

XV. — ON A SPECIES OF *LYCASTIS* AND THREE ABERRANT FORMS OF *NEREIDAE* FROM THE DUTCH EAST INDIES.

BY Dr. R. HORST,

Lycastis meraukensis n. sp.

Dr. J. W. R. Koch, member of the New-Guinea expedition of the Kon. Nederl. Aardrijkskundig Genootschap in 1904, found at Merauke in decayed wood of the Sago-palm 9 specimens of this worm, viz. 2 large ones, one of which is incomplete and 7 smaller ones. Unfortunately it is not mentioned whether the tree was met with in fresh or brackish water of the river or in salt water at the sea-shore. The dorsal side of some of the worms is dark flesh-coloured, whereas a red brown ring occurs around the anal segment. The largest specimen measures about 150 mm. in length and has a breadth of 7 mm. in the median body-region (without the parapodia); the number of its segments amounts to 170. One of the smaller specimens has a length of 60 mm. and consists of about 150 segments. The head is more broad than long, rounded trapezoidal, provided with a longitudinal median groove. The eyes are situated laterally, in front of the posterior margin of the head; the external of each pair is the largest and it is placed somewhat more anteriorly than the internal. The antennae are short, conical; the palps consist of a stout basal part and a small, papilliform, distal joint. The maxillae are short and stout, provided with six teeth. The longitudinal diameter of the buccal segment is as long as that of the succeeding segment or somewhat shorter. The longest tentacular cirrus reaches to the 2nd or 3rd segment.

The Merauke-worm is not slender, rather coarse and it belongs to that group of *Lycastis*-species, which have the dorsal cirrus enlarged and flattened, to form a leaf-like structure; as the cirri of the succeeding segments are overlaying each other, the worm somewhat resembles a Phyllodocid. In the small specimens the dorsal cirrus is slender and pointed, extending in the median and posterior segments a good deal beyond the neuropodial bristle-fascicle; they lack the notopodial bristles, the acicula only being present. In the larger specimens however the dorsal cirrus is broad, triangular, extending nearly to the distal extremity of the neuropodial bristle-fascicle; though their notopodium is coalesced with the neuropodium it contains besides a stout, black acicula a fascicle of eight to ten slender, faintly heterogomph setose bristles. The parapodia of the posterior body-region lack these last-named bristles. The neuropodium is cylindrical with a notch in the middle of its edge, from which

the apex of the acicula emerges; its bristle-fascicle consists dorsally of faintly heterogomph setose bristles, stouter than the notopodial ones and of some heterogomph falcate ones. The ventral part of this fascicle contains chiefly heterogomph falcate bristles, the terminal piece of which is only denticulated in its basal part; moreover there occur some heterogomph setose bristles, with a terminal piece, ciliated along the total edge. Several species of *Lycastis* already have been described from distant parts of the world (Brasil, Sénégal, Honolulu etc.), but they are not all distinguished from each other by well defined characters. *Lycastis*-specimens, found by Mr. Ouwens some years ago in a fresh water pond of the Botanical garden of Buitenzorg, were identified by myself with *L. hawaiiensis* Johns.; they are much more slender than the Merauke-worms and they lack entirely the notopodial bristles, the acicula only being present. ¹⁾

Gymnorhynchus nov. gen.

Prostomium bearing tentacles, palps and two pairs of eyes, as in *Nereis*. Proboscis without horny paragnaths, only armed with soft papillae and with a pair of jaws of typical nereid form. Parapodia conspicuously biramous, with a high, conical, dorsal ligule, bearing the dorsal cirrus upon its tip or somewhat beneath it. No true falcigerous setae. In the epitocous form no special lamellae developed, but the original lobes provided with cultrate setae of a special shape.

Gymnorhynchus sibogae n. sp.

Siboga-expedition, Stat. 75, off spermonde bank, Strait of Makassar. Among the worms of the above-named station I met with two *Nereis*-specimens, characterized by the elongated appearance of the parapodial lobes. In the anterior body-region the parapodium is provided with a slender, conical, dorsal ligule, that reaches nearly to half the length of the elongated, median ligule and bears beneath its tip the dorsal cirrus, far extending beyond its extremity. The ventral ligule is short, conical, hardly extending beyond the extremity of the ventral lobe, that is provided with an obtusely conical anterior lip and a rounded, circular posterior one. The aciculae are black, the bristles pale yellowish coloured. The neuropodial fascicle does not contain true setae falcigerae, but instead of these some faintly heterogomph setigerous bristles, with a short, lanceolate terminal piece. In the 16th parapodium and the succeeding

1) Bulletin du Département de l'Agriculture aux Indes Néerlandaises, n°. XXV, where a review of the literature is mentioned.

ones the dorsal ligule is enlarged to a conical lobe, with a transversely folded epidermis, bearing the dorsal cirrus upon its tip; the setae have acquired the character of vitreous swimming bristles, the terminal piece of which however is narrower and more acute than that of the ordinary cultrate setae. The ventral lobe is provided with a conical anterior lip, that is somewhat longer than the ventral ligule, whereas its posterior lip is rounded triangular. In the posterior body-region the dorsal cirrus is long and slender, born upon the tip of a conical ligule; the ventral cirrus extends only to half the length of the neuropodium. Both foot-lobes are conical, the dorsal one somewhat more slender and longer than the ventral one; the ventral ligule has nearly totally disappeared and is represented by a conical tubercle.

The head is almost twice as broad as long, with two pairs of coalescent eyes, which are of unequal size, the anterior of them being smaller than the posterior ones. The palps, that are provided with a slender, cirrus-like distal joint, are about as long as the antennae. The tentacular cirri are short, the longest of them reaching only to the 4th segment. In none of both specimens the proboscis being protruded, this organ had to be dissected out; no horny paragnaths were visible, only two soft papillae could be recognized on the oral region and two maxillae of the ordinary type. The maxillae are without denticulations, only its internal edge is indistinctly crenulated.

One specimen, with an incomplete anal end, measured about 16 mm. in length; the other one was broken in two pieces.

Nereis onychophora n. sp.

Siboga-expedition, Stat. 172, off Gisser, Ceram Laut isles.

Among the plankton-worms, collected at the above-named station, I met with a male *Heteronereis*, that is characterized by having in the anterior (agamous) body-region, the notopodial fascicle represented by a single, stout, yellow bristle, with a dark brown, hook-shaped apex; the neuropodial fascicle has its usual appearance and contains in its dorsal part some homogomph setigerous bristles and some heterogomph falcigerous ones, whereas ventrally there occur only falcigerous setae, with a terminal piece, that is ciliated along its whole border. The aciculae are blackish. The dorsal ligule is very small, papilliform and bears a cirrus, which is much longer, extending somewhat beyond the extremity of the notopodial lobe, that is large, obtusely conical. The neuropodial lobe has a conical anterior lip and reaches beyond the extremity of the ventral ligule, that is club-shaped. The ventral cirrus is as long as the inferior ligule. In the anterior 5

parapodia the ventral cirrus is gibbous, whereas in the anterior 7 parapodia the dorsal cirrus is swollen in front of the short filiform tip. The parapodia of the epigamous region show the usual lamellae at the ventral lobe and at the base of the dorsal and ventral cirrus; moreover the ventral ligule has its distal extremity dilated into a lamella. The dorsal cirrus is provided along its ventral border with a dozen of rather large papillae. The terminal pieces of the swimming bristles have their broad distal part terminated by an apex. The epigamous change of the parapodia commences with the 16th segment; in the posterior half of this body-region the segments are provided with a conical papilla in the median, dorsal line.

The head is provided with two pairs of large eyes, that are coalesced on each side. The antennae are shorter than the longitudinal diameter of the head and are as long as the palpi. The longest tentacular cirri reach only to the 3rd segment.

The armature of the proboscis consists of:

I = a single hook-like bent paragnathe.

II = a crescent, indistinctly distichous group of about 20 paragnaths.

IV = a triangular group of about 25 paragnaths, the anterior ones inconspicuous.

III = a transverse, crescent group of 3 rows of paragnaths (9 + 8 + 7), the anterior ones very tiny.

V = 0.

VI = a small group, consisting of a large paragnath and some smaller ones.

VII—VIII = an indistinctly distichous belt of about 18 paragnaths.

The specimen has a length of about 15 mm.

With regard to the uniformity of structure of the parapodium, presented by nearly all the Nereidae, this species shows a remarkable exception.

Ceratonereis tripartita n. sp.

Siboga-expedition, Stat. 40, anchorage off Poeloe Kawassang, Paternoster islands.

Among the Nereids, captured with the townet at the above-named station, there are several *Heteronereis*-specimens, as shown by the armature of the dissected proboscis, belonging to the subgenus *Ceratonereis*. They measure about 13 mm. in length and have a peculiar appearance, because the body consists of three regions clearly distinguished from each other, viz.: 1^o an anterior region, about 3 mm. long, consisting of the head and 25 segments, in which the parapodia are not modified;

2° a median region, measuring about 8 mm. in length and containing 40 segments, which show the usual epigamous change; 3° a posterior or anal region, about 2 mm. long, that has an oval shape and consists of nearly 36 segments, in which the parapodia are represented by rudimentary, small, papilliform appendages, without bristles. The head is provided with two pairs of large eyes, that are nearly coalesced on each side; the antennae and palpi are rather long, about of the same length as the head. In none of the specimens the proboscis was protruded; though the exact distribution of the paragnaths not could be recognized, it could be stated, that they are absent on the adoral division of the proboscis. The maxillae have a blunt distal extremity and are provided with five denticulations. The parapodia of the anterior body-region are characterised by their ligulae, having an elongate, cirrus-like appearance; the dorsal and the median ligule are of the same length. The dorsal cirrus however is a good deal longer and is not clavated as usually in the *Heteronereis*-forms. In segment 4 and some of the succeeding ones an oval brown, glandular spot is visible on the dorsal ligule, near the base of the dorsal cirrus. The posterior lip of the neuropodial lobe is also elongated and extends a little beyond the extremity of the ventral ligule; its anterior lip however only reaches to half the length of the posterior one and is rounded, fan-shaped. The ventral cirrus does not extend to the end of the ventral ligule. The aciculae are yellowish brown. The notopodial fascicle consists of homogomph setigerous bristles; the neuropodial one contains in its dorsal part heterogomph falcigerous and some homogomph setigerous setae, whereas its ventral part consists of heterogomph setigerous and falcigerous bristles. The parapodia of the median body-region have the swimming bristles provided with a rather short terminal piece and a shaft with a heterogomph distal extremity. Their dorsal cirrus bears a lamella at its inferior and superior side, the latter being provided with a tongue-shaped appendage. The large lamella of the ventral lobe is heart-shaped.
