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## ON SOME TELESTACEA AND ALCYONACEA (COELENTERATA: OCTOCORALLIA) FROM THE WEST INDIAN REGION

by

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With three text-figures and one plate

### INTRODUCTION

During several cruises of H.N.I.M.S. Snellius and H.N.I.M.S. Luymes in the Guyana shelf region and the Caribbean in the period of 1966 to 1972 a number of Telestacea and Alcyonacea were collected, which have been entrusted to me by Prof. Dr. W. Vervoort, director of the Rijksmuseum van Natuurlijke Historie, Leiden, and participant of most of the expeditions. I thank him for placing the material at my disposal.

List of the cruises: "Snellius" zoological exploration of the continental shelf of Surinam (OCPS-I), western part of the Surinam shelf, March to May 1966. "Luymes" zoological exploration of the continental shelf of Surinam (OCPS-II), eastern part of the Surinam shelf, April 1969. "Luymes" Guyana shelf expedition (CICAR 15), shelf region from French Guiana to Guyana, August and September 1970. "Luymes" CICAR cruise no. 19, around Aruba and Curaçao, December 1970. "Luymes" Saba Bank expedition (CICAR 34/35), Saba Bank area, May and June 1972.

Among the specimens I found several remarkable colonies, which seemed to represent a new *Bellonella* species. Fortunately I met Dr. Frederick M. Bayer, from Washington, D.C., who was at the Leiden Museum in October 1976. He is a specialist in the octocorallian fauna of the West Indian region, and I showed him my *Bellonella* specimens. To my surprise he immediately identified them with "*Alcyonium*" *rubistella* Deichmann, 1936. He agreed with me, however, that the species belongs to the genus *Bellonella*. A comparison with Deichmann's description was disappointing, so I decided to give a new description of *B. rubistella*.

All specimens discussed in this paper are kept in the Rijksmuseum van Natuurlijke Historie; the register numbers are preceded by the abbreviation RMNH.

I am grateful to Mr. W. ter Spill and to Mr. G. J. Vrijmoeth, who again have lent me a helping hand.

**Telesto riisei** (Duchassaing & Michelotti, 1860) (fig. 3)

For literature and synonymy see: Tixier-Durivault, 1970: 147.

The species has been found in many localities on the Guyana shelf at depths varying from 23 to 81 m (see fig. 3).

**Bellonella rubistella** (Deichmann, 1936) (figs. 1-3, pl. 1)

*Alcyonium rubistella* Deichmann, 1936: 49-50, pl. 1 fig. 2, pl. 3 figs. 1-7.

Material (localities see fig. 3):

OCPS-I sta. A11: 07° 08.2'N 55° 08.8'W, depth 79 m, 22.iv.1966. Agassiz trawl. RMNH Coel. no. 11867. Two large colonies.

OCPS-II sta. L95: 07° 17.8'N 54° 04.0'W, depth 90-100 m, 15.iv.1969. Agassiz trawl. RMNH Coel. no. 11872. Two colonies.

OCPS-II sta. M98: 07° 10.6'N 53° 50.7'W, depth about 85 m, 16.iv.1969. Heavy rectangular dredge. RMNH Coel. no. 11869. One colony.

OCPS-II sta. K101: 07° 25.4'N 54° 20.5'W, depth about 120 m, 17.iv.1969. Agassiz trawl. RMNH Coel. no. 11868. One colony.

OCPS-II sta. K102: 07° 11.3'N 54° 23.0'W, depth 79.5-80 m, 18.iv.1969. Agassiz trawl. RMNH Coel. no. 11871. Four colonies.

OCPS-II sta. J112: 07° 18.3'N 54° 36.3'W, depth about 80 m, 22.iv.1969. Agassiz trawl. RMNH Coel. no. 11870. Eight small colonies.

Description of one of the specimens from OCPS-I sta. A11 (see the Introduction). — The rather rigid, but flexible, unbranched colony measures 140 mm in total height, of which 65 mm consists of the sterile stalk (pl. 1a). The whole colony is strongly flattened laterally; in the interior there is little coenenchyme. The expanded base of attachment has a maximum diameter of 27 mm. At a height of 20 mm the stalk is 13 mm wide. Upwards it broadens, at a height of 70 mm (thus in the basal part of the stem) the colony is widest, 23 mm; distally it narrows again.

The polyps are placed on irregular longitudinal ridges; in this direction, in the basal part of the polyparium they are separated by intervals of up to 10 mm, distally they are more crowded. When extended, the polyps may reach a length of 5 to 10 mm (fig. 1a), but in many cases they are more or less contracted and retracted; sometimes the anthocodia is entirely retracted within the volcano-shaped calyx.

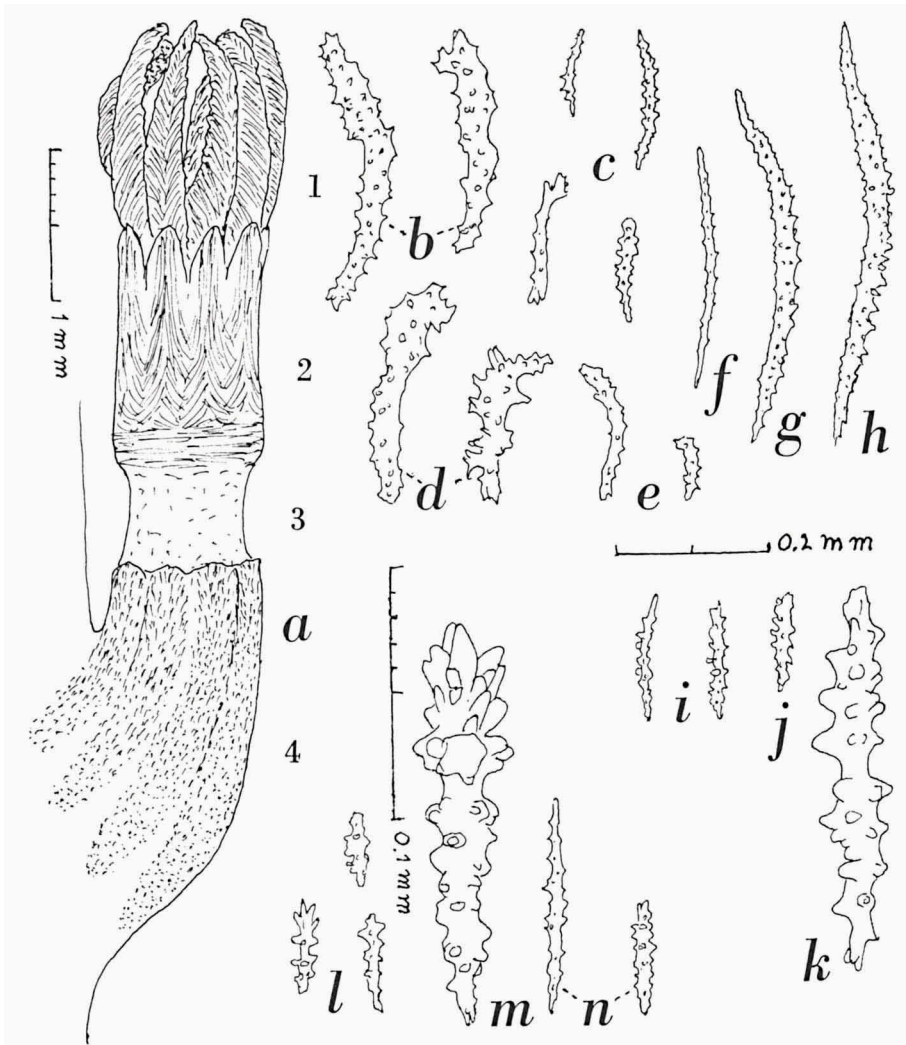


Fig. 1. *Bellonella rubistella* (Deichmann). a, polyp, side-view: 1, tentacles; 2, anthocodia; 3, neck-zone; 4, calyx; b-e, sclerites from tentacles; f-h, sclerites from anthocodial wall; i-k, sclerites from neck-zone of polyp; l-n, sclerites from calyx. (Enlargement of a indicated by 1 mm scale at left of a; that of b-j, l, n by 0.2 mm scale below e; that of k, m by 0.1 mm scale at left of m.)

The red-coloured calyces (anthosteles) are placed obliquely on the stem. The free adcauline side is about 0.50 mm high, the other, abcauline side is 2 to 4 mm high. The diameter reaches 0.85 to 1.20 mm at the top, which is eight-lobed. These lobes are continuations of eight longitudinal ridges, which downwards slightly spread out in a fanlike manner. The ridges are thickly

filled with red spicules, varying in length and shape from tiny, spiny rods 0.05 mm long to spindles 0.22 to 0.27 mm long (fig. 1*l-n*). In the ridges they lie parallel to each other in a longitudinal direction; they slightly diverge distally. Towards the base of the calyx they are smaller and irregularly arranged, and change into the colourless spicules of the stem.

The white neck zone may be fully contracted, or may have a length of up to 3 mm; the width is 0.50 to 0.80 mm. The scarce, colourless spicules 0.08 to 0.20 mm long are irregularly distributed (fig. 1*i-k*).

The cylindrical anthocodiae measure 1.20 to 2.00 mm in length and 0.80 to 1.20 mm in width. The armature consists of eight double rows of steeply converging, numerous spindles up to 0.54 mm long; they are thin, curved, pointed, and spiny (fig. 1*f-h*). Below these the spicules are transversely arranged forming a rather well differentiated collaret, five to twenty rows deep. All anthocodial spicules are red.

The white tentacles are up to 1.60 mm long, but usually they are contracted and twisted. It is impossible to ascertain the number of pinnules. On the back

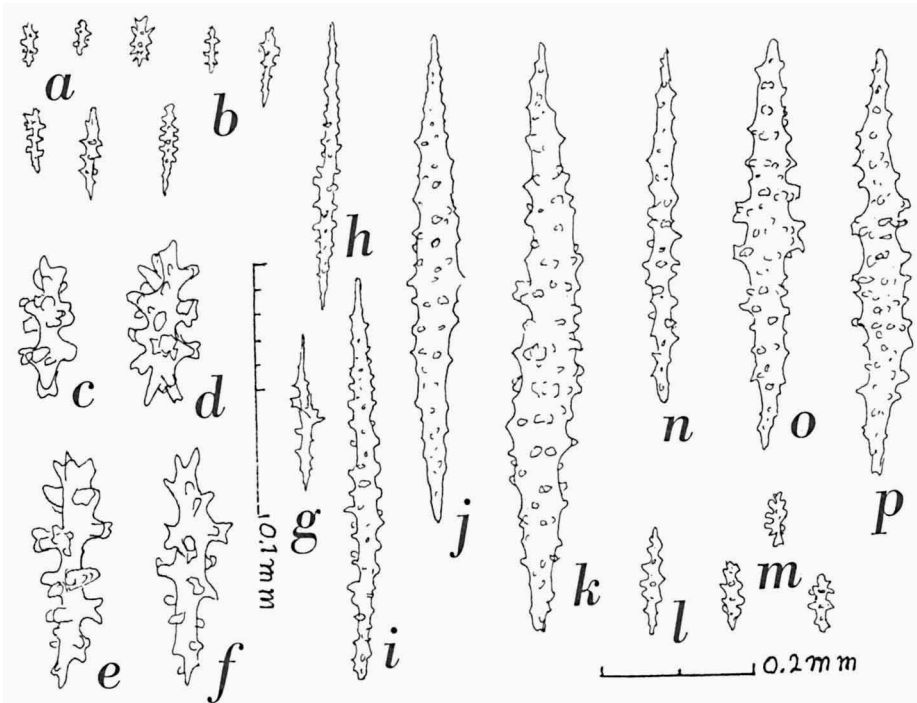


Fig. 2. *Bellonella rubistella* (Deichmann). *a-i*, sclerites from surface layer of the stem; *j-m*, spicules from surface layer of the sterile stalk; *n-p*, spicules from interior of the sterile stalk. (Enlargement of *a, b, g-p* indicated by 0.2 mm scale below *l*; that of *c-f* by 0.1 mm scale at right of *d*.)

the tentacles are armed with a double row of diverging, curved, flattened, colourless sclerites; they have toothed edges, and they broaden distally. At the base of the tentacles they are largest, up to 0.37 mm long (fig. 1*b-e*).

The outermost layer of the stem contains minute rods 0.06 to 0.10 mm long, bearing spines, which are usually split at the tip (fig. 2*a-f*). Just under this layer we find longer, slender, pointed spindles, 0.20 to 0.55 mm long and 0.02 to 0.03 mm wide, and covered with blunt or split processes (fig. 2*g-i*). In the sterile stalk the same tiny rods occur, 0.05 to 0.08 mm long, and spindles up to 0.75 mm long and 0.03 to 0.07 mm wide; they have blunt, conical processes (fig. 2*j-m*).

In the strongly reduced coenenchyme lie the same spindles, up to 0.60 mm long (fig. 2*n-p*).

Colour. — Sterile stalk and stem are white, the calyces and the anthocodiae are red, but the neck zone and the tentacles are white again.

Variability. — The other colony from OCPS-I sta. A111 is the largest colony, 160 mm long (pl. 1*b*). Remarkably enough the polyparium of this specimen bears two side-branches. The other colonies are all unbranched, and smaller; the length varies from 27 to 105 mm. The seven specimens from OCPS-II sta. J112 are only 10 to 18 mm long. Some of the colonies are flattened laterally, others are not flat. All colonies have the same colour as the specimen described above.

Remarks. — The colonies agree well with Utinomi's (1958: 113) revised diagnosis of the genus *Bellonella* Gray (1862). As stated above, the polyparium in one of the colonies has side-branches, a phenomenon, which is, indeed, also mentioned by Utinomi in his diagnosis.

### ***Nidalia occidentalis* Gray, 1835**

*Nidalia occidentalis* Gray, 1835: 60; Deichmann, 1936: 56-57, pl. 1 fig. 5 (on the plate fig. 3), pl. 4 figs. 1-3; Utinomi, 1958: 102-106, figs. 1-3; Bayer, 1961: 53, figs. 9*h*, 10 *a-c*.

Material (localities see fig. 3):

OCPS-II sta. M97: 07° 18.5'N 53° 48.7'W, depth about 130 m, 16.iv.1969. Agassiz trawl. RMNH Coel. no. 11969. One colony and two fragments; colour: stalk white, capitulum light brownish.

CICAR 15 sta. 1: 07° 10'N 53° 35'W, off Surinam, depth 130-140 m, 24.viii.1970. Agassiz trawl, sandy calcarenite. RMNH Coel. no. 11694. One colony.

CICAR 15 sta. 2: 07° 07'N 53° 36'W, off Surinam, depth 93 m, 24.viii.1970. Dredge, sandy calcarenite. RMNH Coel. no. 11693. One colony.

CICAR 15 sta. 50: 07° 43'N 57° 05'W, off Guyana, depth 96 m, 30.viii.1970. Triangular dredge, sandy mud. RMNH Coel. no. 11691. One colony on shell fragment.

CICAR 15 sta. 103: 07° 54'N 57° 31'W, off Guyana, depth 85 m, 4.ix.1970. Triangular dredge, muddy sand. RMNH Coel. no. 11692. Nine colonies.

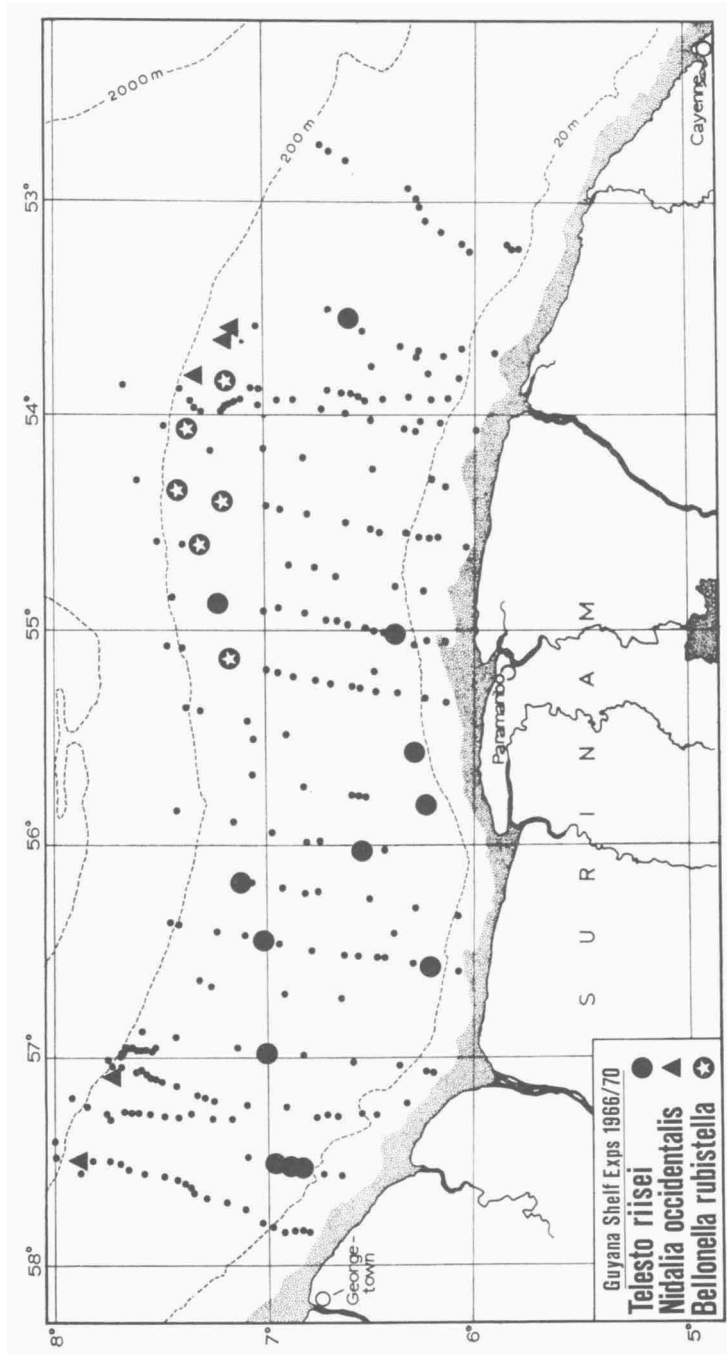


Fig. 3. Localities where *Telesto riisei* (Duchassaing & Michelotti), *Nidalia occidentalis* Gray and *Bellonella rubistella* (Deichmann) were collected during the Leiden Museum expeditions to the Guyana shelf region in 1966, 1969 and 1970.

CICAR 19 sta. 5: 12° 31'N 70° 08'W, S of Aruba, depth 74-71 m, 14/15.xii.1970. RMNH Coel. no. 11888. One specimen without stalk.

CICAR 34/35 sta. 97: 17° 37'N 63° 23'W, depth 74 m, 23.v.1972. Van Veen grab, calcareous gravel. RMNH Coel. no. 11866. One colony, 45 mm long, and two fragments; colour yellowish brown.

CICAR 34/35 sta. 118: 17° 20'N 63° 07'W, depth 440 m, 7.vi.1972. Agassiz trawl, soft bottom. RMNH Coel. no. 11864. Three small, white colonies.

CICAR 34/35 sta. 147: 17° 23'N 63° 09'W, depth 420 m, 15.vi.1972. Agassiz trawl, soft bottom. RMNH Coel. no. 11865. One colony, creamy.

For a description of this well-known species I refer to the literature mentioned above, especially to Utinomi's (1958) paper.

### ***Siphonogorgia agassizii* (Deichmann, 1936)**

*Neospongodes agassizii* Deichmann, 1936: 69-70, pl. 1 figs. 11, 12.

*Siphonogorgia agassizii*, Bayer, 1961: 56.

#### Material:

OCPS-II sta. M98: 07° 10.6'N 53° 50.7'W, depth about 85 m, 16.iv.1969. Heavy rectangular dredge. RMNH Coel. no. 11861. Two colonies, slender, white, 24 and 30 mm high.

CICAR 15 sta. 51: 07° 41'N 57° 02'W, off Guyana, depth 98 m, 30.viii.1970. Triangular dredge, calcareous sand. RMNH Coel. no. 11690. Two fragments of colonies.

According to Bayer (1961: 56) the species belongs to the genus *Siphonogorgia*. An examination of the specimens showed me that Bayer is right.

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*Bellonella rubistella* (Deichmann), RMNH Coel. no. 11867.  $\times 0.8$ .