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LXIII.—On a new Pycnogonid from the South Polar Regions

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Measurements of Rh. auritus *and* Rh. capensis.

	Rh. auritus.	*Rh. capensis.*	
	Type. ♂ ad.	(8 adult spcms., 2 skulls.)	
		Min.	Max.
	mm.	mm.	mm.
Forearm	50	47·6	51·5
3rd finger, metacarpal	33·8	32·2	35
„ 1st phalanx	15	14·2	16·6
„ 2nd phalanx	24	23·3	26
4th finger, metacarpal	35·7	35	38
„ 1st phalanx	9·5	8·2	9·7
„ 2nd phalanx	15	15	16
5th finger, metacarpal	35·3	34	38
„ 1st phalanx	10·9	10·7	12
„ 2nd phalanx	13	12	14
Tail, from anus	20·5	20	23
Mandible	13·8	13·7	13·9
Front of upper *c* to back of m^3	7·7	7·3	7·7
„ lower *c* to back of m_3	8·2	8·2	8·3

LXIII.—*On a new Pycnogonid from the South Polar Regions.*

By T. V. Hodgson, Biologist to the National Antarctic Expedition.

[Plate XIV.]

During her stay in winter-quarters in McMurdo Bay the 'Discovery' secured among the biological collections a very large number of Pycnogonids, the species as well as individuals being abundant. Among them is a species which possesses a pair of ambulatory appendages more than the number hitherto allotted to the group, and on that account it has been suggested to me by the Director of the Natural History Museum to publish at once a description of this interesting species.

It appears to be fairly common, a single individual being frequently captured either with the D net * or the tangles

* The D net is a light trawl, of which the iron frame is shaped like the letter D, hence the name; both from its lightness and its shape it proved particularly useful for work under the ice.

attached to the traps; occasionally two or even three specimens were taken at a haul, but this was unusual. It was first found in water of about 12 fathoms depth, and subsequent experience extended this to 125 fathoms. At depths greater than 25 fathoms only stationary traps could be used, but, as far as could be observed, the general nature of the bottom was essentially the same as in shallower water, though more uniform in character. It consisted of the same basaltic rubble as on shore, varying from a coarse sand or fine gravel to stones of variable size, interspersed at intervals with boulders, some of which were comparatively large. This mixture was very irregular close in shore, where details could be distinctly seen through the clear water. In depths of less than 25 fathoms the predominant feature of the fauna consisted of sponges (Monaxonida), and it was here that the bulk of the collections was made. In depths of over 100 fathoms, Polyzoa were most abundant. Taking into consideration the methods employed, this Pycnogonid seemed to be equally common in both localities.

A new genus has been proposed for the reception of this species, but from the description given it will be seen that the only feature of importance which separates it from the genus *Nymphon* is the presence of a fifth pair of legs, a character which separates it from all Pycnogonids hitherto known.

PENTANYMPHON, gen. nov.

Body smooth, very slender, with lateral processes widely separated. Five pairs of ambulatory appendages.

Mandibles well developed, 2-jointed, chelate.

Palps 5-jointed.

Ovigerous legs 10-jointed, terminating in a claw, the last four joints with a single row of denticulate spines.

Pentanymphon antarcticum, sp. n. (Pl. XIV.)

Mandibles: chelæ long and slender, curved at tips, with short, stout, uniform and close-set teeth.

Palps: terminal joint longer than the preceding, which is in turn half the length of the third.

Ovigerous legs: terminal claw dentate; denticulate spines with seven pairs of lateral teeth, the first being very small.

Ambulatory legs with a well-developed claw and two auxiliaries; setæ arranged in four rows on the last three joints.

The above characters are probably quite sufficient for identification, and a more detailed description may now be given.

The body, including the proboscis, is quite smooth and averages between 7 and 10 millimetres in length. Anteriorly it is curved downwards so that the proboscis is inclined at a moderate angle. It is slender, and the lateral processes are long, the segmentation being distinct and immediately behind them. The ocular peduncle is short and is situated just in front of the first pair of lateral processes. Four eyes can be distinguished, but the state of their development is a variable feature.

The abdomen is small, ovoid, and directed obliquely upwards.

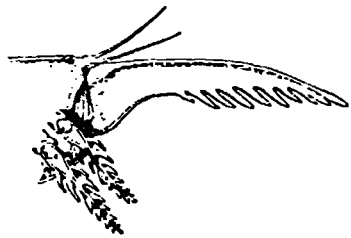
The proboscis is perfectly smooth, cylindrical, with a very slight swelling along the middle of its length; the extremity is rounded.

The mandibles arise above and slightly in front of the proboscis on an enlargement of the cephalon, which is here rather more than twice its diameter posteriorly. A distinct projection of the cephalon forms a base for these appendages, which are 2-jointed. The scape is longer than the chela and it is also longer than the proboscis. It is smooth, there being only a very few setæ scattered along its length and a whorl of them at its distal extremity. The chela is rather smaller than the scape, with fine setæ scattered all over the proximal half. The fingers occupy nearly half the length of the joint; they are slender and much curved near the tip so as to cross when closed. The inner border of both fingers is furnished with a row of fairly stout teeth of nearly uniform size.

The palps arise below and somewhat behind the mandibles, more strictly at the side and base of the proboscis. They are 5-jointed, the second joint being considerably the longest, the fourth is half the length of the third, and the fifth is longer than the fourth. The first joint is very small and devoid of setæ; the second, with the succeeding one, bears a few setæ sparsely distributed along its entire length, the setæ being most plentiful at the distal extremity, where they form an imperfect whorl round the joint. The fourth joint is half the length of the third and is more abundantly supplied with setæ especially about the outer side, a few being scattered elsewhere. The fifth joint is longer than the preceding, rounded at the distal extremity, and more richly supplied with setæ: these are stouter than on the other joints, but have essentially the same arrangement;

they also appear to be liable to injury and may be much broken.

The ovigerous legs, which are present in both sexes, arise on very short processes from the lower side of the cephalic segment immediately in front of the first pair of lateral processes. They are 10-jointed and armed with a dentate claw. The first joint is quite small and about three times the length on one side that it is on the other. The two following joints are subequal in size and devoid of setæ; the proximal one is stout, the distal one more slender, somewhat curved, and its distal termination very oblique. The fourth joint is nearly four times as long as the preceding one, slightly curved and stouter at its distal end, which bears a few setæ; two or three more are to be found on the outer margin of the joint, while on the inner margin a small protuberance occurs at about a quarter of its length. The fifth joint is conspicuously the longest and its diameter increases towards the distal extremity; it is sparsely setose along the greater part of its length. The sixth joint is rather more than half the length of its predecessor, setose along the inner margin, and with somewhat stouter setæ distally. Of the four terminal joints the proximal is the longest and the remainder are subequal in length, but progressively more slender. They only bear an occasional seta and a single series of denticulate spines. The last three joints bear a pair of long setæ at the distal extremity, and the spines consist of a slender shaft with a swollen base. Near the base is a pair of small teeth, then follow two pairs of comparatively long slender ones; the remaining four pairs are more delicate and blade-like. The terminal claw is



Claw and denticulate spines of ovigerous leg, × 130.

provided with about nine slender teeth (see figure). These teeth as well as the denticulate spines seem to be particularly liable to injury, as they are more or less broken in many specimens.

With regard to the ambulatory appendages, all the five are practically of the same size and proportions, while the character and arrangement of the setæ are identical.

Of the three coxæ the first and third are subequal in length, the third being, if anything, slightly the longer. The second coxa is slightly longer than the other two together, and all of them bear minute setæ.

The femur is a comparatively stout joint, slightly curved, sparingly supplied with short setæ and a few very long ones. One or two of the latter occur along the shaft and a few at the distal extremity. The first tibia is slightly longer than the femur, setose along its entire length; small setæ are most numerous, and the longer ones are scattered irregularly among them. The second tibia is considerably the longest joint of the entire appendage and setose, like the preceding joints, along its proximal half; then the setæ become delicate spines rather than true setæ and are arranged in four distinct rows. The lateral rows are, of course, the most prominent, and the setæ on the inner side of the joint are most numerous and regular. Some half-dozen spines fringe the distal inner margin.

Of the two remaining joints, the tarsus and the propos, the former is the longer, but in other respects they are alike. Both bear four rows of setæ, those on the inner margin being regular and by far the most numerous, besides having the nature of spines rather than true setæ. The terminal claw is long and provided with two auxiliaries of about a quarter the size.

Altogether 28 specimens of this interesting species were taken, but many of them are in a more or less mutilated condition. Five of them are females whose limbs are distended with ova. Two males are carrying eggs, and those on another are just hatched. The egg-masses are ovoid in shape and somewhat irregular; this is possibly owing to the freezing they underwent between the surface of the ice and the collecting-pots. The eggs are very small and numerous.

I understand that Mr. W. S. Bruce, of the Scottish Antarctic Expedition, has taken several specimens of a ten-legged Pycnogonid from the Weddell Sea, which may prove to be identical with this species.

I am indebted to the Council of the Marine Biological Association for accommodation at their Plymouth Laboratory, and to my friend Mrs. L. E. Sexton for the drawings.

EXPLANATION OF PLATE XIV.

Pentanymphon antarcticum, female, enlarged six times.