

June 21st.

Vice-President BRIDGES in the Chair.

Fourteen members present.

June 28th.

DR. CARSON in the Chair.

Eleven members present.

A letter was read from Thos. B. Wilson, M. D., of date June 28th, 1864, tendering his resignation as President of the Academy.

On report of the respective committees, the following papers were ordered to be published in the Proceedings :

Descriptions of new species of Marine INVERTEBRATA from Puget Sound, collected by the Naturalists of the North-west Boundary Commission, A. H. Campbell, Esq., Commissioner.

BY DR. WM. STIMPSON.

The following descriptions are extracted, by permission, from the Zoological Report of the Boundary Commission. They were written in the year 1860, and accompanied by illustrative drawings of all the species, which, it may be hoped, will soon be published.

CRUSTACEA.

EUPAGURUS KENNERLYI.

Carapax smooth, except where the setæ are attached. Median tooth of the front nearly obsolete; lateral teeth small but sharp and well-marked. Eyes moderately long and slender, but not longer than the peduncle of the outer antennæ; cornea little dilated, with a tuft of hair at the apex. Acicles small, pilose, not reaching the tips of the eyes. Feet all very hairy. Chelipeds short and stout, both falling considerably short of the extremities of the ambulatory feet, and strongly but not very thickly armed with short spines. In the greater cheliped the carpus is about as long as the palm of the hand; fingers shorter than the palm; two distinct rows of sharp tubercles on the dactylus. Smaller cheliped hardly reaching to the middle of the dactylus of the greater one, convex, or with an obtuse median carina armed with strong spines. There are no prominent spines or tubercles on the inferior surface of the merus and carpus in either cheliped. Color of hands in alcoholic specimens light red.

Length 2 inches; length of carapax, 0·4; of right carpus and hand together 0·51 inch.

Au orthodactyle species, near *E. pubescentulus*, but with shorter and strongly spinous chelipeds. We have named it after the late lamented naturalist who discovered it.

HIPPOLYTE PRIONOTA.

A short, plump species. Carapax with a high, compressed back, crested nearly the whole length, somewhat channelled longitudinally on each side near the crest, and armed with three spines in a longitudinal row above and behind the eyes; also with a strong antennal and a pterygostomial spine. Dorsal crest not sharp and lamelliform, but armed with four strong teeth, the front edges of which are beset with aculei, which, especially in the posterior teeth, form a transverse row when viewed from above. Rostrum more than half as long as the carapax, lamelliform, very broad, though not as broad as
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long; its front outline blunt, triangular or rounded; whole upper front and end margin minutely serrated with hispidiform teeth; lower margin with four small simple ones near the end. Eye with a spine at the inner apex; squamiform appendix to the antennæ elongate-triangular in shape, with pointed end, not reaching beyond the rostrum. External maxillipeds reaching nearly to extremity of rostrum, and provided with both exognath and epignath; antepenult joint broad, with a strong spine at the external apex. Feet of the first, second and third pairs provided with an epipod. Abdomen with the dorsum rounded; third joint a little prominent, with an obtusely triangular, not conspicuous tooth at the posterior margin; lower margins of the segments smooth and obtuse, except the fourth and fifth, which form teeth. Four pairs of dorsal aculei on the terminal joint. Length about one inch.

Easily distinguished from the other North Pacific lamelli-rostral species by the serrated margins of the dorsal teeth and rostrum. It approaches nearest to *H. spina* (Sowerbei), but has three supra-orbital spines instead of two. From *H. pectenifera* it differs in the non-pectinated margins of the abdomen.

Seven specimens of this fine species were dredged in February and March, by Lieut. White, in different parts of the Sound, viz., in Hale's Passage, 10 fathoms, soft bottom; off Lummi I, in 8—12 fathoms, shelly; near San Juan I., in 2—4 fathoms, mud.

HIPPOLYTE SUCKLEYI.

Carapax with the anterior half of the dorsum crested and sloping forward; no supra-orbital spines; a strong antennal and pterygostomian spine present. Fourth joint of abdomen acute below. Rostrum large, but scarcely as long as the carapax, curved, rather broad and lamelliform, with a slender acute tip; lower margin four-toothed; upper margin including crest of carapax six-toothed, beginning at the anterior third of the length of the rostrum. External maxillipeds of moderate size, reaching nearly to extremity of antennary appendix, and provided with both exognath and epignath. Feet long, the last pair reaching nearly to the tip of the rostrum; first pair only provided with an epipod; dactyli of the last three pairs elongated, with only one terminal unguiculus. Abdominal segments with smooth edges; superior margin of third segment obtuse. Length $1\frac{1}{2}$ inches.

In the characters of the dorsal crest and rostrum it is much like *H. Gaimardi*, but it has no spine over the eye. From *H. Fabricii* it differs in having more numerous teeth on the superior margin of the rostrum, some of which are placed nearer to its extremity. It has less numerous superior teeth than occur in *H. Layi*.

Dredged in the circumlittoral zone. We have conferred upon this species the name of our friend Dr. Suckley, one of the earliest and most successful investigators of Pugetian Zoology.

HIPPOLYTE STYLUS.

Body slender; abdomen strongly genticulated. Carapax smooth; back not crested except for a short distance anteriorly. There is an antennal spine, but neither supra-orbital nor pterygostomian. Rostrum slender, somewhat styliform, perfectly straight, and equal to the carapax in length; it is armed above with four or five teeth near the base, while the anterior two-thirds is edentulous; below there are five or six teeth. Antennary appendix oblong, scarcely shorter than the rostrum, and obliquely truncate at the end. External maxillipeds very small, reaching only to the extremity of the peduncle of the antennæ, or to the basal third of the rostrum; they are provided with an epignath, but no exognath. None of the feet have an epipod. Terminal joint of the abdomen with four pairs of dorsal aculei. Length $1\frac{1}{2}$ inches.

Taken in the Straits of De Fuca by the U. S. Exploring Expedition.

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HIPPOLYTE GRACILIS.

This is the most slender species which has come under our notice. The carapax is crested at the anterior third; there are no supra-orbital spines, but the antennal and pterygostomial spines are present, the latter spine being high in position from the narrowness or little height of the carapax. Rostrum exceedingly slender, scarce higher than wide, curved, a little longer than the carapax, and armed with four teeth over the eye; elsewhere smooth to the tip; below there are four minute distant teeth. The antennulæ are rather long, the thick flagellum reaching to the extremity of the rostrum. Antennary appendage a little longer than the rostrum. The external maxillipeds reach to the middle of the rostrum and have no exognath; the epignath perhaps exists, but we have been unable to discover it in our specimens. The feet are very slender, and none of them have an epipod. The abdomen is very long and strongly geniculated. Third segment compressed and prominent, as in *Pandalus*; penult joint much elongated. Length $1\frac{1}{4}$ inches.

Found in deep water.

IDOTHEA WHITEI.

Body slender; sides slightly convex; head large. Outer antennæ nearly two-thirds as long as the body; the flagellum equalling the peduncle in length and composed of from sixteen to eighteen joints. First thoracic segment short, less than two-thirds as long as the second. Abdomen segmented as in *I. Wosnessenskii* and the others of this group; it is one-half longer than broad, slightly narrowing posteriorly, with the extremity rounded, truncate, and bluntly acuminate at the middle. Feet moderately stout. Color yellowish, minutely punctate with dark gray. Length of body 0.81; length of abdomen 0.27 inches.

It is allied to *I. Wosnessenskii*, but is very much more elongated. It differs from *I. media*, following Dana's description, in its much longer antennæ.

We have dedicated this species to Lieut. J. W. White, who commanded the Revenue Cutter in the Sound while the Boundary Survey was in progress, and who rendered essential aid to the Naturalists of the Survey, by dredging many of the most interesting novelties which were obtained.

IDOTHEA UROTOMA.

Body nearly linear, nearly five times as long as broad, broadest at the sixth thoracic segment. External antennæ a little more than one-half as long as the body; last two joints of the peduncle subequal; flagellum a little shorter than the peduncle and ten-jointed. Abdomen consisting, as in the others of the group, of three joints, with the partial separation of a fourth; subrectangular with convex extremities, and scarcely less broad at its truncate posterior extremity than at the anterior. The posterior extremity is peculiar in shape, the angle on either side projecting strongly, and separated by a notch from the convex or subtriangular middle portion, which bears a small tooth at the middle. The opercular abdominal feet which cover the branchial or swimming feet are large, nearly covering the entire under side of the abdomen. Thoracic feet slender. Length of the body 0.75; greatest breadth 0.17; length of the abdomen 0.20 inch.

We find no note of the depth of water in which this species was dredged.

AEGA BELLICEPS.

Smooth, subelliptical, and pointed anteriorly. Head with a small, short, blunt, rostriform process over the base of the superior antennæ. Eyes ovate, very large, but distant, and beautifully granulated (faceted). Thorax rather broad; segments each marked with scattered impressed punctæ, mostly in a transverse row. Abdominal segments five in number, the terminal one scuti-1864.]



form, with its margin entire; apex obtuse. In the alcoholic specimens the color of the body is yellowish-gray, clouded; lateral margins with a series of black spots or blotches; base of abdomen black; caudal segments edged with blackish; eyes blue. Length of the body 0.76; greatest breadth 0.37; length of caudal segments 0.20 inch.

Two specimens are in the collection. It is perhaps an *Acherusia*, but we have access to no figure or description of that genus of Lucas.

BOPYROIDES ACUTIMARGINATUS, nov. gen. et sp.

We propose this name for a new parasitic anisopod which we are unable to refer to any genus hitherto established, though it approaches very closely to *Bopyrus* in form, and indeed in all its characters, except that the abdominal branchiæ of the female are rudimentary, being merely transverse fleshy ridges, instead of laminae. The upper surface, except the somewhat convex head, is flat and smooth, with the segments sharply defined. The margins of the body are very acute and somewhat recurved, especially at the head. The abdomen is distinctly six-articulated, the joints being indicated by deep incisions around the entire margin, dividing it into eleven subequal parts, so that the terminal joint is very small, no larger than a lateral extremity of one of the preceding ones. It is 0.29 inch in length, and 0.21 in greatest breadth.

It is found in the branchial cavity of *Hippolyte brevisstris*.

Bopyrus hippolytes Kroyer, belongs properly to the same genus. From this species ours differs in the acuteness of the margins and in the sharply square-cut lateral extremities of the abdominal segments.

CAPRELLA KENNERLYI.

A large, pellucid species. Head armed with two small slender spines above, in a transverse line over the eyes. No spines on the first thoracic segment, and scarcely any on the second. The remaining segments, however, are armed with strong sharp tubercles on the sides, and a few smaller ones above. These tubercles become progressively sharper posteriorly. Superior antennæ about one-half as long as the body; peduncle very thick and strong, with the first joint shorter than the second, and the last joint two-thirds as long as the second; flagellum very thin, filiform, equalling in length the last joint of the peduncle, and consisting of twenty joints. Inferior antennæ small, reaching the middle of the second joint of the superior antennæ, subpediform, and setose below. Branchial vesicles subovate, one-half longer than broad. Hand of the second pair of feet elongated, nearly three times as long as broad, thick and armed with two or three small slender teeth on the concave palm. Feet of the three posterior pairs short.

Length of the body 1.1; of the superior antennæ 0.52; of the first and second thoracic segments taken together 0.44 inch. The description is that of a male.

Found on the bottom of the Revenue Cutter at Port Townsend.

AMPHITHOE HUMERALIS.

Body robust, entire; dorsum rounded, smooth and unarmed. Eye of moderate size, rounded, situated on a short projection of the head between the bases of the superior and inferior antennæ. Superior antenna nearly as long as the body, the peduncle constituting less than one-third of its length; flagellum tapering to an exceedingly fine extremity. Inferior antenna half as long as the body, with its flagellum no longer than the antepenult joint of the peduncle. Epimera of the fifth pair large. Gnathopoda, or feet of the first two pair, with rather small, weak, subpediform hands in both sexes; those of the third and fourth pairs with the basal joint very large and much expanded, nearly as broad as their epimera; meros-joint in the same pairs small, com-

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pressed, with a sharp arcuated anterior margin. Caudal stylets all with equal rami; last pair with the rami very short and flattened, the outer one armed with small hooks at its extremity. Telson small, obtuse-triangular.

Length of the body in a female, 1.2; height at the fifth thoracic segment, epimera included, 0.25 inch.

Found about low-water mark.

ANONYX FILIGER.

Head with a strong triangular process on each side beneath the base of the superior antennæ; extremity of this process not acute. Superior antennæ very short, about as long as the head, with a long, thick pencil of hair on the inner side of each; basal joint large, with a strong protuberance above, forming a prominent angle at its anterior extremity; flagellum seven-jointed, the first joint constituting one-third of its length; accessory flagellum tri-articulate. Inferior antennæ longer than the body; the peduncle, however, constitutes but a small part of their length, being but little larger than the superior antennæ; the very slender filiform flagellum appears as if serrated above, but is not provided with calceolæ. The first pair of feet in our single specimen appear to be pointed and simple, the dactylus not being retracted against the manus, which has no palm; second pair with a minute truncate hand, supporting a small tuft of hair at the base of the dactylus.

The dorsum in this species is sharp, or carinated, but not dentated, being entire and smooth in outline for the greater part of its length, and similar in the thoracic and first three abdominal segments. There is, however, a deep, triangular sinus between the third and fourth abdominal segments, the latter being strongly protuberant, projecting over the very small fifth segment. The second abdominal segment is subtruncate below, and has a deep semicircular sinus on the anterior lateral margin, near its lower extremity. Rami of the last pair of caudal stylets shorter than those of the second pair, and telson rather elongated and slit in two down the middle.

Length about one-third of an inch.

It resembles an English species of which a figure has been privately circulated by C. Spence Bate, Esq., under the name of "*Lysianassa chausica* M. Edw."

Dredged in deep water, by Lieut. White.

GAMMARUS SUBTENER.

A small, compressed species of rather soft and delicate structure. Dorsum rounded. Epimera moderately large. Eye broad-oval, nearly round. Antennæ of both pairs very slender; superior ones as long as the body. Basal joint more than twice as thick as the next, but shorter; third joint less than half as long as the second; flagellum with about thirty articulations; accessory flagellum nearly twice as long as the last joint of the peduncle.

Inferior antennæ nearly three-fourths as long as the superior ones; first joint of the peduncle armed beneath with a sharp process, which nearly reaches the end of the second; third joint more than twice as long as the first; fourth shorter than third; flagellum two-thirds as long as the peduncle.

Second gnathopod with merus and carpus acute below; hand subovate, twice as long as broad; palm oblique, with a small, sharp tooth at its posterior extremity, reached by the tip of the finger when closed. First, second and third joints of the abdomen armed above with a sharp central spine on the posterior margin, and with four or five minute spines, or sharp comb-like teeth on each side of the middle spine, the margin bearing these latter spines being a little concave. At the corresponding part of the fourth and fifth abdominal segments, there are also two or three spines similar to the central

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spine of the other segments, though not quite so large. Telson bifid, the forks rather elongated. Color of the alcoholic specimens greenish-grey, mottled with paler and darker patches. Length about two-fifths of an inch.

Although we have not seen the posterior pair of caudal stylets in this species, which are lost in both our specimens, we have little doubt that it is closely allied to *G. longicauda* Brandt, which inhabits the Asiatic coast of the North Pacific, in which these stylets are very long. It differs from the Asiatic species in having a spine at the extremity of the palm in the greater gnathopod, in the shorter terminal joint of the peduncle of the superior antennæ, in the basal spine of the inferior antennæ, and in the arrangement of the dorsal spines of the abdomen.

This species inhabits the circumlittoral zone.

AMPHITHONOTUS SEPTEMDENTATUS.

Strongly compressed and carinated, like *A. carinata*; carina dentated posteriorly, the last two thoracic, and first five abdominal segments terminating posteriorly in teeth; last two teeth very much projecting and sharp. Head with a deep notch or sinus on the front margin, near the inferior angle, at the insertion of the inferior antennæ. Rostrum rather slender, sharp, a little curving downward, and reaching to a little beyond the middle of the first joint of the superior antennæ. Eye moderately large, oval, and oblique in position. Antennæ about one-third as long as the body; the superior ones with flagellum of eleven joints; inferior ones about as long as the superior, with a forward-pointing spine at the base below, and a seven-jointed flagellum.

Gnathopoda with small but well-formed subcheliform hands; remaining feet as usual in *A. carinatus* and the other species of the group. Length half an inch.

Found at and below low-water mark.

AMPHITHONOTUS OCCIDENTALIS.

Closely allied to the arctic *A. panopla* Kr., and the east-coast species, *A. cataphractus* Stm., but differing from both in being more elongated, having less height and breadth. It also differs from the latter species in being less strongly carinated and dentated; but the carinæ are sharper than in *A. panopla*, and the two teeth on the second abdominal segment are especially prominent. The integuments are rather less indurated than in the allied species. The superior antennæ are a little longer than the inferior, but scarcely more than one-fourth as long as the body.

Length from tip of rostrum to tip of telson, 0.76; greatest breadth, 0.21; height, 0.24 inch.

Two specimens were brought home by the Boundary Commission.

AMPELISCA PUGETICA.

Head not much produced. Antennæ of both pairs very slender; superior ones less than half as long as the inferior ones, with the basal joint very thick, twice as thick, though only half as long, as the next joint. Superior antennæ four-fifths as long as the body; peduncle long, smooth above. Dorsum of the thorax and abdomen for the most part smooth and rounded, but the last three joints of the abdomen are separated from the preceding ones by a deep notch, and project into two sharp teeth. Terminal joint in the third and fourth pairs of feet, one-half longer than the two preceding joints together. In the seventh pair of feet the meros-joint is expanded posteriorly into an ovate lamina, fringed with plumose setæ, as in *A. laevigata*. Posterior margin of the third abdominal segment with a small notch just above the inferior angle. Last pair of caudal stylets large, with rami much

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longer than those of the two preceding pairs. Telson oblong, narrower and less tapering than in most species of the genus.

Length 0.45 inch.

Dredged in ten fathoms, on a muddy bottom, in Hale's Passage, by Lieut. White.

AMMOTHEA LONGICAUDATA.

Body broad, robust, hispid above. Eye placed on a high papilla, and double, or divided in two longitudinally. Chelate "antennæ" much shorter than the proboscis; their slender lower branch, however, is much longer, nine jointed, not tapering, and with blunt extremity. Proboscis large, very stout, elliptical in outline. Feet rather thick, fourth joint stoutest; upper surfaces sparsely hispid; basal joints armed with slight dentiform protuberances, ovigerous feet of moderate length. Abdomen large, half as long as the body. Diameter nearly three-fourths of an inch.

We know the genus *Ammothea* of Leach only by the short diagnosis of Dana, in the U. S. Exploring Expedition, Crust, ii., p. 1390 ("Nympho affinis. Ramus antennæ longior, 9-articulatus,") and may be wrong in referring this species to it. One specimen occurs in the collection.

GEPHYREA.

PHASCOLOSOMUM EXASPERATUM.

Body brownish, curved in the form of an arc, and thickest near the posterior extremity. Surface wrinkled transversely and covered with small blackish grains, about one-sixtieth of an inch in diameter, rather larger and less crowded posteriorly, and smaller and less numerous on the concave than on the convex side. Proboscis bluish-white, with numerous irregular transverse blackish bands, interrupted on the concave side. The proboscis being partially retracted in our single specimen, we are unable to see its extremity distinctly, but it seems to have a series of six or eight crowded rings of minute blackish echinulations next the mouth, as in the allied forms.

Length 2 inches; thickness of the body, 0.46; thickness of proboscis, 0.2 inch.

STERNASPIS AFFINIS.

Almost identical with *S. fossor* Stm., from Massachusetts Bay, but with the body smoother about the middle, where there is no trace of the echinated annuli, which may be discerned even on the middle segments in *S. fossor*.

Found in muddy bottoms in from ten to twenty fathoms.

Dredged by Lieut. J. W. White.

TUNICATA.

CYNTHIA HAUSTOR.

Body globular, strongly and coarsely corrugated in an irregularly reticulating manner, with the interstices deep and the prominent parts covered with coarse sand, strongly agglutinated. Apertures at the extremities of long cylindrical tubes, nearly equalling in length the diameter of the body. These tubes are wrinkled transversely, and are from one-third to one-half as thick as they are long. The branchial tube is considerably longer than the anal.

Diameter about two inches.

With the next species, this forms masses which are found somewhat abundantly on shelly bottoms in the circumlittoral zone in Puget Sound.

CYNTHIA GIBBSII.

Body elongated, attached at one end, more or less cylindrical, or somewhat appressed and, when contracted, half as thick as long. Surface free from 1864.]

encrusting matters, corrugated both longitudinally and transversely; the longitudinal plications are frequently strongest and most regular, but often they are rendered irregular or nearly obliterated by the transverse ones. The apertures are placed near together at the extremity of the body on slight protuberances, which are probably produced in life into short tubes. Branchial sac with ten slight longitudinal folds, not lamelliform; filaments at its summit numerous, small, slender and simple.

The largest specimen is 1.4 inch in length, and 0.6 in breadth.

According to Dr. Kennerly's notes, this species was dredged by Lieut. White at the following places: Port Townsend, in 4 fathoms, shelly bottom, and also on a muddy bottom in 10 fathoms. Off the N. W. end of Lummi Island, in 15 fathoms, shelly bottom.

The dedication of this fine species to one so well known upon the survey as Mr. George Gibbs, is scarcely necessary to indicate the great interest he has taken in its scientific results.

CYNTHIA CORIACEA.

A tough, unornamental species, with no very strongly marked characters. It is irregularly egg-shaped, and attached by a broad surface on the right side of the body. The test is free from agglutinated matters, smooth, and scarcely at all wrinkled, except about the apertures, which are on rather large protuberances, probably extensible in life into short tubes. The branchial aperture is largest, and situated at the extremity of the body; the anal a little behind the middle of the upper side. Branchial sac with about the same number of folds as in the preceding species, which are, however, very prominent and lamelliform, being broader than half the width of the interspaces. The filaments at the summit of the branchial sac appear to be few, and shaped like the palpi of the bivalve acephala.

From the slight indications yet observable in the specimen, it would seem to have been of a reddish color when alive.

It was found upon the "shore of Island No. 2, off Salt Spring Island, March 9, 1859," by Lieut. White, of the Revenue Cutter.

CYNTHIA VILLOSA.

Of similar size, and allied to the *C. echinata* of the North Atlantic, of which this is the analogue or representative species on the west coast. It is, however, easily to be distinguished from that species by the character of the villosity or short, hair-like processes with which the test is covered. These are shorter, more numerous than in *C. echinata*, and not provided with radiating hairs at the summit, being simply tapering to a fine extremity, and sparsely pubescent on their sides.

The base of attachment in this species is very small, and the test at that point is produced into a peduncle, which is sometimes as long as the body is thick. This peduncle is, however, entirely similar to the test in character, and not at all like that of *Boltenia*. Our largest specimen is about 0.6 inch in diameter.

Dredged by Lieut. White in "Port Townsend, 10 fathoms, muddy bottom," and "off the N. W. end of Lummi Island, in from 8 to 15 fathoms, on shelly bottoms, March 2d and Feb. 22d, 1859."

Genus CHELYSOMA, Brod. and Sow.

The "tortoise-shell" Ascidians, which form the curious arctic genus *Chelysoma*, have the posterior extremity of the body flattened, forming an oval disk with a raised margin, and the surface divided into polygonal plates. But two species have been hitherto known, the *C. Macleayana*, from Greenland, and *C. geometrica* (*Ascidia geometrica* Stm., Mar. Invert. of Gr. Manan.)

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from the Bay of Fundy. We have a third species from Behring's Straits, and that described below makes a fourth.

CHELYSOMA PRODUCTA.

All other known species of this genus are remarkable among Ascidians for their depressed form, the body being very short, sessile, attached by their flattened anterior extremity, to which the broad disk is parallel, and forms nearly the whole of the part of the body which is exposed to view. In *C. producta*, on the contrary, the anterior part of the body is much produced, laterally compressed, and longer than the disk is broad, while its attachment is inferior and usually very narrow. In well-formed specimens the dorsum is compressed and arched with a well-marked carina, beneath and parallel with which the rectum may be seen through the translucent test. The disk is obliquely placed, and its margin projects strongly beyond the sides of the body. Its surface is divided into 14 polygons, 4—5 sided, beside the two which contain the apertures, each of which latter is again subdivided into six triangular valves.

In our largest specimens the body is 1.5 inch in length, and 0.5 broad at the middle; the disk is 1.08 high and 0.81 broad.

It is usually attached to Sertularians.

Dredged by Lieut. White in "8 to 12 fathoms, shelly, off the N. W. point of Lummi Island."

HOLOTHURIADAE.

PENTACTA PIPERATA.

Allied to *P. frondosa*. Body ovate, smooth and glabrous, of a yellowish color, speckled and spotted with black. Sucking feet retracted in our specimens, not numerous, and arranged in five irregular rows. Tentacula short and broad, ramose. Length (contracted) $1\frac{1}{2}$ inches: breadth, 0.8 inch.

We find three or four specimens in the collection, none of them with protruded tentacles.

PENTACTA POPULIFER.

Body thick-fusiform in shape. Surface entirely covered with minute, perforated, polygonal, calcareous plates, each plate having from twenty-five to forty holes, and being armed with a sharp umbo or spine at the centre of its outer surface. Sucking-feet small, of moderate length, very numerous, and arranged in five regular double rows, extending from one extremity of the body to the other. Tentacula ten, eight large and two small; the large ones of elongated form, and shaped like Lombardy poplar trees, (*Populus dilatata*), branching nearly from the base; branches short. The small tentacles are placed together, and are minute, not a tenth part as long as the others. Length of the largest specimen 2 inches; usual length from 1 to $1\frac{1}{2}$ inches.

From the number of specimens collected we judge this species to be common in the Sound. It is found in the circumlittoral zone.

The Influence of the Earth's Atmosphere on the Color of the STARS.

BY JACOB ENNIS.

From the small amount of attention paid to the colors of the stars as a distinct branch of physical research, a vague and indefinite impression has been somewhat prevalent that the atmosphere of our earth has great power in producing the apparent colors and the changes of colors of the fixed stars. The subject is highly important. During the last two or three years it has occupied much of my attention, and I propose in this paper to present my 1864.]