

ART. LV.—*Descriptions of new Genera and Species of Isopoda, from New England and Adjacent Regions*; by OSCAR HARGER. *Brief Contributions to Zoology from the Museum of Yale College*, No. XXXVIII.

THE genera and species described in the present paper are, except the first, marine and were, mostly, collected by the United States Fish Commission, along the New England coast. More complete descriptions with figures of all the new, and most of the old species, are nearly ready for publication in the Report of the Commissioner. As it seems desirable, however, to give a wider publication to the genera and species believed to be new, the following diagnoses are here inserted.

Actoniscus, gen. nov.*

Eyes small. Antennæ geniculate at the third and fifth segments; flagellum four-jointed. Terminal segment of maxillipeds lamelliform. Legs all alike. Pleon of six distinct segments. Basal segments of uropoda dilated and simulating the coxæ of the preceding segments; rami both styliform.

This genus belongs to the *Oniscidæ* and is near *Actæcia* Dana, MSS. (U. S. Expl. Exped., Crust., part II, p. 736, pl. 48, fig. 6), regarded as the young of *Scyphax*, but considered by Kinahan as the representative of a distinct family of the Oniscoidea.

A. ellipticus, n. sp. Body oval. Head with a prominent angular median lobe, and broadly rounded, divergent lateral lobes. Eyes oval, longitudinal, prominent, black. Antennulæ rudimentary. Antennæ nine-jointed; first segment short; second strongly clavate; third smaller, clavate; fourth flattened-cylindrical; fifth longest, slender, bent at the base; flagellum shorter than the fifth segment, composed of four subequal segments, tipped with setæ. Terminal segment of maxillipeds elongate triangular, ciliated and slightly lobed near the tip. First thoracic segment excavated in front for the head, shorter above than the following segments except the last, which is shortest. Legs small, scarcely spiny. Pleon continuing the regular oval outline of the thorax, apparently with four pairs of lamellar coxæ, the last pair are, however, the enlarged basal segments of the uropoda and are notched on their inner margins for the short outer rami, while the more slender inner rami are borne lower down on the under surface. The rami scarcely project beyond the general outline.

This species has been collected by Professor A. E. Verrill, at Savin Rock, near New Haven, and also at Stony Creek, in company with *Philoscia vittata* Say.

* From ἀκτή, the beach, and *Oniscus*.

Chiridotea,* gen. nov.

First three pairs of legs terminated by prehensile hands, in each of which the carpus is short and triangular, the propodus is robust and the dactylus capable of complete flexion on the propodus. Antennæ with an articulated flagellum. Head dilated laterally. Operculum vaulted, with two apical plates.

This genus is founded on *Ch. cæca* (*Idotea cæca* Say), which occurs on this coast from Florida to Halifax, Nova Scotia. It includes *Ch. Tuftsii* (*Idotea Tuftsii* Stimpson), of the New England coast from Long Island Sound to the Bay of Fundy, and, as constituted above, would also include *Ch. entomon* (*Idotea entomon* Bosc.), from the Baltic and other European localities, and *Ch. Sabini* (*Idothea Sabini* Kröyer), from the Arctic. The above mentioned species ought certainly to be separated from *Idotea tricuspidata* Desm., which may properly be regarded as the type of the genus *Idotea* Fabr.

Synidotea,† gen. nov.

Antennæ with an articulated flagellum. Epimeral sutures not evident above. Pleon apparently composed of two segments, united above but separated at the sides by short incisions. Operculum with a single apical plate. Palpus of maxillipeds three-jointed.

This genus is founded on *S. nodulosa* (*Idothea nodulosa* Kröyer), who appears to have been misled, in his unnatural description of the epimera, by the marginal thickening of the segments. He describes the epimera as evident even on the first segment.

Astacilla Americana, sp. nov.

Body nearly uniform in size throughout in the female, with the fourth thoracic segment narrow in the male, tuberculated. Head united with the first thoracic segment, and, together with it, twice the length of the next two segments; excavated in front, with the sides extending beyond the middle of first antennular segment, tuberculated above, crossed between and behind the eyes by two transverse grooves, while a third groove indicates the suture of the first thoracic segment. Eyes lateral, round-ovate, broadest in front. Antennulæ four-jointed, slightly surpassing the second segment of the antennæ in the female, nearly attaining the middle of the third in the male; basal segment swollen, nearly as long as the next two which are much more slender, last or flagellar segment shorter than the peduncle in the female, longer than the peduncle in the male. Antennæ about three-fourths as long as the body, fourth segment longest, then the fifth and third; first two segments short; flagellum three-jointed, short. First thoracic

* From *χέρη*, a hand, and *Idotea*. † From *σύν*, with or together, and *Idotea*.

segment embracing the head, separated from it by sutures at the sides, but united in the dorsal region. Fourth segment longer than the other six segments together in the female, still more elongated in the male, in which sex it is longer than the three following segments with the pleon, while in the female it is only four-fifths as long; irregularly but not coarsely tuberculated, especially in the dorsal region. Last three segments with their epimeral regions produced into salient angular tubercles. Pleon elongate-ovate, tuberculated, a little longer than the last three thoracic segments, with three transverse grooves in the proximal region, the second continued at the sides, but showing no distinct suture. Immediately behind this is a prominent tooth on each side, directed outward and backward. Tip of pleon not spiniform but only slightly attenuated and obtuse. Opercular plates more than nine-tenths as long as the inferior surface of the pleon.

Length of female 10mm., male 11mm.; diameter of fourth thoracic segment, female 1.2mm., male 0.52mm. Of the two adult specimens obtained, fortunately a pair, the male, though much the more slender, actually exceeds the female in length. This relation of size in the sexes is unusual in the genus, the females being generally considerably larger than the males, but more specimens are necessary to prove the constancy of this proportion.

The specimens of this species were found adhering to *Primnoa*, from St. George's Bank.

Astacilla Fleming, is synonymous with *Leacia* (*Leachia*) Johnston, which is preoccupied.

Eurycope robusta, sp. nov.

Body oval, smooth and polished, breadth nearly equal to half the length. Head longer than the first thoracic segment, produced medially into a short rostrum about half as long as the basal antennular segments. Antennulæ attaining the middle of the fourth antennal segment; basal segment subquadrate, bearing the second, much smaller, segment beyond the middle of its superior surface; third segment slender; flagellum about twice as long as the peduncle, multiarticulate. Antennæ thrice the length of the body at least in the female; first three segments short; fourth and fifth slender, subequal and together as long as the body in the female; flagellum long, slender and multiarticulate. External lamella of maxillipeds subrhombic, with the inner angle much rounded, the outer prominent but not acute. First four thoracic segments short; fourth widest, fifth and sixth suddenly twice as long; seventh much the longest of all. First pair of legs shorter than the body; carpus exceeding the propodus; second pair longer than the body; third and fourth increasing slightly in length; carpus and pro-

podus subequal in all, armed, in the¹ second pair only, with spines. Swimming legs (last three pairs) robust, carpus sub-circular, dactylus usually about half as long as the propodus. Pleon broader than long. Uropoda short, rami cylindrical, spiny at the tip; the outer more slender but not shorter than the inner. Length of body 4.5mm. Carpus of first pair 1mm.; propodus 0.6mm.; of second pair, carpus 1.5mm., propodus 1.6mm.; of fourth pair, carpus 1.5mm., propodus 1.7mm. Color, in alcohol, pale honey-yellow.

This species was dredged in 220 fathoms, in the Gulf of St. Lawrence, by Mr. J. F. Whiteaves.

Egathoa loliginea, sp. nov.

Body elongate oval, not suddenly narrower at the base of the pleon, which is slightly dilated at the last segment. Head subequally, but not deeply, lobed behind, the lateral lobes being formed by the large, semi-hexagonal, coarsely reticulated eyes, which cover half the upper surface of the head. Antennulæ as long as the head, eight-jointed, separated at their bases, tapering to the tip; antennæ more slender, ten-jointed, surpassing the antennulæ by the last two segments, like the antennulæ without evident division into peduncular and flagellar segments. First thoracic segment shorter than the head and but little broader, not embracing it at the sides, longer than the following segments, which increase in width to the fifth; seventh shortest. Epimera short and obtuse, not surpassing the rounded posterior angles of the segments. Legs nearly alike throughout, first pair a little more robust, last pair slightly the longest, all with strongly curved dactyli. Pleon longer than the thorax, tapering to the fifth segment. First pair of pleopoda with the basal segment large, nearly square; last pair, or uropoda, surpassing the telson; basal segment triangular with the inner angle acute but scarcely produced; rami flat, the outer with slightly divergent sides, obliquely rounded at the end; the inner broader, triangular, with the outer side longest; cilia very short almost rudimentary. Length 13mm., breadth 3.6mm. Color in alcohol yellowish with minute black specks, most abundant on the pleon. Eyes black.

The only specimen in the collection was obtained by Mr. S. F. Clark, at Savin Rock, near New Haven, from the mouth of a squid (*Loligo Pealii*), whence the specific name.

Ptilanthura, gen. nov.*

Antennulæ with the flagellum remarkably developed, multi-articulate, second and following segments provided with an incomplete, dense whorl of fine slender hairs. This whorl is interrupted in each segment upon its internal or anterior side,

* From *πτελόν* a plume, and *Anthura*.

which, however, in the ordinary reflexed position becomes the external side. Eyes distinct, visible both above and below. Pleon imperfectly segmented, elongate. Maxillipeds two-jointed.

P. tenuis, sp. nov. Body smooth, slender, flattened above, broadest at the base of the pleon. Head broader but shorter than the first thoracic segment, narrowed to a point in front and less acutely behind. Eyes prominent, black, within the margin of the head. Antennulæ, when reflexed, attaining the third thoracic segment; first segment large but not longer than the second; third shorter than the second, followed by a short first flagellar segment, second and following segments about twenty in number, obconic, fitting into each other, flattened and naked on one side, which is the outer and somewhat inferior side in the reflexed organ, densely elongate-ciliate distally, except on the flattened side; cilia attaining about the fifth following segment. Antennæ hardly surpassing the peduncle of the antennulæ, eight-jointed. Maxillipeds with a quadrate basal segment, emarginate externally for the subtriangular external lamella, and bearing a single scarcely smaller terminal segment, truncate and ciliate at the tip. Thoracic segments slender, margined, the seventh but little over half as long as the others. First pair of legs moderately enlarged, segments well separated, dactylus strong, shorter than the inner margin of the propodus; remaining pairs of legs slender. Pleon about as long as the last three thoracic segments, first five segments consolidated along the median line, each rising into a low broad tubercle on each side of the median line; last segment as long as the preceding five; telson elongate-ovate obtusely pointed. Uropoda equaling the telson. Length 11mm., breadth 0.9mm., color in life brownish and somewhat mottled above, lighter below.

This species has been found on the New England coast from Noank Harbor, Conn., to Casco Bay, Maine.

Paratanais algicola, sp. nov.

Tanais filum Harger, Rep. U. S. Com. Fish and Fisheries, part 1, p. 573. 1874, *non* Stimpson.

Eyes conspicuous, black, plainly articulated, larger in the males. Antennulæ in the females three-jointed, tapering, setose at the tip, first segment as long as the last two which are subequal; elongated and eleven-jointed in the male, the first segment long, curved upward near the base, last eight segments with olfactory setæ. Antennæ short, five-jointed, deflected, fourth segment longest. First pair of legs robust, hand short and stout in the female, digital process scarcely toothed, bearing three setæ near its inner margin; hand in males strongly chelate, digital process elongated, curved, two-toothed; dactylus curved, slender, with about seven setiform spines on its inner margin; carpus in the males long and stout.

Second pair of legs elongated, basis flattened and curved, dactylus slender but shorter than the propodus. Bases of last three pairs of legs swollen. Uropoda bearing setæ at the tips of the segments, biramous; outer ramus short, scarcely if at all surpassing the basal segment of the inner ramus which is six-jointed and tapering. Length 2.2mm., breadth 0.33mm. Color nearly white.

This species is rather abundant among eelgrass and algæ at Noank and Woods-Holl, and probably other localities on the southern shore of New England. I formerly considered it as identical with *Tanais filum* Stimpson and supposed its range to extend as far as the Bay of Fundy. I now regard that as an error, as it is probable that *T. filum* is a true *Tanais* with simple uropoda, though I have as yet seen no specimens from the Bay of Fundy, nor any fully answering to Stimpson's description.

Paratanais limicola, sp. nov.

This species considerably resembles the preceding, but may be distinguished from it by the following characters: The eyes are small and rather inconspicuous, at least in the females, being only about half the vertical diameter of the antennulæ. The antennulæ have the second segment short, about half as long as the third. The dactylus of the second pair of legs, with its slender, acicular, terminal spine is longer than the propodus. The pleon is not dilated at the sides. The uropoda have the outer ramus two-jointed, slender, and surpassing the basal segment of the inner ramus which is five-jointed, with the basal segment long and imperfectly divided. Length 2.5mm.

This species was obtained on a soft muddy bottom in forty-eight fathoms, Massachusetts Bay, off Salem, in the summer of 1877, by the United States Fish Commission.

Paratanais cæca, sp. nov.

Body slender, elongated and loosely articulated. Head narrow in front, not broader than the bases of the antennulæ. Eyes wanting. Antennulæ four-jointed; first segment forming less than half its length; second segment longer than the third; last segment about as long as the second, slender, tapering and tipped with setæ. Antennæ attaining the tip of the third antennular segment. First pair of legs slender as compared with those of the preceding species, attaining the tip of the antennæ, basal segment subquadrate, hand or propodus less robust than the carpus; digital process of propodus serrated; dactylus short. Second (first free) thoracic segment two-thirds as long as the third, which is equal to the fourth and fifth; sixth and seventh progressively shorter. Second pair of legs scarcely more slender than the following pairs, basal segment not curv-

ing around the basal segments of the first pair. Pleon six-jointed; uropoda short, biramous, each ramus two-jointed, the outer more slender than the inner, half its length and bearing a long bristle at the tip. Length 2.5mm.

This species was taken along with *P. limicola* and unfortunately only a single specimen is as yet known.

Yale College, April, 1878.