NOTICE SUR UN NOUVEAU GENRE DE SIPHONOSTOME (genre CONGERICOLA) HABITANT LES BRANCHIES DU CONGRE.

par

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A new Genus of Siphonostoma, Congericola,

The large number of new Lernaeans which have been found the past few years on salt and fresh water fish give evidence of the number yet to be discovered. It pays to examine the gills of these animals with care, even those offered in our markets, in order to make new discoveries. Moreover most naturalists of the present day understand that it is less the voyages around the world than the studies followed with perseverance on the same shores and the same animals in the different phases of their evolution, that really mark the progress of science.

The conger or salt-water eel is a fish very common in the English Channel, but in the North Sea our fishermen capture it only occasionally. Having had occasion during the present summer to study some of the fish taken on our coasts, I have examined carefully their gills and have found there 15 Siphonostoma whose structure differs notably from all the forms which science has registered up till now.

After a comparative study we have given this parasite the name Congericola, and will describe it as follows.

CONGERICOLA PALLIDA Van Beneden.

The female has, like the male, a head and 3 distinct thorax segments. She has one pair (p.584) of antennae slender and short, which scarcely extend beyond the cephalic region; these antennae are much longer and stouter in the male; there are three pairs of biramose legs bearing setae in both sexes; a fourth pair much larger and not bearing setae in the female.

The abdomen is well developed in the female, very small in the male; the terminal appendages in the caudal region are simple and armed with very long setae in the male; the egg tubes are simple and longer than the body. The male is a fourth or a fifth as long as the female; with the egg tubes she measures 8 mm. This parasite lives on the gills of the conger; we found 15 specimens, 14 females and 1 male.

Female. Although her body is so different from that of the male this is not because it is better developed as can be clearly seen by a comparison of the various organs. We might find the motive for which she continues her evolution beyond that of the male in the number and volume of the eggs which she is obliged to produce in order to maintain the species in perfect equilibrium.

The body is divided into two unequal parts; the anterior smaller one is formed of the head and thorax segments, the posterior larger one comprises the abdomen. It is only the last or fourth thorax segment that is as wide as the abdomen, (p.585) the others are much narrower.

The head and the first three thorax segments are not separated from one another, while the last scarcely shows its division from the following region. All the upper part of the body is smooth and fused and lightly arched; there are no dorsal plates; the ventral surface carries the appendages on the different segments. The head has the form of a carapace; it shows parts corneous and solid, much thicker in certain regions than in others; it is a little longer than the first thorax segment. Their are four pairs of appendages on the head, if we exclude the mouth-parts, that is the mandibles and maxillae. The antennae are slender, cylindrical, covered with setae, and made up of many joints,

but the tips scarcely reach beyond the head. One can see only the very ends when the animal is placed on its ventral surface.
The antennae are fastened on the vantral surface of the frontal plates and are separated at their bases. Then follow three pairs of maxillipeds,of which one is rudimentary. The first pair (really 2nd.antennae) are the stoutest;each is formed of 3 joints,of which the last is pointed recurved and serves principally as an organ of prehension;these are anchor maxillipeds. The second pair scarcely deserve a name they are so rudimentary;each is formed of a single very short joint with setae at the end. The third pair is very important;it is almost as large as the first pair and formed of joints which are very long and of which the last form pinchers with the preceding just as in the Squillidae. There are no teeth however as in the Stomatopods. (p.586)

Opposite this third pair of appendages we see the mouth in the form of a funnel with the opening directed backward as in all the genera. The 3 thoracic segments each carry a pair of very small biramose legs armed with short setae, The fourth segment on the contrary carries much larger biramose legs,developed in proportion to the segment which bears them. They are hypertrophied and without setae.

The body is terminated posteriorly by a caudal segment,very small and carrying two small appendages resembling buttons. The egg tubes are straight,cylindrical,much longer than the body and carry a single row of eggs.

Male. Differs notably from the female in many external characters. The head is the largest part of the body and is covered with a solid carapace. The three following thorax segments diminish backwards and are completely separated from one another dorsally as well as ventrally.

The following segment represents the abdominal region,and just as this part of the body is developed in the female,so is it reduced in the male. One might say that the abdomen was atrophied in this sex.

The abdomen is terminated by a caudal segment proportionally larger than in the female,and terminates in two setiferous appendages also much larger than in the other sex. (p.587) The appendages of the male are the same as those of the female with slight differences.

The antennae,however,show notable differences; instead of scarcely passing the margin of the head,the antennae of the male are wholly on the outside and surpass all the other appendages in length. They are composed of 6,possibly 7,joints all equally armed with setae. The last are only a trifle more slender than those at the base. The great development of these organs which correspond without doubt to a life less sedentary than that of the female,gives to the sex a peculiar aspect. The maxillipeds show no essential differences,and as for the biramose thoracic legs they are proportionally larger and stouter. They also have stronger setae and are better suited for locomotion.

If we make a comparison of the two sexes we see that the region least developed in the one is most developed in the other,and that the appendages,which are all alike,differ only in their size,compared with the segment which carries them. The difference has for us this signification..the female,destined to produce a large number of eggs, ought to have the sexual organs well developed,and in consequence that part of the body which carries them ought to be enlarged.

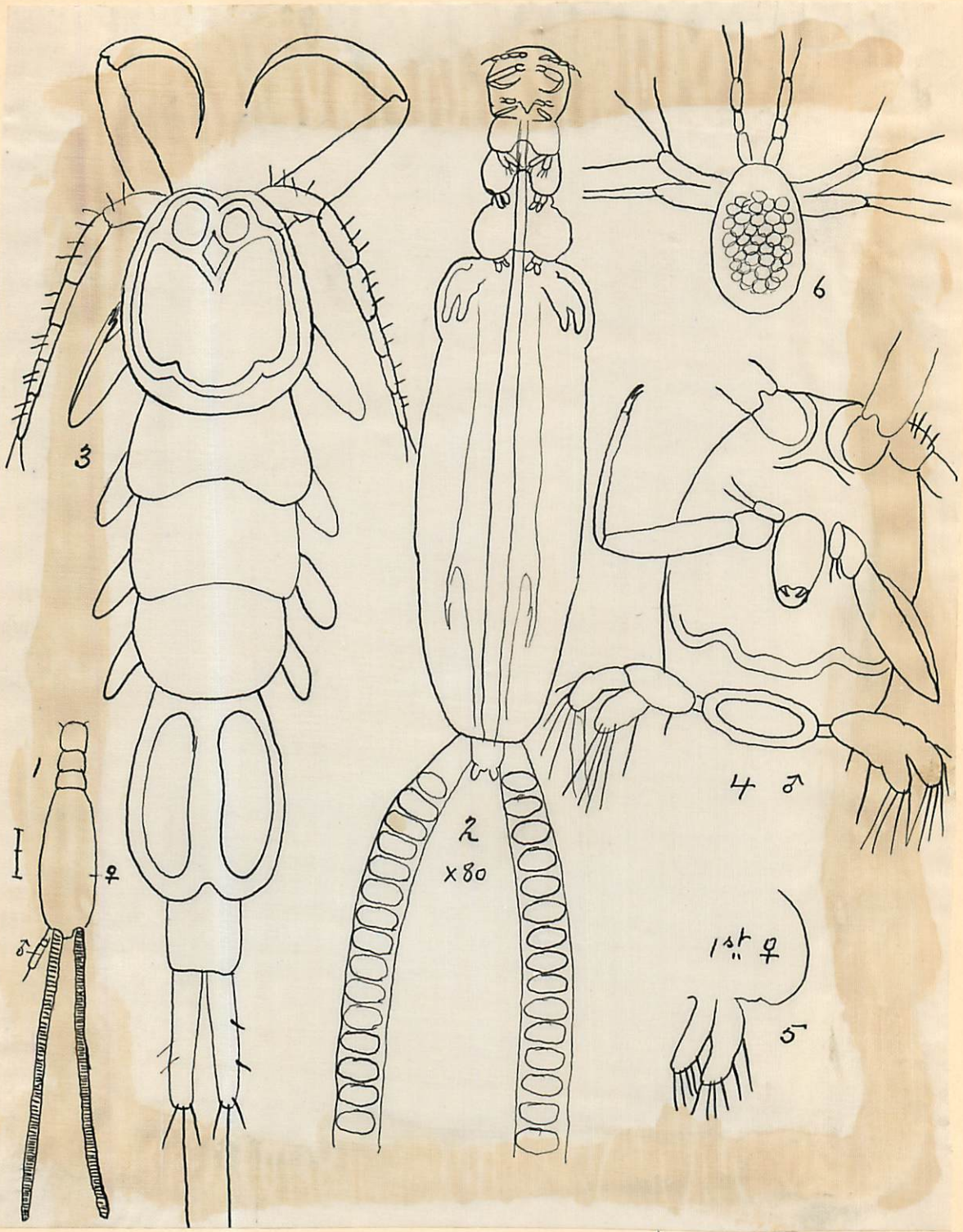
The females once fixed do not change their position; but it seems that the male must seek out the female and hence must move about;since the antennae are much larger a more voluminous cephalic region and

(p.588)
biramose legs are better adapted for locomotion.

The male lives fastened to the female as the latter usually is fastened to the fish which nourishes it,the maxillipeds (2nd.antennae) or organs of attachment being the same with slight differences.

The embryos have,at the moment of emerging,the usual form;an oval body formed of a single segment and 3 pairs of appendages,of which the anterior,which are to become the antennae,are simple while the two others are biramose. The vitelline globules can be seen distinctly thru the skin,especially the granular vesicles.

Affinity. This new parasite belongs to the Caligidae,which have been so much enriched in recent years. Leydig has made known in fact the genus Doridicola,Gerstaecker the genus Elytrophora; we published two years ago the genera Sciaenophilus and Kroyeria,and Congericola,which we here describe,comes to complete the list in constituting a form which seems to establish the connecting link with other families of the Siphonostoma. In fact in the genus Caligus the males live alongside the females under identical conditions,while here the males,having been reduced to a quarter or a fifth the size of the female,live parasitic on the latter at the base of the egg tubes. We believe we can arrange the genera of this family in the following order...Caligus.Doridicola (Leydig);Chalimus (Burmeister); Trebius,Nogagus,Elytrophora (Gerstaecker); Sciaenophilus (Van Beneden);Kroyeria,idem; Congericola,idem.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