

Ventral reaching a little beyond origin of anal. Caudal rounded. Caudal peduncle once and  $\frac{1}{2}$  as long as deep. Scales  $33 \frac{5}{12}$ ; lat. l.  $\frac{22}{13}$ . Pale olive above, silvery white beneath; a blackish opercular spot; a dark grey band from the latter to the root of the caudal; a rather indistinct dark vertical bar below the eye; dorsal and caudal fins greyish; ventrals yellow, the outer rays blackish; anal yellow, with three orange ocellar spots, encircled with red, on the posterior part.

Total length 140 mm.

A single specimen from Bunjako.

LXI.—*Preliminary Descriptions of new Species of Amphipoda from the 'Discovery' Antarctic Expedition, 1902-1904.*  
By ALFRED O. WALKER, F.L.S., F.Z.S.

Fam. **Hyperiidæ.**

*Hyperia macronyx* \*, sp. n.

S.E. of Coulman I., 22/2/04; six specimens, immature: length of largest 10 mm. W.Q.† 16/4/03, 5 f.; one specimen. W.Q. 18/5/03, 10 f. W.Q. 1/8/03, 10 f.; eight specimens.

*Head* shorter than the first two segments. *Eyes* occupying the entire head. *Segments all free*; the three pleon-segments with a tooth on the hind epimeral angle. *Carpal process of the first gnathopods reaching the middle of the hind margin of the hand, which is ovate, less than twice as long as wide, the hind margin convex and finely serrate.* Carpal process of the second pair reaching considerably beyond the middle of the hand; the limb otherwise as in the first; branchiæ of first pair oblong, wider below; of second pair pyriform.

*First and second peræopods* longer than the gnathopods; first joint a little wider than the fourth, which is twice as wide and about two thirds as long as the fifth, with five long equidistant spines on the hind margin; the fourth and fifth joints have their hind margins finely serrate. *Dactyli* slightly curved, slender, about half as long as the fifth joint.

*Third peræopods*: first joint subequal to the fifth, about twice as long as wide, widening near the middle; fifth joint

\* From the long dactyli of the peræopods.

† W.Q.=winter-quarters.

half as long again and half as wide as the fourth, its front margin finely serrate. Dactyli as in preceding pairs.

*Fourth and fifth peræopods*: first joint narrower than in the third pair, and the front margin of the fourth smooth.

*The fourth pair are subequal to the third and about one fifth longer than the fifth.* Dactyli as in preceding pairs.

*First uropods* reaching to the end of the third, second a little shorter.

*Third uropods*: peduncles broad, one third longer than the rami, which are subequal, wide at the base, and acutely pointed; the outer edge of the outer ramus smooth, the rest unequally serrate.

*Telson* equilaterally triangular, barely reaching the middle of the peduncle of the third uropods.

This species in the length of the peræopods and the relative proportions of the last three pairs approaches *Parathemisto*, with which it also agrees in the mouth-organs; but the widely expanded and produced wrist of the first gnathopods does not agree with either G. O. Sars's or Bovallius's definition of that genus.

Length 10 mm.

#### *Hyperoche Lütkenides*, sp. n.

Lat.  $57^{\circ} 25' 30''$  S., long.  $151^{\circ} 43'$  E.; one male: length 12 mm.

Like *Hyperoche Lütkeni*, Bovallius, except in the following respects:—In the second pair of peræopods (fourth pair of Bovallius) the hind margins of the fourth and fifth joints are not serrate. In the third pair the fifth joint is curved.

The telson is triangular, with rounded apex, rather longer than the width at the base and reaching to the middle of the peduncles of the third uropods.

The mandibular palp has the third joint almost as long as the first and second united, as figured by Bovallius for *H. Lütkeni*. In this respect both species differ from G. O. Sars's figure of *H. Krøyeri*, Bov. [*H. tauriformis* (Sp. Bate and Westwood)], in which the third joint is shorter than the second.

In the first pair of peræopods the hind margin of the fourth joint is prolonged in the form of a strong serrate tooth; in the second pair the tooth is smaller and not serrate, but the curved portion of the end of the joint between the tooth and the base of the fifth joint is so.

Fam. *Hyperioptidæ*, Bovallius.*Hyperioptis australis*, sp. n.

W.Q. 16/6/03, 15 f.; one specimen.

Differs from *H. Vöringii*, G. O. Sars (Norweg. N. Atlantic Exp. p. 231), in the following points:—

The lower margin of the head is *oblique*.

The first segment of the urosome has a deep dorsal depression; the second segment is the longest of the three.

The third joint of the first and second peræopods is not quite twice as long as the next two united and is about the same width (*i. e.* the margins are parallel) for the distal three fourths of its length.

In the last peræopods the jointing is indistinct; the very long third (or fourth) joint is finely serrate and spinulose.

*The first and second uropods are biramous.* In his definition of the genus Sars says that they are "simple, two-jointed," but as the rami cling closely together this might easily be an oversight.

The single specimen was not dissected (nor, probably, was Sars's), but the maxillipeds are evidently of the Gammarid type. Bovallius has placed the genus in his tribe Synopidea, under the family *Hyperioptidæ*.

Fam. *Lysianassidæ*.

*Charcotia obesa*, Chevreux, Bull. Soc. Zool. de France, Jan. 1906.

I had written the description of the above under the genus *Socarnes*, Boeck, from which genus it appears to differ only in the structure of the branchiæ, before M. Chevreux's paper was published.

*Aristias antarcticus*, sp. n.

W.Q.; two specimens: length of largest 15 mm.

Body without carinæ or teeth. Head shorter than the first segment, *ocular lobe produced to the end of the first joint of the upper antennæ*, the angular apex rounded. *Eyes* large, dark, expanded below. *Body-segments* increasing in length backwards. First four side-plates (except the first pair) about as deep as the segments, the first concealed by the second. *Posterior angle of the third pleon-segment produced and acute.* *First urus-segment* depressed in front, almost

covering the second and third, which are very small, perhaps coalesced.

*Antennæ* subequal, scarcely reaching the end of the third segment; first joint of the upper rather longer than the second, which is twice as long as the third. First joint of the 10-jointed flagellum as long as the next three, setose. Appendage 5-jointed, the first joint the longest. Flagellum of the lower antennæ 10-jointed. *Mouth-parts* normal.

*First gnathopods*: side-plates small, rather wider than deep. Wrist longer and wider than the hand. Hand simple, tapering to the dactylus, the hind margin slightly concave, spinulose, with four spines at unequal distances.

*Second gnathopods*: side-plates ovate below. Wrist longer and wider than the hand, which has subparallel margins. Dactylus well developed. Last three pairs of *peræopods* subequal; hind margins of the first joints of the third and fourth pairs obscurely crenate in the lower part; these two pairs are turned up over the back; the whole hind margin in the fifth pair is serrate. The *third uropods* have the inner rami lanceolate, as long as the peduncle, and reaching to the end of the first joint of the outer.

*Telson* about as wide at the base as long, cleft about two thirds of its length, debiscent, divisions rounded.

*Orchomene goniops* \*, sp. n.

W.Q. 21/8/03; two specimens, probably immature: length 5 mm.

*Body-segments* increasing in length backwards. *First four side-plates* deeper than the segments, narrow. *Third pleon-segment* with a small postero-dorsal carina and hind and lower margins straight, the former crenate, the posterior angle rather less than  $90^{\circ}$ .

*Head* shorter than the first segment; *ocular lobe* broadly triangular, produced beyond the end of the peduncle of the upper antennæ. *Eye* moderately large, oval, dark.

*Upper antennæ*: first joint three times as long as the next two united, naked. Flagellum 13-14-jointed, the first joint as long as the next three, sparsely setose on the upper side. Appendage 5-jointed, the first joint the longest, the third the shortest. *Lower antennæ* rather longer than the upper; peduncle reaching the end of the third joint of the flagellum of the upper, first joint the longest, second the shortest. *First gnathopods*: side-plates narrowed and rounded below; wrist

\* γωνία, angle; ὠψ, face.

two thirds of the length of the hand, which is about twice as long as wide with parallel margins, setose; palm rather oblique, convex, crenulate, defined by a spine. *Second gnathopods* as in *Orchomenone humilis* (Costa) [= *O. Batei*, Sars]. *Third peræopods*: side-plates wider than the depth in front, with the usual posterior lobe; first joint about half as large as the side-plate, deeper than wide; hind margin convex, serrate, produced down to the middle of the third joint; this is much produced behind and downwards. *The fifth peræopods* have the first joint nearly twice as deep as wide and longer than the rest of the joints, including the dactylus, together, otherwise like the third pair: the dactyli of all the peræopods are very short.

*The first uropods* are subequal in extent to the second, exceeding the third: the peduncle is one fourth longer than the subequal rami, all the parts very spinous on the upper margins. *Second pair* less spinous. Peduncle in the *third pair* rather longer than the outer ramus: inner ramus not nearly reaching the end of the first joint of the outer, its inner margin minutely serrate. *Telson entire*, deeply concave above, the end truncate with two setules: it extends beyond the end of the inner rami of the third uropods.

The difference between the telson of this species and that of the female *O. humilis* is only one of degree, as the truncate margin is slightly concave.

#### *Orchomenella chelipes*, sp. n.

W.Q. 28/2/02, 10 f.; eight specimens: length of female with ova 5 mm.

*Head* subequal to the first segment; ocular lobe reaching the end of the first joint of the lower antennæ. Eye large, broadly oval, dark red. *Body*: first two segments subequal, shorter than any of the remaining segments. Posterior angle of the third pleon-segment a rounded right angle, hind margin smooth, lower margin straight. First urus-segment as long as the remaining two, carinate.

*Upper antennæ*: first joint three times as long as the next two united, naked. Flagellum 11-jointed, the first as long as the next two; appendage 4-jointed, the first twice as long as the second, which is subequal to the third, the fourth minute. *Lower antennæ* slightly longer than the upper; flagellum 12-jointed, subequal to the peduncle. *Mouth-organs* as in *O. nana* (Kr.); second joint of mandibular palp twice as long as the first.

*First gnathopods*: side-plates widened below, rounded in

front; wrist subequal to but wider than the hand; the latter slightly curved, the hind margin produced, forming a chelate junction with the dactylus; hind margins of third, fourth, and fifth joints densely setose. *Second gnathopods*: side-plates oblong, widened below: first joint about twice as long as the second, which is longer than the third; wrist much longer and wider than the hand, hind margin very convex and scabrous. Dactylus distinct. *Last three pairs of peræopods* similar in structure, the first joints wide and obscurely crenate behind; the side-plates of the third pair wider than deep. *Third uropods*: inner ramus not reaching the last joint of the outer. Telson barely reaching the end of the peduncle of the third uropods, deeply notched.

#### PODOPRIONIDES, gen. nov.

Resembles *Podoprionella*, G. O. Sars, in the chelate first gnathopods and the deeply serrate first joints of the last three peræopods, but differs in the less compact body, the structure of the mandibular palp and of the outer ramus of the third uropods. From *Podoprion*, Chevreux, it differs in having the first joint of the fourth and fifth peræopods serrate like the third.

#### *Podoprionides incerta*, sp. n.

W.Q. 29/8/02. Hole 12, D net. One specimen: length 2 mm.

*Body not very compact*: the anterior side-plates small.

*Upper antennæ* reaching a little beyond the peduncle of the lower: appendage 2-jointed, the first twice as long as the second, which has a tuft of very long setæ at the extremity.

*Lower antennæ*: peduncle stout, margins of third joint produced. *Mandibular palp* with the third joint more than half as long as the second, narrow, pectinate.

*First gnathopods*: side-plates less than half the length of the first joint, rounded in front, straight behind, with a notch and a spine above the angle. First joint rather longer than the remaining five, widening distally; second and third joints subequal; wrist subequal to the hand; the hind margin of the hand is short, convex and prolonged in a spine-like process, which is slightly curved inwards to meet the point of the curved dactylus, forming a completely chelate joint; palm very oblique, smooth.

*Second gnathopods*: side-plates oblong, about twice as deep as wide, angles rounded. First joint hardly as long as the next

three; second longer and wider than the third; wrist about twice as long as the hand, which is oblong, setose on both margins, palm transverse. The last three pairs of *peræopods* have the first joints broadly ovate, the hind margins deeply serrate as in *Podoprion*, Chevreux, and *Podoprionella*, Sars. *Uropods*: first and second subequal in extent and scarcely exceeding the third pair; the outer ramus in this pair has two subequal joints and is but little longer than the inner. The telson could not be made out.

The single specimen was not dissected; the mouth-parts therefore could not be described.

LXII.—Notes on *British Copepoda*: Change of Names.  
By THOMAS SCOTT, LL.D., F.L.S.

[Plate XL]

Genus PHYLLOPODOPSYLLUS\*, T. Scott, nov.

Syn. *Tetragoniceps*, T. Scott, in part. (not *Tetragoniceps*, G. S. Brady).

*Description*.—Resembling *Tetragoniceps*, G. S. Brady, in form. Anterior antennæ about as long as the cephalothoracic segment and composed of nine joints, the second joint bearing a more or less prominent hook-like spine, and the fourth a tolerably elongated sensory filament. Posterior antennæ three-jointed; outer ramus small, uniaarticulate. Mandibles small, biting-edge truncate and armed with several small teeth; palp tolerably large, basal joint with two, apparently uniaarticulate, branches, the distal branch being the longer. First maxillipeds five-jointed; first joint large and furnished with a few marginal processes, other joints small. Inner branches of the first four pairs of thoracic legs two-jointed, and the outer three-jointed. In the first pair the inner branch is elongated, and the first joint longer than the entire outer branch, the second joint is short. In the other three pairs the outer branch is elongated, while the inner is very short. The fifth pair are each composed of a large leaf-like plate, and they together completely enclose the ovisac; each plate is provided with a few setæ on the outer and distal margins. The abdomen consists of five segments and has the middle one produced distally on the underside into a

\* φύλλον, a leaf; ποῦς, a foot; ψύλλος, a flea: from the leaf-like fifth pair of feet.

distinct tooth-like process. Furcal joints moderately short, inner margin lobate near the base.

No males observed.

Type species *Phyllopodopsyllus Bradyi*, T. Scott. Described in 1892 under the name of "*Tetragoniceps Bradyi*, T. Scott," in the 'Tenth Annual Report of the Fishery Board for Scotland,' pt. iii. p. 253, pl. ix. figs. 19-32.

*Remarks*.—This species, which appears to be scarce, but with a fairly wide distribution, has a close resemblance to *Tetragoniceps*, G. S. Brady. The anterior antennæ, however, are composed of nine joints and it is the second (not the first) joint that is strongly toothed. There is a difference in the structure of the maxillæ and first maxillipeds, but the most obvious difference is in the structure of the fifth pair of thoracic feet, which are so large and leaf-like that they enclose the entire ovisac. The species is described and figured in the Fishery Board Report referred to above.

Genus *PTEROPSYLLUS* \*, T. Scott, nov. (Pl. XI. figs. 7, 8.)

Syn. *Tetragoniceps*, T. Scott, in part. (not *Tetragoniceps*, G. S. Brady.)

*Description*.—This genus resembles in some respects the one last described, as well as *Tetragoniceps*, G. S. Brady, and seems to hold a somewhat intermediate position between them. The anterior antennæ are composed of eight joints; the first is elongated, the second is shorter and has the upper distal angle produced forwards into a tooth-like process, and the fourth is provided with a sensory filament. Posterior antennæ apparently three-jointed; outer ramus rudimentary, consisting of a minute uniaarticulate joint. Mandible and palp as in *Tetragoniceps*. The maxillæ and maxillipeds are also somewhat similar to those of the same genus. Both branches of the first pair of thoracic feet three-jointed; the first joint of the inner branch is as long as the entire length of the outer branch, but the second and third joints are small. The next three pairs have the inner branches two-jointed as in *Phyllopodopsyllus*. In the fifth pair the basal joint is small, but the secondary joint is large and foliaceous—large enough to enclose the ovisac. Abdomen composed of four segments. Furcal joints tolerably elongated.

No male observed.

Type species *Pteropsyllus consimilis*, T. Scott. Described in 1894 under the name of "(?) *Tetragoniceps consimilis*," in

\* πτερόν, a wing; ψύλλος, a flea: the fifth pair of thoracic legs being wing-like.