

PANDALUS HYP SINOTUS. Brandt.

Pandalus hypsinotus, BRANDT; *Sibirische Reise*, i. 125.

Hab. Unalashka, (Wosnessenski.)

Mus. Acad. Petrop.

The preceding four species appear to resemble each other closely, and may perhaps be reduced to two upon more careful examinations of numerous individuals. Having no specimens of any of them, I have preferred to follow previous authors rather than to attempt identifications from descriptions alone.

PANDALUS DANÆ. Stimpson.

Pl. XXI. f. 6, 7.

Pandalus Danae, STIMPSON; *Proc. Bost. Soc. Nat. Hist.* vi. 87.

Thorax glabrous. Twelve teeth on the superior edge of the rostrum, including the dorsal crest, the posterior one being at about the middle of the carapax. Rostrum smooth above near its trifold apex, and six-toothed below, the basal tooth being large and much curved. Feet spinulose; the spinules on the third joints few and distant. Length two and five tenths inches.

This species differs from all of those above mentioned in the much smaller number of teeth on the dorsal crest. The trifold apex is also quite characteristic.

Dredged opposite Fort Townsend, in Puget Sound, by Capt. Murden, of the cutter "Jefferson Davis." This, with several other species of great interest, were forwarded by Dr. Suckley.

Mus. Smithsonian; Phil. Acad.

PALEMÓN BRACHYDACTYLUS. Wiegmann.

Palemón brachydactylus, WIEGMANN; *Archiv für Naturgeschichte*, 1836, i. 148.

Inhabits the fresh waters of Western Mexico.

Mus. Berlin.

Stimpson, W. 1857. The Crustacea and Echinodermata of the Pacific shores of North America. Boston Journal of Natural History 6:503-513.

PALEMÓN HETEROCHIRUS. Wiegmann.

Palemón heterochirus, WIEGMANN; *Archiv für Naturgeschichte*, 1836, i. 149.

This is another of the large fresh-water shrimps of Mexico. They frequently attain a length of two feet, including that of the chelopoda, which are at least as long as the body.

Mus. Berlin.

STOMAPODA.

SQUILLA DESAUSSUREI. Stimpson.

Squilla scabricauda, DESAUSSURE, (non LATR.) *Rev. et Mag. de Zool.* v. 367.

Hab. Mazatlan, (Verreaux.)

Mus. of M. Verreaux, Paris.

ISOPODA.

IDOTÆA CONSOLIDATA. Stimpson.

Idotæa consolidata, STIMPSON; *Proc. Cal. Acad. Nat. Sci.* i. 89.

Body convex, broadest at the fourth thoracic segment. First four segments of thorax larger in every dimension than the last three, each bearing an umbo near the lateral margin, which is turned up a little. A sharp, slightly elevated transverse ridge across the thorax on each segment near its posterior margin. No distinct epimeral sutures. Abdomen convex, formed of a single piece, with a slight transverse impressed line, indicating the partial separation of an anterior segment; it is narrowed toward the posterior extremity, which is terminated by a slight concavity. Head emarginate at the middle in front; cephalic suture distinct, separating a small segment from the posterior part of the head; eyes strongly convex, laterally projecting; a prominent minute tubercle just in front of each eye. External antennæ half as long as the body; flagellum with ten

Stimpson 1857

oblong joints. Internal antennæ reaching to the fourth joint of the peduncle of the external ones. Feet slender, slightly pilose, with rather long hairs; their terminal joints elongated. Color in one specimen opaque whitish; in another, reddish and brownish, mottled. Length, 0.4; breadth, 0.18 inch. Taken on a sandy bottom in ten fathoms, in the Bay of San Francisco near its entrance.

Mus. N. P. Expl.

IDOTÆA WOSNESSENSKII. Brandt.

Idotæa Wosnessenskii, BRANDT; *Sibirische Reise, Zool.* i. 146.

Idotæa hirtipes, DANA; *U. S. Exploring Expedition, Crust.* ii. 704. Pl. XLVI. f. 6.

Idotæa Oregonensis, DANA; *Proc. Acad. Nat. Sci. Philad.* 1854, vii. 175.

An exceedingly common species, of a dark green color, found among sea-weeds on rocky or stony shores between high-water and half-tide marks.

Hab. Ateha and Sitka, (Wosnessenski;) Puget Sound, (Suckley,) "Oregon," (Expl. Exped. ;) Shoalwater Bay, (Cooper;) Upper California, (Wosnessenski, Le Conte;) San Francisco Bay, (Stimpson.)

Mus. Acad. Petrop.; Paris; Expl. Exped.; Smithsonian; Phil. Acad.; Bost. Soc.

IDOTÆA MEDIA. Dana.

Idotæa media, DANA; *Proc. Acad. Nat. Sci. Philad.* vii. 175.

Differs from the preceding species in having a comparatively longer abdomen.

Hab. California, (Le Conte)

Mus. of Prof. Dana.

IDOTÆA RESECATA. Stimpson.

Pl. XXII. f. 7.

Idotæa resecata, STIMPSON; *Proc. Bost. Soc. Nat. Hist.* vi. 88.

Body slender, convex along the middle above; thorax flat or even concave below. Greatest breadth at the sixth

thoracic segment. Abdomen subrectangular, broadest anteriorly, nearly twice as long as broad, and equalling in length the four preceding thoracic segments taken together; its sides slightly concave; posterior extremity with a deep concavity, terminating on either side in a sharp angular projection or tooth. First and second segments of the abdomen sufficiently well marked, the third also distinct on the sides:—the three occupying the anterior third of the length of the abdomen. Outer antennæ reaching the fourth thoracic segment; peduncle rather stout; flagellum 17-articulate. Basal article of inner antennæ greatly expanded, suborbicular. The opercular (first) pair of abdominal feet are broad, with the terminal joint square. Inner sides of ambulatory feet with short setæ. Color greenish yellow, with a median line of dark-red. Length, 1.7; breadth, 0.33 inch. Proportion of breadth to length, 1:5.15.

This species resembles the Mediterranean *I. hectica* in general appearance, and is not liable to be confounded with any other species found on our western coast.

The only specimen known was dredged in the Straits of DeFuca, opposite Fort Townsend, by Capt. Murden.

Mus. Smithsonian.

STENOSOMA GRACILLIMUM. Dana.

Stenosoma gracillimum, DANA; *Proc. Acad. Nat. Sci. Philad.* 1854, vii. 175.

Hab. California, (Le Conte.)

Mus. of Prof. Dana.

SPHERILLO AFFINIS. Dana.

Spherillo affinis, DANA. *Proc. Acad. Nat. Sci. Philad.* 1854, vii. 176.

A terrestrial species found in California by Dr. Le Conte.

Mus. of Prof. Dana.

PORCELLIO GEMMULATUS. Dana.

Porcellio gemmulatus, DANA; *U. S. Exploring Expedition, Crust.* ii. 725.

Pl. XLVII. f. 7. *Proc. Acad. Nat. Sci. Philad.* vii. 176.

Philoscia tuberculata, STIMPSON; *Proc. Cal. Acad. Nat. Sci.* i. 89.

This little wood-louse is somewhat variable in many of its characters. The dorsal granulation is coarser in some specimens than in others, and often shows no tendency to arrangement in rows. The spines of the feet of the second pair are simple in some specimens. A comparison of many individuals convinces me of the identity of my *Philoscia tuberculata* with the species previously described by DANA.

Hab. Oregon, (Expl. Exped. ;) "California," (Le Conte ;) San Francisco, (Expl. Exped. and N. P. Exped.)

Mus. Expl. Exped. ; N. P. Exped.

STYLONISCUS GRACILIS. Dana.

Styloniscus gracilis, DANA; *Proc. Acad. Nat. Sci. Philad.* vii. 176.

Hab. California, (Le Conte.)

Mus. of Prof. Dana.

ALLONISCUS PERCONVEXUS. Dana.

Alloniscus perconvexus, DANA; *Proc. Acad. Nat. Sci. Philad.* vii. 176.

Hab. California, (Le Conte.)

Mus. of Prof. Dana.

Both the above species, like the two preceding them, are terrestrial.

LYGIA OCCIDENTALIS. Dana.

Lygia occidentalis, DANA; *U. S. Exploring Expedition, Crust.* ii. 742.

Pl. XLIX. f. 7.—*Proc. Acad. Nat. Sci. Philad.* vii. 176.

The *Lygiæ* are isopoda of rather large size, and nearly amphibious habits, generally found running about with

great velocity among the stones or debris of shores after the retreat of the tide. They are never found elsewhere than in close proximity with water, which may be either salt, brackish, or fresh. *L. occidentalis* was originally discovered on the banks of the Sacramento River, by Dr. Pickering of the Exploring Expedition, and has since been found in various parts of California.

LYGIA DILATATA. Stimpson.

Pl. XXII. f. 8.

Lygia dilatata, STIMPSON; *Proc. Bost. Soc. Nat. Hist.* vi. 88.

Body variable in its proportions, but usually very broad; the proportion of the breadth to the length being often 1:1.5. Surface granulated. Margins of the articulations raised or thickened, and smooth. Head with a transverse ridge between the eyes, interrupted at the middle. External antennæ not very slender, reaching the sixth thoracic segment; flagellum consisting of fourteen scarcely oblong joints. Caudal appendages, very short, generally not more than one fifth the length of the body, often even shorter; basal joint or peduncle as broad as long, with a sharply produced angle exterior to the insertion of the stylets, the inner one of which is provided with a terminal bristle as in *L. occidentalis*. Color blackish.

Young specimens are much less broad than the adults, as the breadth increases with growth much faster than the length. It is at first difficult to conceive how they can belong to the same species, but a careful examination of specimens of all ages shows this to be the case. The dimensions of two specimens are as follows:—

Adult,	length,	1.42	breadth,	0.96	inch.
Young,	"	0.98	"	0.45	"

Found in considerable numbers in the summer of 1856, at Fort Steilacoom, Puget Sound, by Dr. George Suckley, a gentleman to whose assiduous and successful researches in the field of natural science we are indebted for many

most interesting additions to the fauna of Washington Territory.

Mus. Smithsonian.

LIVONECA VULGARIS. Stimpson.

Pl. XXII. f. 9.

Livoneca vulgaris, STIMPSON; *Proc. Bost. Soc. Nat. Hist.* vi. 88.

This is the common fish-louse of the San Francisco market. It is variable in shape, often distorted, and frequently abruptly widened at the fifth thoracic segment. Head small, wider than long; inner antennæ somewhat shorter and stouter than the outer or posterior ones. Epimeral pieces narrow, separated from the tergal piece in the anterior segments by a distinct suture, in the posterior segments by a deep incision; the point reaching the margin of the tergum in the anterior four segments, and not extending much beyond it in the posterior three. Posterior thoracic segment deeply sinuated for the reception of the middle portion of the anterior abdominal segments. Lamelliform caudal segment always transverse in the adult. Color yellowish gray; posterior pair of false feet always black. Length, 1.5; breadth, 0.9 inch. It resembles *L. Desmarestii* in general appearance.

Parasitic on fish of several kinds. Tomales Bay, (Samuels;) San Francisco Bay, (Stimpson;) Monterey, (Trowbridge.)

Mus. Smithsonian; Bost. Soc.

ÆGA MICROPHTHALMA. Dana.

Æga microphthalma, DANA; *Proc. Acad. Nat. Sci. Philad.* 1854. vii. 176.

Hab. "California," (Le Conte;) Monterey, (Taylor.)

Mus. Smithsonian.

The body in this species is generally considerably broader in the young than in the adult. Upper surface covered with

a short pubescence. Head and first three thoracic segments sculptured with impressed lines parallel to the margin. All the thoracic segments except the first are provided with large sculptured epimera; those of the first two pairs smaller in size, with two submarginal impressed lines; those of the posterior five pairs projecting beyond their segments, and marked with a diagonal median line as well as one parallel to the lower margin.

The specimens to which the above description applies approximate somewhat, in the character of the anterior thoracic feet, to the genus *Cirolana*, and, although probably only a variety of *Æga microphthalma*, may perhaps prove distinct, in which case I would propose for them the name *Cirolana pubescens*.

ÆGACYLLA LECONTII. Dana.

Ægacylla LeContii, DANA; *Proc. Acad. Nat. Sci. Philad.* vii. 177.

Hab. California, (Le Conte.)

Mus. of Prof. Dana.

SPHÆROMA OREGONENSIS. Dana.

Sphæroma Oregonensis, DANA; *U. S. Exploring Expedition, Crust.* ii. 778.
Pl. LII. f. 4. *Proc. Acad. Nat. Sci. Philad.* vii. 177.

This little crustacean is very common on the coasts of California and Oregon, and congregates in large numbers under stones near low-water mark in sheltered situations. It looks very much like an *Oniscus*, or pill-bug, rolling itself into a ball when disturbed. It was found in Puget Sound, (Pickering;) Shoalwater Bay, (Cooper;) and in San Francisco Bay, (Expl. Exped.)

Mus. Smithsonian; Bost. Soc.; Phil. Acad.; Paris; Acad. Petrop.

SPHÆROMA AMPLICAUDA. Stimpson.

Pl. XXIII. f. 1.

Sphæroma ampicauda, STIMPSON; *Proc. Bost. Soc. Nat. Hist.* vi. 89.

Body gradually widening from the head backwards. Thorax transversely ridged, the ridges corresponding in number to the segments; and provided with three (sometimes five) longitudinal rows of small tubercles, those of the middle row becoming gradually larger posteriorly, the terminal one subspiniform, pointing backward. Epimeral pieces, distinct and well separated, especially those of the posterior segments, and thickened so as to give a raised margin to the thorax. Abdomen large, forming two fifths of the length of the body, triangular, terminating in an acute point; segments all coalescent with the exception of the first, next the abdomen, which is distinctly separate, and bears a tubercle on either side in the line of those of the thorax. There are sometimes also two slight, approximated tuberculous ridges, along the middle of the anterior half of the caudal plate. Lamellæ of posterior pair of false feet very large, much expanded, but not extending posteriorly beyond the extremity of the abdominal plate; the exterior margin of the outer lamella is anteriorly much reflexed. The antennæ in this species are rather long.

Dimensions,—Length,	0.25 inch
Breadth at seventh thoracic segment,	0.119 "
“ of caudal extremity including appendages,	0.17 "

The epimera in this species are much more distinct than is usual in the genus. A few specimens were found adhering to some fragments of star-fishes picked up on the beach of Tomales Bay, by Mr. Samuels.

Mus. Smithsonian.

ANISOPODA.

ARGEIA PUGETTENSIS. Dana.

Argeia Pugettensis, DANA; *U. S. Exploring Expedition*, *Crust.* ii. 804.
Pl. LIII. f. 7.

Found under the thoracic shield of *Crangon munitus*.

Hab. Puget Sound, (Expl. Exped.)

Mus. Expl. Exped.

ARGEIA PAUPERATA. Stimpson, n. s.

This species is somewhat larger than the preceding; the head is comparatively smaller, more tumid, and bilobate; the egg-pouch covers the eggs more completely; and the thoracic branchial appendages are apparently absent in some of the anterior segments. The inner branches of the first three pairs of abdominal appendages are broader; those of the last three pairs are wanting. Length, 0.35; breadth, 0.23 inch. This description is taken from a female.

Found in specimens of *Crangon Franciscorum*, from San Francisco Bay.

PHYLLODURUS. Nov. gen.

Femine pedes thoracis sat validi, toti ancorales, unguiculati; appendicibus branchialibus carentes. Appendices abdominis branchiales; superiores laterales, laminis duabus æquis magnis elongatis; inferiores papilliformes. Abdominis segmentus primus setis dorsalibus unguiculatis instructus.

PHYLLODURUS ABDOMINALIS. Stimpson, n. s.

This curious form of parasitic anisopods was found attached to, and lying between the abdominal feet of the common *Gebia*, adhering by the sharp hook-shaped terminal

joints of its feet, and perhaps aided in keeping its position by the sharp dorsal setæ of the abdomen. As might be expected from this external parasitism, the shape of the body is symmetrical, being never distorted, as is almost always the case in those forms which live in the usual position—in the confined space under the thoracic shield of the shrimp or cray-fish.

In our species the thorax is somewhat cordate in shape, broadest behind, the short abdomen being set in the cavity. The thoracic segments are well separated and provided with distinct tumid epimera; the external envelope is soft, being even less hard and crustaceous than in *Argeia*. The head is somewhat broader than long, strongly tumid, and in the character of its appendages resembles somewhat that of *Ione*. The front projects abruptly, forming a horizontal margin to the head, beneath the anterior part of which the small inner antennæ are concealed. The outer antennæ arise laterally, and behind the inner ones, which they much exceed in length, being as long as half the width of the head. There are no thoracic branchial appendages. The thoracic feet are similar in character throughout; they gradually increase in length posteriorly, and are each provided with a small hand, the hooked finger of which is of moderate length, more than reaching the projecting inferior angle of the antepenultimate article.

The abdomen is triangular, and consists of six deeply separated segments, the terminal one being very minute. The basal segment is much the largest, and bears upon its dorsal surface two papillæ, one on each side, which are provided with short, stiff, somewhat hooked setæ. The lateral extremities of the abdominal segments are split by a marginal furrow into superior and inferior rami; the latter being simply conical with two or three circular wrinkles; and the former (superior) each surmounted by a cylindrical pedicle which bears two large cultriform lamellæ. There are thus twelve pairs of these lamellæ, which are of large size, and

being crowded, project in different directions, nearly concealing the posterior half of the animal. Each is about one fifth as broad as long, compressed on the inner and thickened along the outer or convex edge.

Only females of this species have as yet been found. The dimensions of one specimen are,

Length of body,	0.58 inch.
“ “ abdomen,	0.12 “
“ “ superiorabdominal appendages,	0.24 “
Breadth of thorax,	0.45 “

Several examples of this singular crustacean have been found on *Gebia* from Puget Sound and Tomales Bay.

AMPHIPODA.

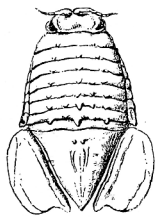
CAPRELLA CALIFORNICA. Stimpson.

Caprella Californica, STIMPSON; *Proc. Cal. Acad. Nat. Sci.* i. 89.

The body in this species is slender. The antennæ are exceedingly variable in their proportions; the flagella of the superior ones 10-15 articulate; inferior ones subpediform. A more or less developed spine, which curves forward, and is sometimes of considerable length, is placed upon the dorsal surface at the anterior extremity of the first thoracic segment. Hand of the second pair of feet generally three-toothed on the inner surface; teeth (in full grown specimens) about equal in size, and placed mostly toward the outer extremity of the palm. Two or three sharp tubercles along each of the sides of the branchiferous segments; and a short dorsal spine on each of the three posterior segments. Hands of posterior feet slender. Color, variable. Length, one inch; breadth, about 0.03 inch.



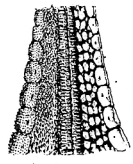
10.



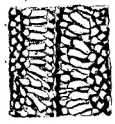
1.



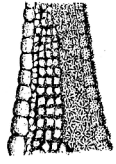
11.



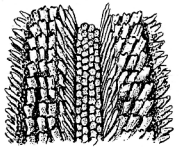
8.



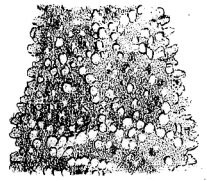
9.



7.



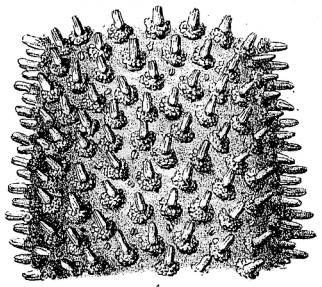
3.



2.



6.



4.



5.

Richard, Del.

A. Bigot, fec.

T. Sinclair & Rich. Phil^{ls}.