

innermost, forming a fringe on the inner margin of the latter; a fringe of stout hairs occupying the middle third of the outer margin of the organ.

*Dimensions.*—

	mm.
Length of capitulum .....	12
Breadth           " .....	10
Length of aperture .....	4
"       peduncle.....	7

*Locality.*—Off the S.W. coast of India, 185 fath. On shell of living *Xenophora*; four specimens.

*A. xenophoræ* resembles *A. quadrata*, Aur., in some respects, but may be distinguished externally by its feebly protuberant, non-tubular aperture and subtriangular capitulum. The appendages and mouth-parts differ considerably from those of the Californian species, the structure of the fifth and sixth cirri in particular being characteristic.

LIV.—*Diagnoses of Five new Species of Decapod Crustacea and of the hitherto unknown Male of Spirontocaris rectirostris (Stimps.) from the Inland Sea of Japan, as also of a new Species of Palæmon from Darjeeling, Bengal.* By Dr. J. G. DE MAN, of Ierseke, Holland.

ONCODOLAMBRUS, subgen. nov.\*

A new subgenus of *Lambrus*, Leach. Carapace broadly triangular, once and a half as broad as long. Rostrum acute, projecting and strongly deflexed. No postocular constriction. *Branchial regions extraordinarily swollen, globular, rounded, much higher and broader than the narrow cardiac region, and devoid of tubercles and spines.* Pterygostomian regions traversed by a ridge that runs parallel with the antero-lateral border. Chelipedes of moderate length, their margins dentate, their surfaces smooth. Ambulatory legs also short.

Related to *Platylambrus*, but distinguished by the much inflated and swollen branchial regions, that are not tuberculate.

*Lambrus (Oncodolambrus) prædator*, sp. n.

Carapace of the single male specimen that was collected 7 mm. long, front included, but without the abdomen; the

\* ὀγκώδης, swollen, inflated.

greatest breadth, at the angles between the antero- and postero-lateral borders, 10 mm. The breadth (1.8 mm.) of the front at its base almost one fifth of the greatest breadth of the carapace, lateral margins of the front smooth and entire. On the posterior end of the gastric region stands a low rounded tubercle in the middle line, in front of which a much smaller one is observed on either side. Cardiac region in the middle line with two obtuse tubercles behind one another, which are as large as that of the gastric region. Distance between the external orbital angles one third the greatest breadth of the carapace. Hepatic areae, situated between the orbits and the branchial regions, deeply concave. Branchial regions considerably swollen and inflated, nearly globular, twice as broad as the gastric region. The cristiform antero-lateral margins run at first outward and then curve backward and upward, terminating, on the outer surface of the branchial globes, in a triangular compressed tooth, which is preceded by three or four smaller; postero-lateral margins also cristiform, running at first backward and upward, then turning suddenly downward and inward at a right angle, and carrying at this angle an obtuse tooth, which is smaller than that at the posterior end of the antero-lateral border. Right chelipede a little larger than the left, little more than twice as long as the carapace. Anterior border of the trigonal palm crenulate, the upper denticulate, the teeth small, little prominent; posterior margin sharp, cristiform, with four triangular teeth, on the left leg with six or seven. Sharply pointed fingers much turned inwards.

Ambulatory legs of moderate length, their joints laterally compressed.

A single male from Japan, probably from the Inland Sea.

*Crangon consobrinus*, sp. n.

Closely related to *Crangon alaskensis*, Lock.\*, from Alaska, but perhaps different.

Carapace (rostrum included) one fourth of the whole length. Rostrum distinctly shorter than the eye-peduncles when they are directed forward; it is rather narrow, sides parallel for a portion of their length, edges upturned, tip rounded. Single median gastric spine at one fourth of the length of the carapace from the tip of the rostrum, situated with the two equally large hepatic spines in a transverse line.

\* Rathbun, 'Decapod Crustaceans of the North-west Coast of North America' (New York, 1904), p. 114.

Abdomen resembling in general appearance that of *Cr. vulgaris*. The first to third segments rounded above, fourth segment presenting a trace of carination along a very short distance on the posterior half; *fifth segment distinctly carinate*: sixth resembling that of *Cr. vulgaris*, but its upper border has a shallow median groove; as in *Cr. vulgaris*, it is sulcate beneath. Telson almost once and a half as long as the sixth segment, just as long as the carapace, faintly grooved above, terminating in a sharp tooth, on each side of which three movable spinules are inserted.

Inner antennular flagellum exceeding somewhat the antennal scale, outer flagellum reaching to the end of the blade.

External antennæ as long as the body. The scale, measured along its straight outer margin, appears to be *four fifths* the length of the carapace exclusive of the rostrum; it resembles that of *Cr. alaskensis*, but it is only three times as long as broad; end of the blade rounded, not produced at the antero-internal angle and much broader than the spine at this level; spine extending as much beyond the blade as the tip of the latter is broad.

External maxillipedes reaching to the end of the blade. Chelæ of first pair almost four times as long as broad, *a little slenderer* than those of *Cr. alaskensis*; obliquity of the terminal margin in both species the same.

A single egg-laden female, 48 mm. long, from the Inland Sea of Japan, deep water.

*Crangon cassiope*, sp. n.

In its outer appearance much resembling *Crangon vulgaris*, Fabr., but distinguished by the sixth segment of the abdomen, which is convex, not sulcate beneath, so that this species is also related to *Cr. alba*, Holmes, and *Cr. Holmesi*, Rathb.\*, from the north-west coast of North America.

Carapace of egg-bearing female, rostrum included, a little longer than one third of abdomen. Viewed from above this species *most closely* resembles *Cr. vulgaris*, but the numerous small dark spots on carapace and abdomen are almost wanting. All the segments of the abdomen are rounded above, but neither the sixth nor the seventh shows any tendency to become flattened or grooved, as sometimes takes place in the common shrimp. Ventral surface of sixth segment *rounded and convex in the middle*; at the posterior end a subacute conical tubercle instead of the sharp spine of *Cr. vulgaris*.

\* Rathbun, *l. c.* pp. 117 & 118.

Both pairs of antennæ *closely resembling* those of *Cr. vulgaris*. Antennal scale measuring two thirds the length of the carapace without the rostrum and two and a half times as long as broad; end of the blade slightly rounded, making a distinct angle with the inner margin, and four times as broad as the contiguous part of the spine that reaches considerably beyond it. Stylocerite of inner antennæ a little shorter than the first joint of the peduncle.

External maxillipedes reaching to the end of the scales; the joints of the endopodite *broader* in proportion to their length than those of *Cr. vulgaris*.

First pair of feet nearly reaching to the end of the scales; they are *of a stouter shape* than those of *Cr. vulgaris*, the chelæ two and a third times as long as broad, in *Cr. vulgaris*, however, three times. Legs of the fourth and fifth pairs differing from those of *Cr. vulgaris* by comparatively shorter dactyli and slenderer propodites.

Length of egg-laden female 46·5 mm.

Inland Sea of Japan, deep water.

*Male of Spirontocaris rectirostris (Stimps.).*

*Hippolyte rectirostris*, Stimpson, Proc. Acad. Nat. Sciences Philadelphia, 1860, p. 33.

Same size as the female, but abdomen less deep and therefore slenderer. Carapace longer in proportion to the whole length than in the female. Rostrum arising more forward than in the female, viz. at one third of the length of the carapace from its anterior border; above with six teeth, of equal size and equidistant, *two* teeth only on the carapace; lower margin with two teeth as in the female; the rostrum reaches a little beyond the end of the antennular peduncles. Fifth segment of abdomen shorter in proportion to the fourth than in the female and the four pairs of spinules on the telson reaching farther backward.

Antennal scales more elongate than in the female, measuring one sixth the whole length, and a little more than three times as long as broad.

External maxillipedes *much* longer, *twice* as long as the carapace, rostrum included, and extending *with the last two joints* beyond the scales; terminal joint *just as long as the other joints together*, *much slenderer* than in the female. Legs of first pair resembling those of the female, but *much larger*.

Length 34·5 mm.

If this specimen is really the male of *Spiront. rectirostris* (Stimps.), the sexual differences are *considerable*.

Inland Sea of Japan.

*Spirontocaris propugnatrix*, sp. n.

Related to *Spiront. stylus* (Stimps.), *gracilis* (Stimps.), and *amabilis*, Lenz.\*, and characterized by the *elongate* rostrum and its *toothing*.

Body *slender*. Carapace, rostrum included, little shorter than abdomen; exclusive of the rostrum the carapace measures only one seventh of the whole length. The rostrum *a little more than twice as long* as the remainder of the carapace, arising at one third of its length from its anterior border; it is *styliform*, *very little dilated*, gradually tapering, and the anterior half is *gently ascending*. Upper margin with seven teeth that reach *to the middle* of the free portion, *two* on the carapace; lower margin with ten teeth that reach to the tip. The rostrum extends two fifths of its length beyond the scales. Antennal spine small; supraorbital and pterygostomial spines wanting.

Third segment of the moderately geniculated abdomen slightly produced in an obtuse lobe posteriorly. Fourth and fifth segments of subequal length, postero-lateral angle of the fourth obtuse, that of the fifth ending in a sharp tooth. Sixth segment twice as long as broad; telson one fourth longer than sixth segment.

External maxillipedes very short, barely reaching to the end of the antennal peduncle.

Legs of first pair still shorter, reaching with their fingers beyond basal joint of antennal peduncle. Carpus of second legs 7-articulate, the second and the sixth joints the shortest, the third the longest. Following legs slender, *e. g.*, mero-podites of antepenultimate pair eleven times as long as broad.

Length of single specimen 33.2 mm.; carapace, rostrum included, 15.2 mm. long.

Inland Sea of Japan, 6 fathoms.

*Spirontocaris alcimede*, sp. n.

Closely related to *Spiront. gracilis*, Stimps., and *Spiront. flexa*, Rathb., from the north-west coast of North America †.

Abdomen once and a half as long as carapace (rostrum

\* Confer Rathbun, *l. c.* pp. 77, 79, & 84.

† Rathbun, *l. c.* pp. 77 & 78.

included), *strongly geniculated at a right angle at the third segment*. Rostrum slender, arising with obtuse crest at one third of the carapace from its anterior border, the free part once and a half as long as the remainder of the carapace; gently ascending from the anterior tooth of the upper margin, it just reaches beyond the scales. Upper margin with five, rarely four teeth, *two on the carapace; terminal half of upper margin devoid of teeth*. Lower limb *shallow*, convex, as in *Spiront. unalaskensis*, Rathb., and *Spiront. tridens*, Rathb., width of the rostrum at base of lower margin one eighth to one seventh of its whole length; lower limb gradually diminishing anteriorly, armed with six, seven, or eight, rarely nine teeth.

No supraorbital spine; antennal spine moderate, no pterygostomian spine.

Third segment of abdomen produced posteriorly *into a somewhat compressed hump, that is bent at a right though rounded angle*; fourth segment rounded at the postero-lateral angle, but the fifth terminating in a sharp tooth; sixth segment twice as long as broad. Telson little longer than sixth segment, upper surface carrying four, rarely five, pairs of spinules.

Stylocerite reaching to the distal end of first joint of antennular peduncle; thickened portion of outer flagellum reaching somewhat beyond the middle of antennal scale. Antennal scale a little longer than carapace, exclusive of the rostrum, *slender*, six times as long as broad, hardly narrowing distally; distal spine not nearly so advanced as the membranous portion.

External maxillipedes reaching to only one third of the scales and without exopodite.

Legs of first pair reaching with their fingers beyond basal joint of outer antennæ, those of second pair to the middle of the scales. Carpus 7-articulate, the sixth joint, just half as long as the last, the shortest, the third the longest.

Following legs slender, *e. g.*, the meropodites of the antepenultimate pair ten times as long as broad; dactyli one third the length of the propodites.

Length of the largest of twelve specimens 34 mm.

Inland Sea of Japan.

*Palæmon (Parapalæmon?) Hendersoni*, sp. n.

Related to *Pal. altifrons*, Hend., from Delhi and Lahore, to *Pal. scabriculus*, Heller, from Ceylon, and to *Pal. latimanus*, v. Mart., from the Indian Archipelago.

Carapace, rostrum included, two thirds the length of the abdomen. Carapace *scabriculate* on its anterior half. Rostrum *short*, reaching to the middle of penultimate joint of antennular peduncle, arising from the anterior third of the carapace; it is directed *obliquely downward*, the acute tip situated *at a much lower level* than the upper surface of the carapace. Upper border armed with seven or six teeth that reach to the tip; first tooth situated at one fifth of the carapace from the frontal border; *three* teeth on the carapace. Lower border nearly straight, with *one* or *two* teeth, situated near the anterior tooth of the upper margin. Upper limb of the rostrum, in the middle, little higher than lower. Antennal spine small; hepatic spine *extremely small, sometimes even wanting altogether*.

Carpus of legs of first pair as long as the merus and *one third longer than the chela*.

Leg of second pair, apparently the smallest, twice as long as carapace, rostrum included, extending with one fourth of the carpus beyond the scales. Carpus somewhat *shorter* than merus; chela *three times as long as the carpus, palm very little shorter than the fingers*, and *slightly compressed* in the proportion of 3:4. Palm barely broader than carpus. Fingers probably somewhat tomentose, shutting close together; the fixed finger carries a low denticulate prominence, the dactylus a somewhat compressed conical tooth between the articulation and the small tooth at the end of the cutting-edges. Leg covered with minute spinules.

Following legs *moderately slender*.

Length 61 mm.; carapace 25 mm. long.

Darjeeling, Bengal; fresh water, at a height of 2500 feet.

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LV.—*Descriptions of some new Species of Heterocera from Peru.* By HERBERT DRUCE, F.L.S. &c.

Family Arctiidæ.

*Thyrarctia friga*, sp. n.

*Male*.—Head, antennæ, collar, tegulæ, and front of thorax dark brown; palpi yellow; the base of the thorax and first segment of the abdomen yellow; the upperside of the abdomen and anal tuft dark brown, the underside white; legs dark brown. Primaries dark brown, with a large yellowish



Man, J. G. de. 1906. "Diagnoses of five new species of Decapod Crustacea and of the hitherto unknown male of *Spirontocaris rectirostris* (Stimps) from the Inland Sea of Japan, as also of a new species of *Palaemon* from Darjeeling, Bengal." *The Annals and magazine of natural history; zoology, botany, and geology* 17, 400–406.

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