

SUBSP. CHAR.—Differing from *P. sandwichensis alaudinus* in decidedly smaller size and much darker coloration of the upper parts, the latter approximating the plumage of the same portions in *P. beldingi*.

Adult male (type, no. 96633, Oakland, Cal., January 23, 1884; W. Bryant): Above grayish brown, somewhat suffused with buffy yellowish, the pileum and back heavily, the nape and rump narrowly, streaked with brownish black; pileum with a quite distinct median stripe of dull buff, broken, however, by black streaks; interscapulars showing quite distinct light grayish brown edgings. A very distinct superciliary stripe of bright olive-yellow, the yellow purer anteriorly; a malar stripe of light buff, extending upward behind the auriculars; auriculars bright brown, inclining to tawny, edged both above and below with black; lower parts white, the throat minutely and sparsely speckled with the same and bounded on each side by a cuneate stripe of blackish; jugulum, breast, and sides distinctly marked with cuneate streaks of brownish black, averaging much less than .10 of an inch in width. Maxilla blackish, with pale brownish tomium; mandible pale brownish (in skin); tarsi and toes nearly uniform pale flax-brown. Wing 2.70, tail 2.00, culmen .45, bill from nostril .30, gonys 29, tarsus .80, middle toe .65.

Adult female (type, no. 96628, same locality and collector, February 14, 1884): Essentially identical in color with the male, but supercilium rather brighter yellow, the malar stripe deeper buff. Wing 2.50, tail 1.95, culmen .45, bill from nostril .29, gonys .28, tarsus .80, middle toe .60.

Hab.—Salt marshes of San Francisco Bay (and perhaps southward along the coast of Southern California in winter).

This form, which has been mixed by authors with *P. beldingi*, under the names of *P. anthinus*, *P. savanna anthinus*, &c., I take pleasure in dedicating to Mr. Walter Bryant, of Oakland, Cal., who has taken the majority of the specimens now existing in collections, and who has devoted much study to the birds of San Francisco Bay and vicinity.

DESCRIPTION OF SEVEN NEW SPECIES OF CRUSTACEA AND ONE WORM FROM ARCTIC ALASKA.*

By JOHN MURDOCH.

The following species were obtained by the Point Barrow expedition, under the command of First Lieut. P. H. Ray, Eighth United States Infantry, acting signal officer.

This expedition was sent out in 1881 by the United States Signal Service to establish one of the stations of the International Polar Conference at Point Barrow, and remained for two years in the Arctic re-

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gions. Part of the material was obtained near the station, and part at Point Franklin and Norton Sound on the return voyage.

The writer was attached to the expedition as naturalist and observer. The type specimens are in the National Museum at Washington.

CRUSTACEA.

DECAPODA.

1. *Pandalus dapifer*, n. sp.

Description.—Length of carapace (including rostrum) contained about $2\frac{1}{3}$ times in total length. Rostral carina beginning about the middle of the carapace and armed with two or three teeth. Rostrum exceedingly long, nearly $1\frac{1}{2}$ times the length of the carapace, slender and tapering, slightly curved up, with 5–7 teeth on the upper edge, running only about $\frac{1}{3}$ of the length of the rostrum, leaving the rest unarmed to the tip. Eyes large, pyriform, and black. Peduncle of antennule reaches about to middle of antennal scale, and its distal segment is about $\frac{1}{3}$ the length of the preceding. Internal flagellum of antennule slender, reaching nearly to end of rostrum; external about $\frac{2}{3}$ as long as internal, much thickened nearly to the tip, where it suddenly becomes slender. Antennal scale a little more than half as long as the rostrum. External maxillipeds long and slender, reaching nearly to the tip of the antennal scale or about to the middle of the rostrum. First pair of legs very slender, reaching to the tips of the outer maxillipeds. Second (chelate) legs unequal: left very long and slender, reaching to the tip of the rostrum; carpus multiarticulate, with about twenty-five joints, of which the distal twenty or so are separated by distinct articulations; right leg much shorter, reaching only to tip of antennal scale, with a carpus of about seven joints only; distal joint of carpus in each leg equal in length to preceding two, the rest about as long as broad. Right chela a little the larger, both alike otherwise, hardly stouter than carpus; digits equal, slightly gaping, and a little shorter than the basal portion. Third, fourth, and fifth pairs of legs long and slender, reaching nearly to the tip of the antennal scale. Abdomen rounded above except the third segment, which is compressed and keeled. This keel is produced into a blunt backward-pointing hook in the male. Sixth segment once and a half as long as the fifth and equal in length to the telson. Telson rounded at the tip and armed with three pairs of spines.

Dredged in abundance off Point Franklin, in $13\frac{1}{2}$ fathoms, August 31, 1883.

Museum No., 7881.

SCHIZOPODA.

2. *Mysis rayii*, n. sp.

This species belongs to the same division of the genus as *M. vulgaris*, having the telson entire and the antennal scale fringed on both sides with setæ. It may at once be distinguished from *M. vulgaris*, by the shape of the rostrum, which is quadrangular, with rounded corners.

Description.—Rather slender, with the cephalo-thorax a little narrower in front than the rest of the body. Carapace of medium length, exposing only the dorsal portion of the last thoracic segment. Rostrum lamellar, quadrangular, with the antero-lateral angles rounded, about as broad as long, reaching half the length of the ocular peduncles. Eyes not large, hemispherical; peduncles clavate, stout. Peduncle of the antennule about one-third of the length of the carapace, bearing two flagella, about equal to the carapace in length. Antennal scale sharply lanceolate, about as long as the carapace, bearing setæ on both edges, and armed at the tip with a sharp spine. Antennæ about as long as the body. Legs medium, with tarsi of eight or nine joints. Telson about half the length of the cephalo-thorax, lanceolate, channeled deeply above for its whole length, with apex truncated, entire, and fringed with short stout setæ. Uropods long, with the inner lamella as long as the telson, and the outer more than twice as long. Transparent, with a few arborescent black pigment spots. Length, between 60 and 65^{mm}.

Locality, Point Barrow, near the station, in about 5 fathoms. Abundant.

Museum Nos., 7881, 7892.

The species is respectfully dedicated to Lieutenant Ray, who was superintending the dredging at the time it was taken.

AMPHIPODA.

3. *Acanthozone polyacantha*, n. sp.

Description.—Head rounded, with a very short, sharp rostrum and a small lateral spine at the base of the lower antennæ. Eyes round and prominent. Posterior edge of first five segments of pereion raised into a rounded ridge, developing into a median tooth on the fifth segment. Anterior edge of first segment also raised into a similar ridge, curving forward over the head. Last two segments of pereion and first four of pleon armed on the posterior edge with a large broad median tooth pointing backwards, largest on the third segment of the pleon, and very small, almost obsolete on the fourth. The last two segments of the pereion and the first two of the pleon also carry a small accessory tooth midway between the median tooth and the epimeral suture. The epimeral suture bears a deep lateral keel, which becomes a sharp, posterior, backward-pointing tooth on the last two segments of the pereion and the first four of the pleon. The infero-posterior angle of the epimeron bears a spine (there are two on the second segment of the pleon). Upper antennæ about two-thirds the length of the lower. Gnathopods slender, subchelate. Telson rather long, entire.

Locality, Point Franklin, 13½ fathoms, August 31, 1883. Scarce.

Museum No., 7898.

4. *Melita formosa*, n. sp.

This species is very close to *M. obtusata*, but may be distinguished by the shape of the nail of the second gnathopods.

Description.—Antennules with the first joint of the peduncle not quite as long as the second. Two anterior segments of pleon, with infero-posterior angle acute; third segment with this angle acute and produced upwards. Second and third segments of pleon armed with a single tooth, each, on posterior margin, fourth with three, fifth with four teeth, all very small. Hand of first gnathopod oval and fringed with long hairs on the posterior margin. Hand of second gnathopod in male broadly oval, armed on the edge with three to four blunt teeth and running out into a broad blunt tooth; claw large, curved, and *acute*, shutting on the inside of the palm. Inner ramus of the last pair of saltatory feet ovate. Color purple, with a lighter streak down the middle of the dorsal surface.

Locality, beach near the station. Abundant.

Museum Nos., 7893, 7894, 7895.

5. *Melita leonis*, n. sp.

This species is closely allied to *M. dentata*, but differs in the denticulation of the segments of the pleon, and in the length of the antennules.

Description.—Eyes small, oval, black. Antennules reaching to the first segment of the pleon, with the first joint of the peduncle a little shorter than the second. Third segment of the pleon with infero-posterior angle acute and produced upwards: First and second segments of pleon with one large median tooth on the posterior edge, and eight fine denticulations, the latter larger on the second segment; third with nine teeth, of which the median one is largest; fourth with five; fifth with six, lacking the median tooth; sixth with two small blunt teeth. Hand of first gnathopod oval, shorter than the carpus; claw simple, curved. Second gnathopod with infero-posterior angle of third joint not produced into a tooth; hand elongate-oval, edge not toothed. Color purple with two lighter streaks along the dorsal surface.

Locality, head of Norton Sound, 5 fathoms, September 12, 1883. Abundant.

Museum Nos., 7896, 7897.

Named from the schooner "Leo" of San Francisco, from which vessel the specimens were obtained by dredging.

6. *Dulichia arctica*, n. sp.

Description.—Head slightly produced, forming an obtuse angle. First epimeron produced into a sharp spine projecting forward, the rest unarmed. Body smooth. Basa of second gnathopods dilated and armed with two teeth; hand large, subtriangular, and armed on the edge with two long stout teeth. Basa of first two pairs of pereopods produced into stout teeth. Last three pairs of pereopods not specially long; third joint as long as the fourth and fifth together. Second pair of saltatory feet with outer ramus nearly twice as long as the peduncle; inner a little longer. Eyes small, round, and black. Color, grayish.

Locality, near the station; 5 fathoms, muddy bottom. Not plenty.
Museum Nos., 7899, 7900.

PHYLLOPODA.

7. *Polyartemia hazeni*, n. sp.

Description.—Body long (twice the length of the abdomen) and stout. Legs, generally seventeen pairs; males usually with one pair more than the females. Head in the male prolonged anteriorly into a short, thin lamellar process. Male "claspers" large, stout, broad, and palmate, strongly incurved. From the middle of the lower edge projects a large curved process armed on the tip and inner surface with numerous fine teeth. The extremity of the "clasper" is bifurcated into two short blunt branches, also armed on the inner side with fine teeth. Feet short and broad. Caudal appendages small and slender, a little longer than the last abdominal segment. Ovisac voluminous, nearly as long as the abdomen; end rounded, with a short, tooth like process on each side. Color, when living, a pale iridescent green.

Locality, fresh-water pools on the tundra near the station; summer.
Abundant.

Museum Nos., 7929, 7930, 7931.

Respectfully dedicated to General W. B. Hazen, Chief Signal Officer,
United States Army.

VERMES.

TELETHUSEÆ.

8. *Arenicola glacialis*, n. sp.

This species is closely allied to *Arenicola marina*, but has only six setigerous segments anterior to the gills, and eleven gill-bearing segments, instead of seven and thirteen as in *A. marina*.

These numbers are constant in the five specimens obtained. The six abbranchiate segments are each composed of five distinct annulations, and each bear a pair of simple tubercular feet. The dorsal setæ are all of one kind, about eighteen in number, slender and slightly serrulate, the longest longer than the foot. The ventral setæ are thirty-five to forty in number, and form a single row on each side of the ventral surface of the ring. They are short, slender, and simple, and barely project above the surface of the skin. The branchiate segments are each composed of six annulations. Each branchia consists of one cluster of about fifty simple cirri, annulated in contraction. The branchiæ increase in size from the first to the ninth pair; the tenth and eleventh pairs are slightly smaller. The feet are small and tubercular; the dorsal setæ, seven, similar to those of the abbranchiate segments, but only about two-thirds of their length. The ventral setæ are the same as in the abbranchiate segments.

The caudal portion is about one-third of the length of the animal, without tubercles or other appendages. Color in alcohol, blackish gray, lighter on the ventral surface.

Locality, beach near the station after a fresh westerly gale.

Museum Nos., 851, 854.

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