place on record the exact locality and station at which each species was obtained, by dredging or otherwise, although the doing of this has necessarily involved some reiteration which might otherwise have been avoided.

For valuable notes on the echinodermata and corals, and for the descriptions of new species of *Archaster* and *Solaster*, the writer is indebted to Prof. A. E. Verrill, of Yale College. Mr. W. H. Dall, of the Smithsonian Institution, Washington, has kindly examined and identified some of the smaller and more critical species of mollusca.

The crustacea collected by Dr. Dawson on the coast of Vancouver, as well as at the Queen Charlotte Islands, have been reported on separately by Prof. S. I. Smith, of Yale College.

A curious fact, established by these collections, is the occurrence at the Queen Charlotte Islands of several species of marine mollusca previously found only much further to the southwards, and hitherto supposed to be peculiar to the Californian fauna. The most notable of

* The group thus named lies to the North-west of Vancouver Island, in the Province of British Columbia, and is included between N. lat. 54° 15', 51° 55'; W. long. 131° 21', 133° 51'.

these are *Leda calata*, Hinds; *Bryophila setosa*, Carpenter; *Mitromorpha filosa*, Carpenter; *Odstomia straminea*, Carpenter; *Lamellaria Stearnsii*, Dall; *Volutella pyriformis*, Carpenter; *Amphissa versicolor*, Dall.

Among the corals, too, the only locality previously known for *Paracyathus caltha* was Monterey.

The following is a list of all the species recognised so far, but the foraminifera, hydrozoa, and polyzoa, of which a rather extensive series was procured, have yet to be studied:

SPONGIDÆ.

Grantia ciliata, Fabricius. Dredged at moderate depths and at various localities on the coast of the Queen Charlotte Islands, also at Vancouver.

Tethea, Sp. undt. Not yet examined. Houston-Stewart Channel, in from 15 to 20 fathoms, two fine specimens.

HYDROIDA.

Allopora venusta, Verrill. Houston-Stewart Channel, in from 15 to 20 fathoms, five specimens.

This species is placed in this division on the authority of Prof. Verrill.

ANTHOZOA.

Balanophyllia elegans, Verrill. With the preceding; also in 20 fathoms, at the mouth of Cumshewa Harbour, several fine specimens.

Paracyathus caltha, Verrill. Same localities and depths as the last species.

"Numerous specimens, of various sizes and varying considerably in form, from narrow and nearly cylindrical to broad cup-shaped."—Verrill.

OPHIUROIDEA.

Ophioglypha Lutkeni, Lyman. Abundant at Dixon Entrance, in 111 fathoms.

"These are larger than the original specimen described by Lyman, and show some variation. On the basal portion of the arms there are two tentacle-scales. The radial-shields are long oval, with the inner end pointed; they only touch each other in the middle. Mouth-shields broad spear-shaped, the outer end broad and a little prolonged, obtusely rounded; the side angles prominent and rounded; the inner end triangular, with slightly incurved sides. Arm spines three, acute, the upper one considerably longest. The arms, towards the base, are high,

with a slight dorsal ridge. Color, ash-gray above, white below."—Verrill.

Ophiopholis Careyi, Lyman. Mouth of Cumshewa Harbour, in 20 fathoms, not very common.

"Agrees with the description of the original type."—Verrill. The correctness of the identification of this and of the preceding species has also been corroborated by Col. Lyman, to whom specimens of both were sent.

Amphiura urtica, Lyman. Virago Sound, in from 8 to 15 fathoms. Several small specimens. Determined by Prof. Verrill, who remarks concerning them:

"They have few small spinules on the plates near the edge of the disk. The under arm-plates are squarish, with a notch on the outer edge, as in the original specimens."

ASTERIOIDEA.

Asterias epichlora, Brandt. (?) Littoral, and apparently not very common.

"Rays five. Spines of dorsal surface evenly distributed, nearly equal, rather long, somewhat enlarged and sulcate at the tips, and surrounded, above the base, by a thick wreath of minor pedicellariæ. Adambulacral spines in two rows, slender. Ventral spines longer, stouter, obtuse, sulcate at tips, forming four close rows."—Verrill.

Asterias ochracea, Brandt. The most common of the littoral species collected.

Asterias hexactis, Stimpson. Found sparingly at or near low-water mark.

Leptasterias. ("Near *L. Mulleri* and *L. tenera*.") Virago Sound, in from 8 to 15 fathoms, several small and poorly preserved specimens.

"Rays five, slender. Adambulacral spines slender, mostly two to a plate. Lateral and dorsal spines slender, not crowded."—Verrill.

Pycnopodia helianthoidea, (Brandt.) Stimpson. Below low-water mark in Skidegate Inlet, but rather uncommon.

Solaster Stimpsoni, Verrill. Sp. nov. Beach at Ramsay Island, five or six specimens.

"This species is allied to *S. endeca* of the North Atlantic. It has a smaller disk and longer rays, usually ten in number. One of the larger dried specimens has the radius of the disk 1.25 inches; of the rays 4 to 4.50 inches. Color of the disk and base of rays, above, light red; lower

surface yellowish. The rays are long, round, regularly to Upper surface covered with clusters of small blunt spinules or paxillæ, mostly six to eight in a group, on the rays; and ten to twelve on the disk, where they are more crowded. In smaller specimens there are fewer spinules in the clusters. These spinules are larger, stouter, more obtuse and more numerous than in *S. endeca*. On the lower side the interbrachial spaces are smaller than in *S. endeca*, with fewer plates, each of which bears a close group, usually of four or five tapering spinules, rather larger than those of the dorsal surface, and much stouter and fewer than the corresponding spinules of *S. endeca*. The plates forming the lower margin of the disk are less prominent than in *S. endeca*; and each bears a transverse group of about twelve to sixteen spinules, similar to those of the sides and under surface of the rays. Along the grooves each adambulacral plate bears on its inner end two small, short, tapered spines, which form a longitudinal row, and outside of these a transverse row of about eight, much longer and larger, tapered spines, with rough, blunt tips. These are stouter, less acute and less rough than those of *S. endeca*. The oral plates bear six strong and rather long spines at the inner end, the middle ones longest. These are stouter and not so long as those of *S. endeca*.

"This is, possibly, the form called *Asterias endeca*, var. *decemradiata* by Brandt (*Solaster decemradiatus* Stimp). But Brandt gave no description whatever."—Verrill.

Solaster Dawsoni, Verrill. Sp. nov. Virago Sound, in from 8 to 15 fathoms, one specimen.

"Of this species I have seen but a single dried specimen, with twelve rays. Radius of the disk, .80 of an inch; of the rays, 2.10. It has the general appearance and proportions of *S. endeca*, as seen from above, but resembles *Crossaster papposus* beneath. The plates of the upper surface and their clusters of spinules are even smaller, more numerous and more crowded than in the former species, there being usually ten to twelve minute and short spinules to each plate. The plates, when denuded of spines, are small, rounded and convex. The marginal plates are prominent, and each bears a prominent transverse group of numerous, small, slender spinules, forming two rows of about twelve to fourteen each. The interbrachial spaces, beneath, are very small and narrow, with few plates, each of which bears a group of three or four slender spinules. These spaces are very much smaller than in *S. decemradiatus*, and still smaller as compared with *S. endeca*. The adambulacral plates bear a longitudinal group of three, rather long, slender spines on the inner end, and outside of these a transverse group of four or five, scarcely larger ones. The oral plates bear six

long, blunt spines, the middle ones longest. The adambulacral spines especially the inner ones, are much larger and longer than in *S. endeca* the latter usually having but two very small inner ones.

"*Asterias affinis* and *A. albocerrucosa* Brandt are probably a single species of *Solaster* or *Crossaster*, but the descriptions are very brief and imperfect. The former was described only from a figure of a young specimen. Both are one inch in diameter of disk. Both are described as having ten rays, with large scattered clusters of dorsal spines ("papillæ"), and as resembling *C. papposus*. The number of rays cannot be regarded as a specific character. They may really belong to *C. papposus*."—Verrill.

Cribrella leviuscula, Stimpson. Common, from low-water mark to 15 or 20 fathoms.

Dermaster imbricatus, Porrior.

(=*Asteropsis imbricata*, Grube, 1857. A. Agassiz, North American Starfishes, 1877; p. 106, pl. xv., figs. 1-7.)

A rather common and brilliantly coloured, littoral species, found at several localities.

Asterina miniata, Brandt. (Sp.) Near low-water mark, abundant locally.

Mediaster aequalis, Stimpson. Beach at Ramsay Island, one fine specimen only.

Archaster Dawsoni, Verrill. Sp. nov.

"A large species, in form resembling *A. tenuispinus* of the North Atlantic. Radius of the disk, .65; of rays, 4 inches. The rays are long, flat, regularly tapered. The upper surface is loosely covered with small tubercles, bearing only circular groups of very minute, short paxillæ toward the margins of the rays; but along the middle region of the rays and over the disk bearing a long, tapering, acute central spine, surrounded at base by a circle of small paxillæ; between the plates there are, over the whole surface, numerous pores. Along each ray, toward the marginal plates, there are, at irregular intervals, singular groups of small incurved spinules; usually three or four clusters, each cluster consisting of a row of three or four spinules, form one group; the ends of all the spinules converge to a pore in the centre of the group. The upper marginal plates are small but prominent, and each bears a long, rather stout, acute, erect spine, surrounded at base by a group of slender, unequal spinules. The lower marginal plates mostly bear three long and large divergent spines, the upper one largest, and rather longer than those of the upper plates; between and around their bases there are slender spinules. The adambulacral plates bear upon

the inner edge a rounded group of about six very slender, blunt spines, the two lateral ones very short, the middle ones long; outside of these there is a transverse row, usually of three much longer and larger, blunt spines."—Verrill.

Dixon Entrance, in 111 fathoms, one fine, living specimen.

ECHINOIDEA.

Dendraster excentricus, Valenciennes. (Sp.) Beach in Virago Sound.

Loxechinus purpuratus, Stimpson. (Sp.) Near low-water mark and in shallow water, common. Some of the specimens are six inches and a quarter in diameter.

Strongylocentrotus Drobachiensis (Muller) A. Agassiz. Masset Inlet and elsewhere, at low tides, with the variety *chlorocentrotus*, Brandt. Abundant.

BRACHIOPODA.

Laqueus Californicus, Koch. Fifty fathoms, mud, off Metla-Katlu, a few dead shells.

Terebratella transversa, Sowerby. (*T. caurina*, Gould.) Mouth of Cumshewa Harbour, in 20 fathoms; Houston-Stewart Channel, in 15-20 fathoms. Common, living, and of large size, at both localities.

LAMELLIBRANCHIATA.

Zirphæa crispata, Linnæus. Beach north of Cumshewa Harbour, a large, worn, right valve.

Saxicava rugosa, Lamarek. Dolomite Narrows and Masset Inlet, first expansion.

Mya truncata, Linnæus. Dolomite Narrows and beach between Virago Sound and North Island.

Cryptomya Californica, Conrad. Virago Sound, in 8 to 15 fathoms, one valve.

Næra pectinata, Carpenter. Virago Sound, in 8 to 15 fathoms, and Dixon Entrance, in 111 fathoms; one specimen from each locality.

Kennerlia filosa, Carpenter. Virago Sound, in 8 to 15 fathoms, three specimens.

Thracia curta, Conrad. With the preceding, one example.

Lyonsia Californica, Conrad. One young, living specimen, from the same locality as the two last-named species.

Entodesma saxicola, Baird. Rocks at low water.

Mytilimeria Nuttalli, Conrad. With the last species.

Siliqua patula, Dixon. Beach between Musset and Rose Point, several dead but very perfect and well-preserved shells.

Psemmobia rubroradiata, Nuttall. Mouth of Cumshewa Harbour, in 20 fathoms, one dead shell.

Macoma inquinata, Deshayes. Virago Sound, in 8 to 15 fathoms, one specimen.

Macoma sabulosa, Spengler, var. Dixon Entrance, Q.C.I., in 111 fathoms, three examples.

Macoma inconspicua, Broderip and Sowerby? Large variety. Virago Sound, in 8 to 15 fathoms, one perfect shell and a single valve.

Macoma Carlottensis, Sp. nov.



Fig. 1. *Macoma Carlottensis*, left valve, nat. size.

Shell small, moderately inflated, thickness rather more than one-half the height, inequilateral; valves slightly flexed to the right posteriorly; test thin and fragile.

Anterior side produced, evenly rounded at its extremity, and nearly twice as long as the posterior side; posterior side short, much narrower than the anterior, subuneiform, sloping convexly and abruptly from above downwards, and at last forming a subangular junction with the ventral margin below. Ventral margin gibbous in advance, ascending and much straighter behind. Beaks small, moderately prominent, incurved, and placed considerably behind the middle. Ligament short, external.

Surface glossy, marked by very fine, close-set, concentric striations, and by a few, distant, lines of growth. Colour of young shells translucent and often opalescent white or whitish. The lower portion of adult shells, when in good condition, is covered with a thin, pale ashen gray epidermis, and the shells themselves are often tinged with a pale grayish or brownish hue.

Right valve with two minute, widely diverging, cardinal teeth; left valve with a single, very small, narrowly triangular tooth, which

under the lens appears to be grooved down the middle; lateral teeth obsolete or nearly so. Pallial sinus profound, rounded at its extremity, and reaching beyond the centre of the valves.

Dimensions:—Length of an adult specimen, 6 lines; height of the same, $4\frac{1}{2}$ lines; thickness through the valves, 3 lines.

Virago Sound, in from 8 to 15 fathoms, abundant.

Mara variegata, Carpenter. Dolomite Narrows, common; mouth of Cumshewa Harbour, in 20 fathoms, several.

Standella falcata, Gould. Shore near camp between Virago and North Island, two single valves.

Clementia subdiaphana, Carpenter. Virago Sound, in 8 to 15 fathoms, a large single valve.

Psephis Lordi, Baird. Dixon Entrance, in 111 fathoms, and Virago Sound, in 8 to 15 fathoms,

Venus Kennерleyi, Reeve. Mouth of Cumshewa Harbour, in 20 fathoms, many, but mostly small; Dolomite Narrows, and Houston-Stewart Channel, in 15-20 fathoms, not so common.

Tapes staminea, Conrad. Shore between Virago and North Island, Dolomite Narrows, and 8 to 15 fathoms in Virago Sound.

Saxidomus squalidus, Deshayes. Common at several localities.

Cardium Nuttalli, Conrad. Abundant, and of very large size.

Cardium blandum, Gould. Mouth of Cumshewa Harbour, in 20 fathoms, and Virago Sound, in 8 to 15 fathoms; mostly small, single valves.

Astarte semisulcata, Leach? One dead valve, in 20 fathoms, off Metla-Katla.

Astarte Esquimalti, Baird. (= *Rhynchocyna mirabilis*, Dall.) Mouth of Cumshewa Harbour, in 20 fathoms, several.

Miodon prolongatus, Carpenter. Dolomite Narrows, abundant; mouth of Cumshewa Harbour, in 20 fathoms, several; Houston-Stewart Channel, in 15 to 20 fathoms, three or four specimens.

Venericardia borcalis, Conrad, and *var. ventricosa*, Gould. Dixon Entrance, in 111 fathoms, four specimens; mouth of Cumshewa Harbour, in 20 fathoms, many, living; Virago Sound, in 8 to 15 fathoms, three; off Metla-Katla, in 50 fathoms, and Dolomite Narrows; common, but of small size.

Lucina filosa, Stimpson. Dixon Entrance, in 111 fathoms, a large single valve.

Lucina tenuisculpta, Carpenter. Virago Sound, in 8 to 15 fathoms, five small, living specimens.

Cryptodon flexuosus, Montagu. Dixon Entrance, in 111 fathoms, three perfect specimens.

Cryptodon serricatus, Gould. With the last; also mouth of Cumshewa Harbour, in 20 fathoms, and Virago Sound, in from 8 to 15 fathoms; one living shell from each of these localities.

Diplodonta orbella, Gould. Mouth of Cumshewa Harbour, in 20 fathoms, plentiful, but mostly single valves; Houston-Stewart Channel, in 15 to 20 fathoms, one dead but perfect shell.

Kellia suborbicularis, Montagu. Dredged, living, at several localities.

Turtonia minuta, Fabricius. Virago Sound, in from 8 to 15 fathoms, one large, single valve.

Lepton rude, Sp. nov.

"Lepton rude, Dall" M. S.



Fig. 2. *Lepton rude*, left valve, nat. size.

Shell rather small, equivalve, inequilateral, tumid, but not quite as thick as high, most swollen on the postero-lateral and antero-lateral umbonal slopes, depressed in the middle, the depression extending from the beaks to the ventral margin; test thin and fragile.

General outline subtrapezoidal, length much greater than the height, base concavely and shallowly emarginate; superior border broadly compressed convex, sloping gently downwards posteriorly, and rather more rapidly so in advance; posterior and anterior ends subtruncate more or less obliquely above and rounded below; posterior side somewhat longer than the anterior, and rather more pointed at its extremity below. Umbones broad and depressed; beaks compressed laterally, eroded, moderately prominent, curved forwards, and placed a little in advance of the middle. Posterior area ill-defined, indicated obscurely by an oblique and abrupt compression of the valves above and behind a rounded ridge or swelling, which runs in the direction of a line which might be drawn from the hinder side of the beaks to the posterior termination of the ventral margin. This ridge or prominence is

tolerably well defined in the umbonal region, but becomes obsolete in the middle of the shell. Lunule none; lunular region abruptly and obliquely compressed or inflected.

Surface marked by coarse, crowded and irregularly disposed, concentric wrinkles or raised striae. As viewed under an achromatic microscope, with an inch and a half objective, the shell is seen to be covered in places with an exceedingly minute, angular and irregular network of raised wrinkles and radiating striae.

Colour:—Dark rusty-brown on the exterior of the valves (possibly due to the ferruginous nature of the mud or sand in which it lived), whitish on the beaks and umbones. Interior, porcellanous white.

Dimensions of the only specimen collected:—Length, 10 lines; height, scarcely 7; thickness, 5 lines.

Locality:—Virago Sound, in from 8 to 15 fathoms. One fine specimen, the largest known, perfect and well-preserved on the outside, but with the interior of the valves much eroded and exfoliated, and the hinge teeth badly broken.

This well-marked and very distinct species has long been known to Mr. W. H. Dall, whose M. S. name for it has been adopted here. The specimens in Mr. Dall's possession are from Alaska and Monterey, so that the species appears to have a wide range on the west coast of North America.

Tellinmya tumida, Carpenter. Dolomite Narrows, four good specimens.

Mytilus edulis, Linnæus. Dolomite Narrows, &c.

Mytilus Californianus, Conrad. Beach in Houston-Stewart Channel.

Modiola modiolus, Linnæus. Low-water to 10 fathoms, common.

Crenella decussata, Montagu. Virago Sound, in from 8 to 15 fathoms.

A single, very large example which measures nearly three lines in length by two and a half in height.

Axinaea septentrionalis, Middendorf, *var. subobsoleta*, Carpenter. Mouth of Cumshewa Harbour, in 20 fathoms, abundant and alive; also Houston-Stewart Channel, north of Prevost Island, in 15 to 20 fathoms, where many specimens were obtained. At the Queen Charlotte Islands only the smooth form of this species has been observed.

Nucula tenuis, Montagu, *var. lucida*, Gould. Virago Sound, in 8 to 15 fathoms, several living specimens.

Nucula (Acila) Lyalli, Baird. With the preceding; also channel opposite Seal's Head Island, in 70 fathoms.

- Leda calata*, Hinds. Houston-Stewart Channel, in from 15 to 20 fathoms, a single but characteristic left valve. The most northerly locality previously known for this species was the neighbourhood of San Francisco.
- Leda minuta*, Müller. Channel opposite Seal's Head Island, in 70 fathoms. Several specimens, apparently, of a very large, tumid form of this species. A number of examples of the variety *caudata* were dredged off Metla-Katla, in 20 fathoms of water.
- Yoldia lanceolata*, J. Sowerby. Virago Sound, in 8 to 15 fathoms, several living, but small; also one valve, in 20 fathoms, off Metla-Katla.
- Bryophila setosa*, Carpenter. Virago Sound, in 8 to 15 fathoms, four fine living specimens. Hitherto known only from Cape St. Lucas, and between San Diego and San Pedro, California.
- Pecten hystatus*, Sowerby. With the preceding, also Houston-Stewart Channel, in from 15 to 20 fathoms; a single small specimen from each of these localities.
- Hinnites giganteus*, Gray. From several localities, common.
- Placunanomia macroschisma*, Deshayes. Virago Sound, in 8 to 15 fathoms, and elsewhere, common.

GASTEROPODA.

- Tornatina eximia*, Baird. Virago Sound, in 8 to 15 fathoms, seven specimens; Dixon Entrance, in 111 fathoms, two or three dead shells; Dolomite Narrows, one dead shell.
- Cylichna alba*, Brown. Dixon Entrance, in 111 fathoms, two specimens.
- Siphonaria Thersites*, Carpenter, *var.* One living specimen.
- Dentalium Indianorum*, Carpenter. Virago Sound, in 8 to 15 fathoms, one dead shell.
- Mopalia ciliata*, Sowerby. A common littoral species, of which two examples of the typical form were collected, and three of the variety, or subspecies, *Hindsii*.
- Mopalia Wosnessenskyi*, Middendorf. Two examples from low-water mark.
- Cryptochiton Stelleri*, Middendorf. Beach at Skineuttle Inlet, also rocks at low-water in Houston-Stewart Channel.
- Katherina tunicata*, Wood. Common at several places, living on rocks at low-water mark.

- Tonicella marmorea*, Fabricius. Houston-Stewart Channel, in 15 to 20 fathoms, two specimens.
- Tonicella lineata*, Wood. Low-water, at several localities.
- Chætopleura Hartwegii*, Carpenter. Mouth of Cumshewa Harbour, in 20 fathoms, one small specimen.
- Ischnochiton interstinctus*, Gould. With the preceding, also Virago Sound, in 8 to 15 fathoms, and Houston-Stewart Channel, in 15 to 20 fathoms.
- Ischnoradsia trifida*, Carpenter. Mouth of Cumshewa Harbour, in 20 fathoms, one specimen.
- Lepidopleurus Mertensii*, Middendorf. Frequent, living, in Houston-Stewart Channel, in 15 to 20 fathoms, and at the mouth of Cumshewa Harbour, in 20 fathoms.
- Acmaea mitra*, Escholtz. }
Acmaea (Collisella) pelta, Escholtz. } Abundant, living, at and below
Acmaea (Collisella) persona, Escholtz. } low-water mark, in several
Acmaea (Collisella) patina, Escholtz. } localities.
Acmaea (Collisella) patina, var. *scutum*. }
- Cryptobranchia concentrica*, Middendorf. (= *Lepeta cœcoides*.) Two living specimens, in 20 fathoms, off Metla-Katla.
- Glyphis aspera*, Escholtz. Cumshewa Harbour, in 50 fathoms, two living and three dead shells.
- Fissurellidæa bimaculata*, Dall. Houston-Stewart Channel, in 15 to 20 fathoms, two dead examples.
- Puncturella cucullata*, Gould. Virago Sound, in 8 to 15 fathoms; mouth of Cumshewa Harbour, in 20 fathoms, and Houston-Stewart Channel, in 15 to 20 fathoms.
- Puncturella galeata*, Gould. With the preceding species.
- Haliotis Kamtschathkana*, Jonas. On rocks at low-water at Houston-Stewart Channel and elsewhere. This species was collected also by Mr. James Richardson at the Queen Charlotte Islands in 1872.
- Pachypoma gibberosum*, Chemnitz. Common on rocks at low-water mark.
- Leptothyra sanguinea*, Linnaeus. Houston-Stewart Channel, in 15 to 20 fathoms, several; mouth of Cumshewa Harbour, in 20 fathoms, common; Dolomite Narrows, a few.
- Chlorostoma brunneum*, Philippi. Carpenter Bay, on fronds of *Macrocystis*, common.

- Calliostoma canaliculatum*, Martyn. Virago Sound, in 8 to 15 fathoms, four living but small specimens.
- Calliostoma costatum*, Martyn. Houston-Stewart Channel, in 15 to 20 fathoms; Virago Sound, in 8 to 15 fathoms, and elsewhere; very common.
- Calliostoma annulatum*, Martyn. Houston-Stewart Channel, in 15 to 20 fathoms, two specimens.
- Phorcus pulligo*, Martyn. Adult and common on fronds of *Macrocystis* in Carpenter Bay. Young but living shells of this species were dredged also in 15 to 30 fathoms in Houston-Stewart Channel and in Dolomite Narrows.
- Gibbula funiculata*, Carpenter. One living specimen, the exact locality of which has been forgotten.
- Margarita pupilla*, Gould. Houston-Stewart Channel, in 15 to 20 fathoms, and mouth of Cumshewa Harbour, in 20 fathoms.
- Margarita lirulata*, Carpenter. Dolomite Narrows, five living shells; and Virago Sound, in 8 to 15 fathoms, three examples.
- Margarita helicina*, Montagu. One young, living specimen; exact locality and station unknown.
- Crepidula navicelloides*, Nuttall; var. *nummaria*, Gould. Mouth of Cumshewa Harbour, in 20 fathoms, on dead shells, &c., frequent.
- Crepidula adunca*, Sowerby. Two living specimens; exact locality and station unknown.
- Galerus contortus*, Carpenter (fide Dall). Mouth of Cumshewa Harbour, in 20 fathoms, common; and Virago Sound, in from 8 to 15 fathoms, rather scarce.
- Hipponyx cranioides*, Carpenter. One living adult specimen; exact locality not known.
- Cæcum crebricinctum*, Carpenter. Dolomite Narrows, one; dead.
- Mesalia reticulata*, Mighels. Off Metla-Katla, in 50 fathoms, five specimens.
- Bittium filosum*, Gould. Common.
- Littorina Sithana*, Philippi. Rocks at low-water, at Hot Spring Island; also shore between Virago Sound and North Island.
- Littorina scutulata*, Gould. Virago Sound, in 8 to 15 fathoms, two dead shells.
- Lacuna porrecta*, Carpenter. Shore between Virago Sound and North Island, one dead shell.

- Lacuna*? var. *exequata*, Carpenter. Beach at Virago Sound, one small specimen.
- Alvania reticulata*, Carpenter. Virago Sound, in 8 to 15 fathoms, rare.
- Alvania compacta*? Carpenter. Dolomite Narrows. "Found also in Japan."—Dall.
- Fenella pupoidea*, Carpenter? (or *Rissoa*, Sp. nov.) Mouth of Cumshewa Harbour, in 20 fathoms, one live adult shell.
- Drillia incisa*, Carpenter. Virago Sound, in 8 to 15 fathoms, two specimens; one very large. "The most northern locality yet known for this species."—Dall.
- Mangelia sculpturata*, Dall. M. S. S. With the last-named species, but very rare.
- Bela fidicula*, Gould. Virago Sound, in 8 to 15 fathoms, three specimens; channel opposite Seal's Head Island, in 70 fathoms, one large, living shell; and Dixon Entrance, in 111 fathoms, one dead specimen.
- Bela Trevelyana*, Turton (teste Dall). Virago Sound, in 8 to 15 fathoms, one dead shell.
- Mitromorpha filosa*, Carpenter. Mouth of Cumshewa Harbour, in 20 fathoms, three fine specimens. The only previously recorded localities for this species are Santa Barbara and Lower California.
- Odostomia straminea*, Carpenter. From the same locality and station as the species last named. One young example.
- Odostomia Sitkensis*, Dall. M. S. ("but this may=*O. inflata* Cpr.," Dall), Dolomite Narrows.
- Scalaria Indianorum*, Carpenter. Shore between Virago and North Island, one dead adult shell.
- Cerithiopsis tuberculata*, Montagu (teste Dall). Dolomite Narrows, one dead shell; Virago Sound, in 8 to 15 fathoms, three specimens.
- Trichotropis cancellata*, Hinds. Off Motla-Katla, in 20 fathoms, three live shells; also dead on the beach of the coast between Virago Sound and North Island.
- Lamellaria Stearnsii*, Dall. Houston-Stewart Channel, in 15 to 20 fathoms, one dead shell. The only specimens known besides this are the two types of the species which were collected by Mr. Dall on the beach at Monterey in 1866.
- Natica clausa*, Broderip and Sowerby. Virago Sound, in from 8 to 15 fathoms, two dead shells.

- Lunatia Lewisi*, Gould. Frequent, living, and of largesize, at several localities on the eastern, and especially near the northern end of the islands.
- Priene Oregonensis*, Redfield. Two specimens, the exact locality of which has been forgotten.
- Volutella pyriformis*, Carpenter. Virago Sound, in 8 to 15 fathoms, three living shells. Not hitherto recorded to the north of San Francisco.
- Olivella biplicata*, Sowerby. Beach between Virago Sound and North Island, dead shells only.
- Olivella batica*, Carpenter. With the preceding, and in the same worm and bleached condition.
- Nassa (Niotha) mendica*, Gould. Virago Sound, in 8 to 15 fathoms, abundant; Houston-Stewart Channel, in 15 to 20 fathoms, two dead shells. Beach between Virago Sound and North Island.
- Amphissa versicolor*, Dall. Houston-Stewart Channel, in 15 to 20 fathoms, seven specimens; mouth of Cumshewa Harbour, in 20 fathoms, three dead shells. In describing this species, Mr. Dall says:—"I have not seen specimens from north of San Francisco, and Monterey is its headquarters."
- Amphissa corrugata*, Reeve. Houston-Stewart Channel, in 15 to 20 fathoms, abundant and alive.
- Purpura crispata*, Chemnitz. Common everywhere, and very variable both in form and sculpture.
- Purpura canaliculata*, Duclou. Same station and locality as the preceding, but much scarcer.
- Purpura saxicola*, Valenciennes. With the last species, apparently not common.
- Ocenebra lurida*, Middendorf. Mouth of Cumshewa Harbour, in 20 fathoms, and Houston-Stewart Channel, in 15 to 20 fathoms.
- Ocenebra interfossa*, Carpenter. Virago Sound, in 8 to 15 fathoms, and mouth of Cumshewa Harbour, in 20 fathoms.
- Cerostoma foliatum*, Gmelin. Fine living specimens of this species were obtained on the rocks, near low-water mark, at many places.
- Nitidella Gouldii*, Carpenter. Virago Sound, in 8 to 15 fathoms, five specimens.

Trophon tenuisculptus, Carpenter. Houston-Stewart Channel, in 15 to 20 fathoms; also Virago Sound, in 8 to 15 fathoms.

Trophon Orpheus? Gould. (Young.) Mouth of Cumshewa Harbour, in 20 fathoms.

Chrysodomus dirus, Reeve. Rocks at low-water mark in Houston-Stewart Channel, eight living shells.

Chrysodomus Harfordii, Stearns. One adult, living specimen from the same locality and station as the last-mentioned species.

ANNELIDA.

Nicomache lumbricalis, Malmgren. Dixon Entrance, in 111 fathoms.—(Verrill.)

Sternaspis, Sp. ("Very much like *S. fossor*."—Verrill.) Virago Sound, in from 8 to 15 fathoms.

MONTREAL, May 1, 1880.

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