STUDIES ON THE FAUNA OF CURAÇAO AND OTHER CARIBBEAN ISLANDS: No. 46.

NOTES ON THE FRESH-WATER POLYCHAETE LYCASTOPSIS FROM CURAÇAO

by

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Together with other invertebrates which he had collected, Dr. P. WAGENAAR HUMMELINCK sent to me — unwittingly — some polychaetes material preserved in alcohol and formalin which was not included in the material studied by ELISE WESENBERG-LUND (1958) in the eighth volume of these 'Studies'.

The five samples contain 6 complete worms and about 30 fragments, some with heads or tails. The material is taxonomically uniform and belongs to

Lycastopsis hummelincki Augener Figs. 29–32

The original description (AUGENER 1933, p. 352, figs. 1a–d) refers to one complete worm, and a fragment without head and pygidium, collected at the spring of Fontein, Bonaire, 1930, in oligohaline brackish water. The present material originates from two other springs, Bron Cajoeda (26.IX.1948) and Bron San Pedro (13.II. and 11.III.1949), CURAÇAO, also from oligohaline brackish water.

Material has been given to the Rijksmuseum van Natuurlijke Historie, Leiden, and the Zoölogisch Museum, Amsterdam.

The maximum length is 25 mm, the breadth up to 1 mm. The longest worm has 96 parapodial segments; the smallest (2 mm long) 16 segments.

The colour differs widely in the various samples. The worms in alcohol are yellowish white or brownish; those in formalin are yellow or dark grey, nearly black. The peristomium of the biggest animal is 0.6 mm. broad; its longest cirri, the upper anterior ones,

are 0.5 mm. long. Eyes are not recognizable. The same applies to the original material. The jaws are shorter than AUGENER found them; they extend over maximally 2½ segments. Behind the tip of the jaws (Figs. 31, 32) comes one distinct tooth, behind which the cutting edge is irregular, as if worn, though of uniform aspect in 7 heads examined. The anal cirri are approximately as long as the pygidium is broad.

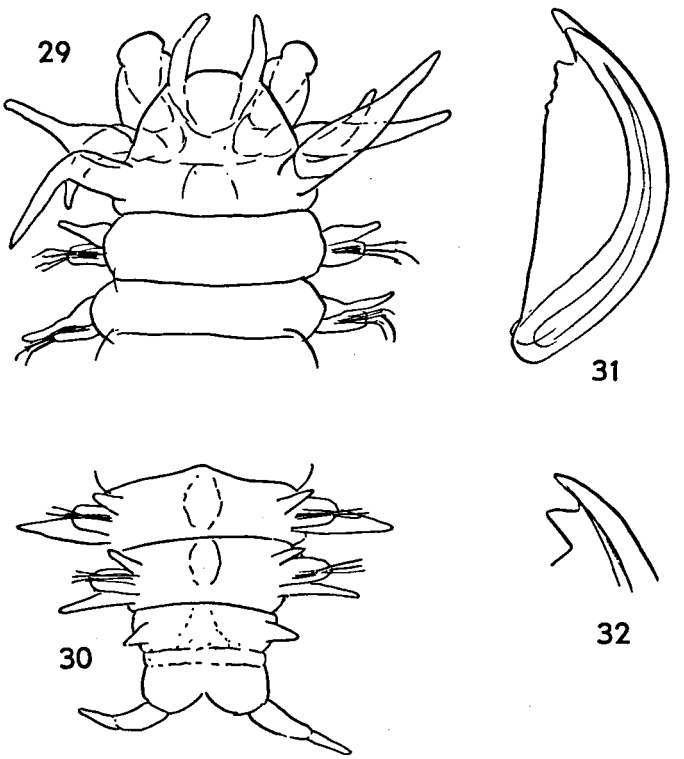

Fig. 29–32. *Lycastopsis hummelincki* Augener from Curaçao. — 29. Dorsal view of anterior end. – 30. Ventral view of posterior end. – 31. Jaw. – 32. Tip of jaw.

The dorsal or notopodial cirrus extends a little beyond the tip of the parapodium and contains a simple loop of the segmental vessel. The notopodial aciculum does not project over the parapodial contour. The neuropodial aciculum extends into the retractile tip of the neuropodium. Both acicula are of equal length and thickness,

contrary to AUGENER's statement that the ventral aciculum is longer and thicker. In his drawing (fig. 1 d) the ventral aciculum is indeed longer, but the dorsal is thicker. The setae correspond to the first description. Supra-acicular are 1–2 aristate setae (spinigers) and 1–2 falcate setae (falcigers); sub-acicular are 1 pseudo-aristate and 2–3 falcate setae. The appendages of the falcigers have about 25 denticles. These occupy 31 micra of the 45-micra long appendage. The breadth of the shaft, measured at the base of the appendage, is one fifth to one fourth of the length of the appendage.

A great number of the present worms and fragments contained rather big eggs, while a smaller part of the stained and clarified material did not show any. The two series of sections of egg-bearing worms were devoid of sperms or evidence of spermatogenesis, while the two others, without eggs, contained testes. The eggs measure about 0.25 × 0.115 mm. as against 0.34 × 0.25 mm. in *Lycastopsis catarractarum* FEUERBORN (1931, p. 654); hence their volume is about one sixth that of the Malayan species. The segments with eggs included 4–5 or more grown ovocytes as against 2 in *catarractarum*. Unlike the latter the present species appears to be unisexual, as is *L. amboinensis* PFLUGFELDER (1933, p. 69).

SYSTEMATIC NOTES

A synopsis of the genera of the Nereidae with uniramous parapodia on all parapodial segments has been published by CORRÊA (1948, p. 247). As HARTMAN indicated (1954, p. 3, note), the name *Lycastella* FEUERBORN (1931, p. 638) must be replaced by *Namanereis* CHAMBERLIN (1919, p. 194).

The present state of the genus *Lycastopsis* AUGENER (1922, p. 42) is as follows:

1) *L. pontica* (BOBRETZKY 1872, p. 1–3, pl. 14). The species was described as *Lycastis*. JAKUBOWA (1930, p. 869) made it the type of a new genus *Lycastoides*, which is not identical with the doubtful *Lycastoides* JOHNSON (1903, p. 212). CORRÊA's supposition (l.c.) that *pontica* belongs to *Lycastopsis* is confirmed by LA GRECA's illustrated description (1949, p. 164–165, fig. 13–18), copied by WESENBERG-LUND (1958, p. 16–17). The last author considers *pontica* as identical

with *beumeri*, whose name she uses (p. 14, 17). I think that the two can be separated (see the following key). Moreover the dorsal parapodial cirrus seems shorter in *pontica*. Black Sea, Bay of Sevastopol; Bosporus.

2) *L. beumeri* AUGENER (1922, p. 42). The type of the genus. Further descriptions: FEUERBORN (1931, p. 653, fig. 12b); AUGENER (1936, p. 346); WESENBERG-LUND (1958, p. 14). Cuba, near Havana; St. Martin, St. Barts; Bonaire, Aruba.

3) *L. catarractarum* FEUERBORN (1931, p. 638, 651). Sumatra; Java. The record from Amboina (AUGENER 1933, p. 352; WESENBERG-LUND 1958, p. 17) refers to *L. amboinensis* (see PFLUGFELDER 1933, p. 69). I could not find any justification for RIOJA's indication of "Borneo" (1946, p. 211).

4) *L. hummelincki* AUGENER (1933, p. 352). Further description: WESENBERG-LUND (1958, p. 12). Bonaire, Curaçao.

5) *L. amboinensis* PFLUGFELDER (1933, p. 69). Amboina.

6) *L. augeneri* OKUDA (1937, p. 307). Hokkaido.

7) *L. tecolutlensis* RIOJA (1946, p. 211). Mexico.

Lycastis littoralis GRUBE (1872, p. 47) belongs to *Lycastopsis* (FEUERBORN 1931, p. 638) and is perhaps identical with *L. beumeri* (ibid., p. 651). GRUBE's species was collected by FRITZ MÜLLER on the south Brazilian coast at Desterro, now Florianopolis, in Sta. Catharina.

The worms of the species of *Lycastopsis* live in brackish and fresh water as well as in water of highly variable salinity, e.g. near high-water mark. They are hermaphrodite or unisexual.

PROVISIONAL KEY OF THE SUFFICIENTLY DESCRIBED SPECIES OF *Lycastopsis*

1. Setae aristate and falcate 2
– Besides aristate and falcate setae one pseudo-aciculate, i.e. shorter and broader aristate seta . . . . . *hummelincki*

2. Body dorso-ventrally compressed; the 3 first parapodial segments much narrower than the following ones . *amboinensis*

– Body cylindrical or with slightly flattened ventral side; breadth of first parapodial segments gradually increasing backwards . 3

3. Appendage of falciger with smooth distal third, denticles beginning farther below; jaw with 1–2 or with indistinct teeth 4
– Denticles of appendage of falciger present though small in distal third; jaw with at least 5 distinct teeth below apex 5

4. Breadth of shaft of falciger, measured at base of appendage, $\frac{1}{3}$ the length of appendage; jaw with 1–2 teeth below apex . *beumeri*
– Breadth of shaft of falciger $\frac{1}{4}$ the length of appendage; teeth of jaw indistinct . . . . . *tecolutlensis*

5. Appendage of falciger with 7–8 denticles; dorsal parapodial cirrus shorter than parapodium. . . . . *pontica*
– Appendage of falciger with 12–20 or more denticles; dorsal parapodial cirrus longer than parapodium 6

6. Jaw with 9–11 teeth; length of anal cirri half the breadth of pygidium; 4, rarely 5, falcigers with 20 or more denticles . . . . . *catarractarum*

– Jaw with 7–8 teeth; length of anal cirri $\frac{1}{3}$ the breadth of pygidium; 7–8 falcigers with 12–15 denticles . . . . . *augeneri*

ADDENDUM

After this paper had gone to the press HARTMAN (1959) published a review of freshwater Nereidae in which the present species is called *Namanereis hummelinckí* (p. 163).

REFERENCES

AUGENER, H., 1922. Über litorale Polychaeten von Westindien. *Sitz. Ber. Ges. naturf. Freunde Berlin 1922*, p. 38–53.

AUGENER, H., 1933. Süsswasser-Polychaeten von Bonaire. *Zool. Jahrb. Syst. 64*, fasc. 3–5, p. 351–356.

AUGENER, H., 1936. Polychaeten aus den marinen Salinen von Bonaire und Curaçao. *Zool. Jahrb. Syst. 67* (1935–36), fasc. 5–6 (1936), p. 337–352.

BOBRETZKY, N. V., 1872. Matériaux pour la faune de la Mer Noire. *Trans. Nat. Soc. Kiev 2*, no 3, p. 1–3, pl. 14 (not seen).

CHAMBERLIN, R. V., 1919. The Annelida Polychaeta (Reps. Sci. Expeds. U.S. Fish. steamer "Albatros", 1891, 1899–1900 and 1904–1905). *Mem. Mus. Comp. Zool. Harvard 48*, 514 pp., 80 pls.

CORRÊA, D. D., 1948. A Polychaete from the Amazon-Region. *Bol. Fac. Fil. Ciên. Letr. S. Paulo, Zoologia 13*, p. 245–257, pl. 1–2.

FEUERBORN, H. J., 1931. Ein Rhizocephale und zwei Polychaeten aus dem Süsswasser von Java und Sumatra. *Verh. intern. Ver. Limnologie 5*, p. 618–660. (Here the name *Lycastella*, not in *Forsch. Fortschr. 17*).

GRUBE, E., 1872. Über die Gattung Lycastis und ein Paar neue Arten derselben. *Jahresber. Schles. Ges. vaterländ. Cultur 49* (1871), p. 47–48.

HARTMAN, O., 1954. Australian Nereidae, etc. *Trans. R. Soc. S. Austral. 77*, p. 1–41.

HARTMAN, O., 1959. Capitellidae and Nereidae (marine annelids) from the Gulf side of Florida, with a review of freshwater Nereidae. *Bull. Marine Sci. Gulf Caribb. 9*, no. 2, p. 153–168.

JAKUBOWA, L. I., 1930. Liste des Archiannelida et des Polychaeta de la Baie de Sébastopol dans la Mer Noire. *Bull. Acad. Leningrad 1930*, p. 863–881.

JOHNSON, H. P., 1903. Fresh-Water Nereids from the Pacific Coast and Hawaii, etc. *Mark Anniversary Volume* (New York), no 10, p. 205–223, pl. 16–17.

LA GRECA, M., 1949. Note sur les Polychètes du Bosphore. *Rev. Fac. Sci. Univ. Istanbul 14 B*, no 3, p. 153–169.

OKUDA, S., 1937. Occurrence in North Japan of a species of an aberrant Polychaete genus Lycastopsis. *Annot. Zool. Japon. 16*, no 4, p. 306–309.

PFLUGFELDER, O., 1933. Landpolychaeten aus Niederländisch-Indien. *Zool. Anz. 105* (1934), fasc. 3–4 (1933), p. 65–76.

RIOJA, E., 1946. Estudios Anelidológicos XV. Nereidos de agua salobre de los esteros del litoral del Golfo de Mexico. *An. Inst. Biol. Mexico 17*, no 1–2, p. 205–214, pl. 1–2.

WESENBERG-LUND, E., 1958. Lesser Antillean Polychaetes, chiefly from brackish waters, with a survey and a bibliography of fresh and brackish-water Polychaetes. *Studies on the Fauna of Curaçao and other Caribbean Islands 8*, p. 1–41.