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OCTOCORALLIA FROM NEW CALEDONIA

by

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With 5 plates and 17 text-figures

INTRODUCTION

During her stay in New Caledonia in 1968 Dr. Maya Wijsman-Best, University of Amsterdam, collected some alcyonaceans, which have been kindly entrusted to me for study.

Two years later two American biologists collected a large number of these corals at the same locality: the neighbourhood of Nouméa, the capital of New Caledonia. These investigators, Dr. Arthur G. Humes, Boston University, Massachusetts, U.S.A., and Mr. Robert C. Halverson, University of California, Santa Barbara, U.S.A., collected the material in order to study the copepods associated with the corals, and I thank them for placing the colonies at my disposal.

In the two collections one or more colonies of the following species are present.

LIST OF SPECIES

Order Alcyonacea Lamouroux, 1816.

Family Alcyoniidae Lamouroux, 1812. — *Alcyonium legitimum* Tixier-Durivault, 1970; *Alcyonium simplex* Thomson & Dean, 1931; *Cladiella humesi* nov. spec.; *Cladiella pachyclados* (Klunzinger, 1877); *Cladiella rotundata* Tixier-Durivault, 1970; *Cladiella similis* (Tixier-Durivault, 1944); *Cladiella sphaerophora* (Ehrenberg, 1834); *Lobophytum caledonense* Tixier-Durivault, 1956; *Lobophytum crassum* Von Marenzeller, 1886; *Lobophytum crebriplicatum* Von Marenzeller, 1886; *Lobophytum depressum* Tixier-Durivault, 1966; *Lobophytum pauciflorum* (Ehrenberg, 1834); *Lobophytum schoedei* Moser, 1919; *Sarcophyton acutangulum* (Von Marenzeller, 1886); *Sarcophyton ehrenbergi* Von Marenzeller, 1886; *Sarcophyton elegans* Moser, 1919; *Sarcophyton glaucum* (Quoy & Gaimard, 1833); *Sarcophyton implanum* nov. spec.; *Sarcophyton manifestum* Tixier-Durivault, 1970; *Sarcophyton trocheliophorum* Von Marenzeller, 1886; *Sinularia dura* (Pratt, 1903); *Sinularia firma* Tixier-Durivault, 1970; *Sinularia flexibilis* (Quoy & Gaimard, 1833); *Sinularia foveolata* nov. spec.; *Sinularia gravis* Tixier-Durivault, 1970;

Sinularia halversoni nov. spec.; *Sinularia leptoclados* (Ehrenberg, 1834); *Sinularia polydactyla* (Ehrenberg, 1834); *Sinularia variabilis* Tixier-Durivault, 1945.

Family Nephtheidae Gray, 1862. — *Dendronephthya (Dendronephthya) gigantea* (Verrill, 1864) (ZMA); *Dendronephthya (Dendronephthya) koellikeri* Kükenthal, 1905 (ZMA); *Dendronephthya (Dendronephthya) noumeensis* nov. spec. (ZMA); *Dendronephthya (Dendronephthya) mucronata* (Pütter, 1900); *Dendronephthya (Dendronephthya) wijsmanae* nov. spec. (ZMA); *Dendronephthya (Morchellana) elegans* Henderson, 1909 (ZMA); *Lemnalia elegans* (May, 1898); *Nephthea albida* (Holm, 1894); *Paralemnalia thyrsoides* (Ehrenberg, 1834); *Stereonephthya inordinata* Tixier-Durivault, 1970.

Family Nidaliidae Gray, 1869 (emend. Utinomi, 1958). — *Siphonogorgia variabilis* (Hickson, 1903).

Family Xeniidae Ehrenberg, 1828. — *Heteroxenia* sp.; *Xenia membranacea* Schenk, 1896; *Xenia novaecaledoniae* nov. spec. (ZMA).

From this list it appears that the following species have not been recorded from New Caledonia before: *Cladiella sphaerophora* (Ehrenberg), *Lobophytum depressum* Tixier-Durivault, *Dendronephthya (Morchellana) elegans* Henderson, *Lemnalia elegans* (May), *Paralemnalia thyrsoides* (Ehrenberg), and *Siphonogorgia variabilis* (Hickson). *Dendronephthya (Dendronephthya) gigantea* (Verrill) has not been recorded by Tixier-Durivault, 1970a, but in 1959 Tixier-Durivault & Prevorsek (1959: 66) did record colonies of this species from New Caledonia.

In the present paper a re-description with a more or less ample discussion is given of the following species: *Alcyonium simplex* Thomson & Dean, *Cladiella rotundata* Tixier-Durivault, *Sinularia dura* (Pratt), *Dendronephthya (Morchellana) elegans* Henderson, and *Stereonephthya inordinata* Tixier-Durivault. Besides these, seven new species are described. They are: *Cladiella humesi* n. sp., *Sarcophyton implanum* n. sp., *Sinularia foveolata* n. sp., *Sinularia halversoni* n. sp., *Dendronephthya (Dendronephthya) noumeensis* n. sp., *Dendronephthya (Dendronephthya) wijsmanae* n. sp., and *Xenia novaecaledoniae* n. sp.

The specimens collected by Dr. Maya Wijsman-Best are preserved in the collections of the Zoölogisch Museum, Amsterdam (ZMA, see the list), the material collected by Dr. A. G. Humes and Mr. R. C. Halverson has been deposited in the Rijksmuseum van Natuurlijke Historie, Leiden (RMNH; this indication has been omitted in the list).

I am indebted to Mr. R. W. M. van Soest, Institute of Taxonomic Zoology (Zoölogisch Museum), Amsterdam, to Mrs. Solene Whybrow, British Museum (Natural History), London (BMNH), and to Mrs. A. Tixier-Durivault, Muséum national d'Histoire naturelle, Paris, for the loan of additional specimens.

Finally I thank Mr. W. ter Spill for reading the English text, and Mr. G. J. Vrijmoeth for making the photographs.

Taxonomic report

Alcyoniidae Lamouroux, 1812

Alcyonium Linné, 1758

Alcyonium simplex Thomson & Dean, 1931 (fig. 1)

Alcyonium simplex Thomson & Dean, 1931: 43-44, pl. 8 fig. 2, pl. 23 fig. 3; Tixier-Durivault, 1966: 32-33, figs. 14, 15.

Material. — Western side of Ile Maître, near Nouméa, 22°20'05"S 166°24'05"E, intertidal, in shallow water, covering large areas of dead reef; 11 June 1971. A. G. Humes & R. C. Halverson no. 1503, RMNH Coel. no. 9102. Three specimens. Field-note: "Colour light brown, polyps white".

West of N'gou, north of Nouméa, depth 2 m; 29 July 1971. A. G. Humes & R. C. Halverson no. 1704, RMNH Coel. no. 10412. Three colonies. Field-note: "Cream stalk, tentacles lavender brown".

Rocher à la Voile, near Nouméa, 22°18'21"S 166°25'50"E, depth 2 m; 2 August 1971. A. G. Humes & R. C. Halverson no. 1721, RMNH Coel. no. 10411. Three colonies. Field-note: "Slightly flesh-coloured with brownish polyps".

Remarks. — For a description I refer to Thomson & Dean (1931).

To be sure that my identification of the New Caledonia specimens is correct I compared them with Thomson & Dean's type specimen. In all respects, also in the colour, there is a full agreement. The colour of the type specimen in Thomson & Dean's pl. 8 fig. 2 is not in conformity with the greyish tint of the preserved colony, which has more the colour of *A. molle*, the same plate, fig. 3.

In the New Caledonia specimens the zooids are not completely retracted: the tentacles project above the surface. They are about 0.65 mm long. On each side they bear seven rounded, finger-like pinnules, the middlemost are longest: 0.17 mm, the width is 0.08 mm. In the distal part of the tentacles and in the pinnules are numerous, finger-biscuit-like spicules, 0.03 to 0.04 mm long and 0.01 mm wide. In the basal part they are longer, up to 0.08 mm, but fewer in number.

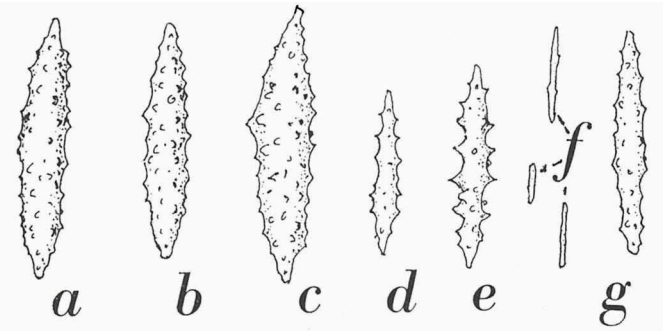

Fig. 1. *Alcyonium simplex* Thomson & Dean. a-g, spicules from coenenchyme of the stem. × 100.

It struck me that the spicules iepresented by Thomson & Dean (pl. 23 fig. 3) are too pointed. In fig. 1 I add drawings of the coenenchymal spicules found in the type specimen. The most common form is represented in fig. 1a, b. The tiny rods fig. 1f, are the "very narrow and short spindles, approaching rodlets", mentioned by Thomson & Dean, In the distal parts of the lobes we only find these rodlets.

Spindles, 0.35 to 0.50 mm long, as mentioned and represented by Tixier-Durivault (1966: 33, fig. 15 K-N) are found neither in the type specimen nor in the New Caledonia specimens. The most common spicules in our colonies are 0.29 to 0.32 mm long, a few are up to 0.36 mm long.

Cladiella Gray, 1869

Cladiella humesi nov. spec. (fig. 2, pl. 1 fig. 2)

Material. — West of Ile Mando, near Nouméa, depth 2 m; 26 June 1971. A. G. Humes & R. C. Halverson no. 1562, RMNH Coel. no. 10413. One colony, holotype. Field-note: "Bluish grey when expanded, white with brown polyps when contracted. Changed colour very quickly when touched".

Description. — The colony has diameters of 70 × 85 mm (pl. 1 fig. 2). The sterile stalk is low. The capitulum bears a number of primary lobes, which measure 25 to 35 mm in length, along the edge of the capitulum they are smaller. They are not densely placed, many of them are turned to one side. The distal parts of the lobes bear secondary lobes, which may have various shapes: some are finger-like, tapering towards the tip, up to about 15 mm long, and 8 mm wide at the base, others are cone-shaped, or they are small knobs with diameters averaging 5 mm.

The medium-sized zooids are densely set on disc and lobes. Their centres are 1.00 to 1.20 mm apart, on the disc and on the basal parts of the lobes they are slightly more distant. Most zooids are expanded; when retracted the openings are 0.40 mm in diameter, and they are surrounded by a ring-shaped thickening. In the tentacles there are numerous finger-biscuit-like spicules, on an average 0.06 mm long, the larger ones with a slightly transparent waist (fig. 2e-h).

In the surface layer of the lobes there are dumb-bells 0.60 tot 1.00 mm long; they have a long waist, 0.016 to 0.028 mm wide; the heads bear knobs or blunt spines (fig. 2a-d). In the interior we find longer and wider dumb-bells, up to 0.13 mm long, with a distinct median waist, 0.035 mm wide (fig. 2i-k).

The outer layer of the sterile stalk has dumb-bells 0.07 to 0.09 mm long, with a variable length of waist (fig. 2l-n). In the coenenchyme of the base of the colony there are large double-spheres, measuring 0.100 to 0.135 mm in total length. The heads are covered with spines, which arise from semi-

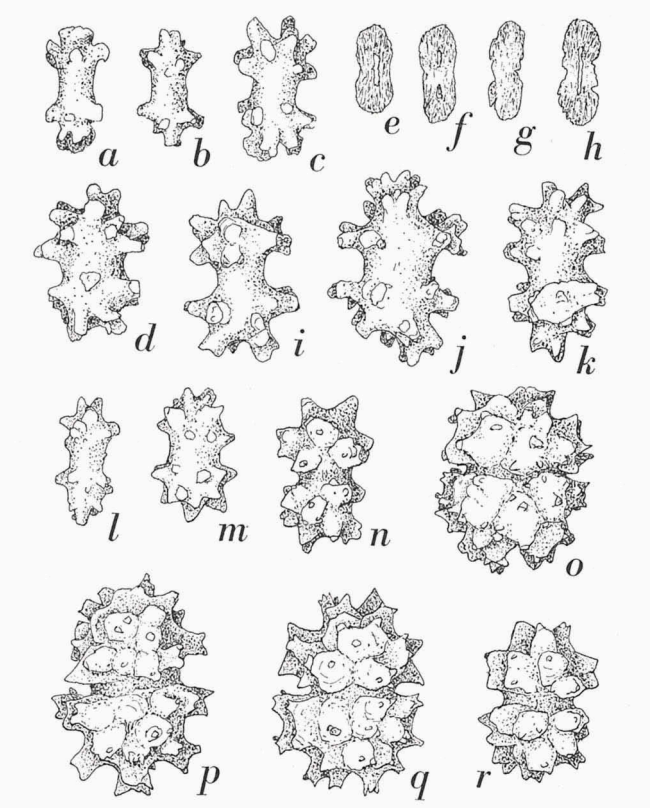

Fig. 2. *Cladiella humesi* nov. spec. a-d, spicules from surface layer of a lobe; e-h, spicules from anthocodiae and tentacles; i-k, spicules from interior of a lobe; l-n, spicules from surface layer of the sterile stalk; o-r, spicules from interior of the sterile stalk. × 330.

spherical prominences; the width of the heads is up to about 0.095 mm. In some cases the waist is reduced to a mere line (fig. 2 o-r).

Colour. — The whole colony is light grey.

Remark. — The species is characterized by the long, ramified lobes, and by the large coenenchymal double-spheres.

Cladiella rotundata Tixier-Durivault, 1970

Cladiella rotundata Tixier-Durivault, 1970a: 203-204, figs. 29-31.

Material. — About 5 km south of Yaté, intertidal, on algae ridge; 23 June 1971. A. G. Humes & R. C. Halverson no. 1551, RMNH Coel. no. 10420. Three colonies. Field-note: "Knobby, whitish grey, polyps small and black".

Remarks. — According to Tixier-Durivault (1970a: 204) the species is characterized by the shape and the dimensions of certain coenenchymal

spicules occurring in the basal part of the colony (her fig. 30A, B). They have no median waist, there is only a slight constriction, while the heads are densely covered with small, round knobs. The length is 0.120 to 0.145 mm (the spicule represented in her fig. 30A is, according to the given enlargement, 0.15 mm long). Other coenenchymal spicules do have a distinct waist.

In the largest colony in my material I found some large spicules closely resembling those described and pictured by Tixier-Durivault (fig. 30A). Their length varies from 0.145 to 0.165 mm. They are, however, in the minority, and I only found them in the outer layer of the sterile stalk; farther inside they are absent.

In another, smaller colony the large spicules mentioned above are still fewer in number, in the third, still smaller specimen I could not find them at all. In all other respects, however, the colonies agree with each other.

Sarcophyton Lesson, 1834

Sarcophyton implanum nov. spec. (fig. 3, pl. 1 fig. 1)

Material. — West of Ile Maître, near Nouméa, depth 1.5 m; 20 June 1971. A. G. Humes & R. C. Halverson no. 1533, RMNH Coel. no. 10436. One colony, the holotype. Field-note: "Colour slate grey".

Description. — The colony (pl. 1 fig. 1) has a total height of 80 mm. The sterile stalk is 40 to 55 mm high, it is flattened laterally, the diameters are 35 and 50 mm. It is wrinkled longitudinally. The capitulum has a maximum diameter of 80 mm, with a breadth of 50 mm. It has thick, closed, peripheral folds, which protrude beyond the stalk for a distance of 10 to 15 mm, hiding the distal part of the sterile stalk from view. The central part of the disc shows an elevation. The colony is stiff, and only slightly flexible.

The autozooids are retracted, the openings are 1.20 to 1.40 mm apart, sometimes the distance is 1.00 or 1.60 mm. The siphonozooids are indistinct, there is usually one of them between two adjacent autozooids, sometimes there are two, more rarely three.

In the surface layer of the disc we find tiny clubs with foliaceous heads and weakly spined handles, they are 0.09 to 0.14 mm long (fig. 3 a-e). But larger clubs occur too, up to 0.30 mm long, the heads have blunt spines (fig. 3 f, g). The interior has smooth, slender rods, up to 0.55 mm long (fig. 3 h-j).

The outer layer of the sterile stalk has the same clubs as those in the surface layer of the disc (fig. 3 k, l). In the interior of the stalk are pointed or blunt-ended spindles, up to 1.30 mm long; they are provided with spines and high, but simple warts, which are relatively few in number (fig. 3 m-p).

Colour. — The colony is brown.

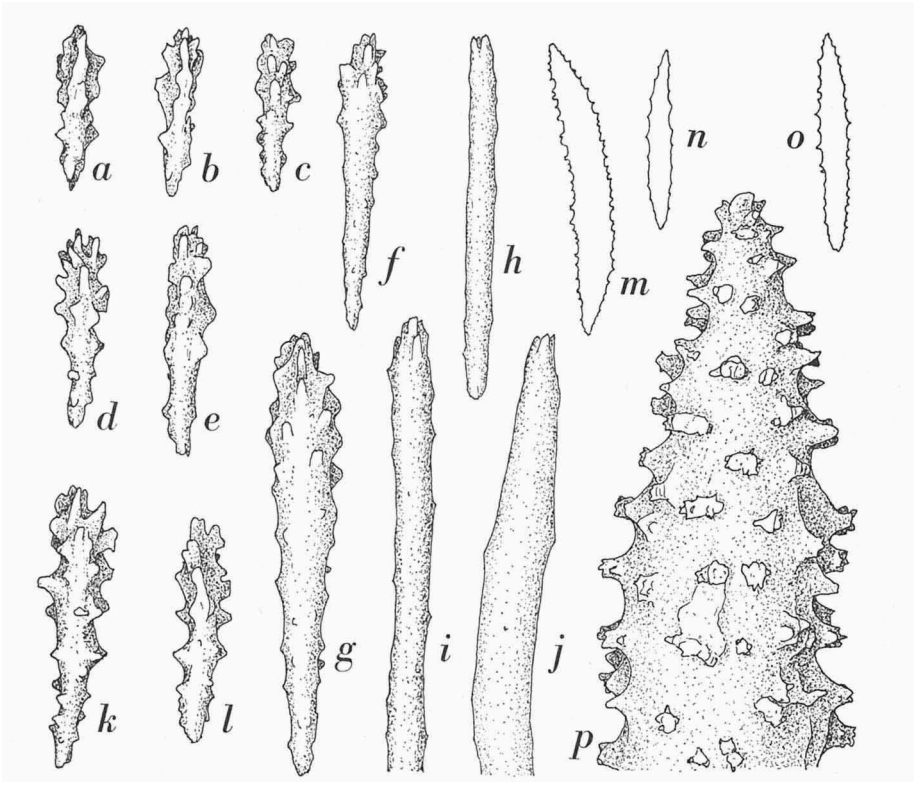

Fig. 3. *Sarcophyton implanum* nov. spec. a-g, spicules from surface layer of the disc; h-j, spicules from interior of the disc; k, l, spicules from surface layer of the sterile stalk; m-p, spicules from interior of the sterile stalk. a-l, p, × 220; m-o, × 40.

Remarks. — The species is characterized by the following:

a. There is usually one siphonozooid between two autozooids.
b. The small clubs have foliaceous heads.
c. The coenenchymal spicules in the disc are smooth, slender rods.
d. The spindles in the coenenchyme of the sterile stalk have relatively few, simple prominences, unlike, e.g., the heavily warted spindles in *S. latum* (Dana) and *S. glaucum* (Quoy & Gaimard).

The specific name *implanum*, from the Latin *planus* = even, flat, alludes to the uneven surface of the disc.

Sinularia May, 1898

Sinularia dura (Pratt, 1903) (figs. 4-6, pl. 2)

Sclerophytum durum Pratt, 1903: 528-530, pl. 31 figs. 29-32; Pratt, 1905: 256-257; Thomson & Mackinnon, 1910: 177.

Non *Sinularia dura*, Lüttschwager, 1915: 9.

Sinularia dura, Kolonko, 1926: 304-305; Thomson & Dean, 1931: 50-51; Macfadyen, 1936: 33-34; Tixier-Durivault, 1945: 149; Tixier-Durivault, 1951: 79-83, figs. 92, 103-106, 113; Verseveldt, 1960: 235-239; Tixier-Durivault, 1966: 198-199, fig. 191; Tixier-Durivault, 1970a: 253; Tixier-Durivault, 1970b: 155-160.

Sinularia triaena, Kolonko, 1926: 304, pl. 1 fig. 4.

Sinularia cervicornis, Tixier-Durivault, 1970a: 288-289, figs. 142-144.

Material. — Addu Atoll, Maldive Islands, in shallow water. BMNH register no. 1962.7.20.100A, syntype, lobate specimen.

Mahlos Atoll, Maldive Islands, in shallow water. BMNH register no. 1962.7.20.100B, syntype, smaller, single cup-shaped specimen.

The same locality, BMNH register no. 1962.7.20.100C, syntype, larger, double cup-shaped specimen.

Lirung, Salibabu Island (Talaud Archipelago, Indonesia), Siboga Expedition, Sta. 133, mud and hard sand, depth 36 m. One cup-shaped specimen with funnel-shaped sterile stalk.

Kur (Kai Archipelago, Indonesia), Siboga Expedition, Sta. 250, reef. One specimen with much lobate capitulum.

Near Roti Island, S.W. of Timor, Indonesia, 10°52'.4S 123°01'.1E, Siboga Expedition, Sta. 299, mud, coral and Lithothamnion, depth 34 m. Three small colonies, two of which are cup-shaped, the third one is strongly flattened laterally.

Western edge of Ile Maître, near Nouméa, 22°20'05"S 166°24'05"E, depth 2 m; 11 June 1971. A. G. Humes & R. C. Halverson no. 1499, RMNH Coel. no. 10442. Eleven colonies. Field-note: "Brown, with fingerlike projections 3-5 cm high".

West of Ile Maître, near Nouméa, depth 2 m; 20 June 1971. A. G. Humes & R. C. Halverson no. 1536, RMNH Coel. no. 10444. Four colonies. Field-note: "Colour rusty brown; flat encrusting mass about 1 m^2, no change in colour when polyps retracted".

North of Point Pontillion, near Nouméa, depth 2 m; 28 June 1971. A. G. Humes & R. C. Halverson no. 1568, RMNH Coel. no. 10441. Eight colonies. Field-note: "Colour golden tan".

West of Ile Ngou, near Nouméa, depth 3 m; 29 July 1971. A. G. Humes & R. C. Halverson no. 1706, RMNH Coel. no. 10445. Nine colonies. Field-note: "Colour brown".

The same locality and depth; 3 August 1971. A. G. Humes & R. C. Halverson no. 1727, RMNH Coel. no. 10443. Four colonies. Field-note: "Brown".

Prefatory notes. — Under the name *Sclerophytum durum* Pratt (1903: 528) described four colonies of octocorals, three of which with a cup-shaped capitulum and one with a lobate capitulum. The question has been asked whether these types do indeed belong to one and the same species. Thomson & Dean (1931: 50-51) recorded two modes of growth. The Barrier Reef specimen recorded by Macfadyen (1936: 33-34) was of the lobate type. Tixier-Durivault (1951: 79-83), however, doubted the correctness of the reference of both types to one species. She was of the opinion that the lobate colony belongs to another species, probably to *S. variabilis* Tixier-Durivault.

In a previous paper (1960: 235-239) the present author amply discussed this matter, after the re-examination of some specimens collected by the Siboga Expedition, and he thought it "the best thing of refer to *S. dura* both cup-shaped and lobate types at Pratt did". I still hold the same view.

In the material from New Caledonia I found a number of colonies, which recalled the lobate form of *S. dura*, and I thought it desirable to make

a renewed investigation of the matter. At my request I received three of Pratt's type specimens from the British Museum (Natural History), London. I also received several Siboga specimens from the Amsterdam Museum.

Description of the syntypes. — The lobate colony no. 100A has been represented by Pratt, 1903, pl. 31 fig. 29. Our photograph of this specimen (pl. 2 fig. 1a) shows that the lobes are less densely placed than is suggested by Pratt's drawing. The diameters of the capitulum are 35 and 45 mm. The lobes measure up to 10 mm in height, at the base the width is 5 to 6 mm; sometimes they are slightly flattened. The pits left by the retracted zooids are averagely 1 mm apart.

In the surface layer of the lobes we find clubs, 0.15 to 0.20 mm long. The handles are weakly spined, the heads consist of a few long, expanded branches giving the spicule a typical shape (fig. 4a-d, especially b). In addition to these there are a few smaller clubs, about 0.10 mm long, and some tiny spindles.

The surface layer of the sterile stalk has the same clubs. The heads may be broader and more strongly branched and tuberculated, the handles are often wider (fig. 4e-g).

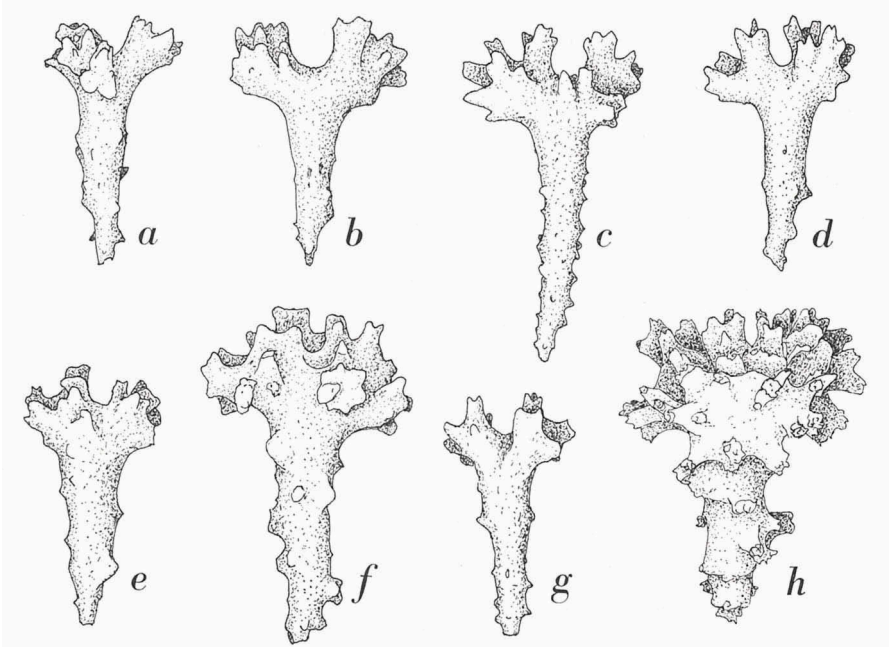

Fig. 4. *Simularia dura* (Pratt). a-g, spicules of syntype BMNH register no. 1962.7.20.100A; a-d, spicules from surface layer of a lobe; e-g, spicules from surface layer of the sterile stalk; h, spicule from surface layer of the sterile stalk of specimen RMNH Coel. no. 10443. × 220.

In the interior of the sterile stalk are stout spindles, up to 7 mm long and 2.20 mm wide. Other dimensions are: 1.50 × 0.80 mm; 2.65 × 1.20 mm; 3.30 × 1.25 mm (fig. 5). They are pointed or blunt-ended, and often big-

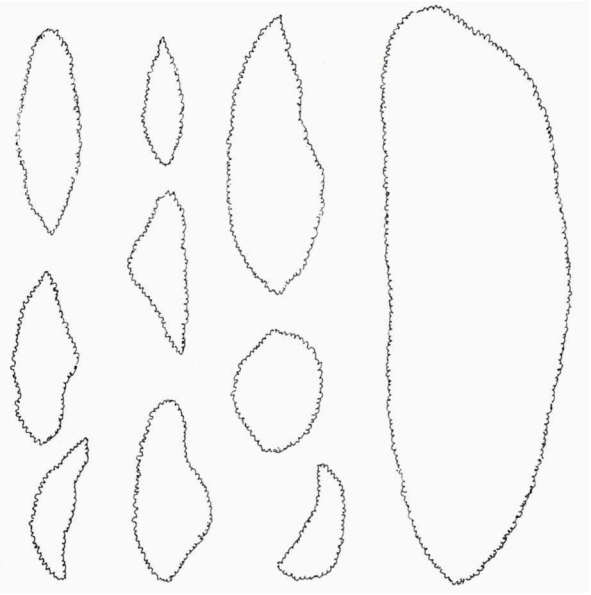

Fig. 5. *Sinularia dura* (Pratt). Spicules from coenenchyme of the sterile stalk of syntype BMNH register no. 1962.7.20.100A. × 11.

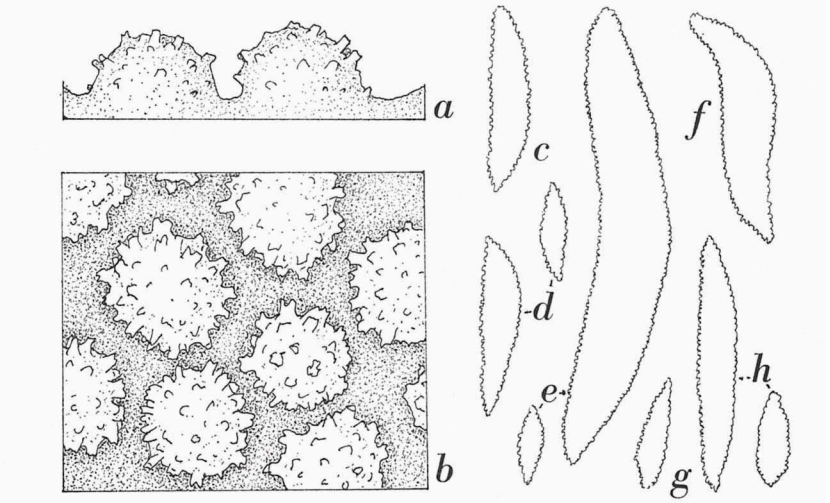

Fig. 6. *Sinularia dura* (Pratt). a, b, warts on coenenchymal spicule of syntype BMNH register no. 1962.7.20.100A; c-h, spicules from coenenchyme of syntype BMNH register no. 1962.7.20.100B. a, b, × 220; c-h, × 11.

bellied. They are densely covered with more or less hemispherical tubercles beset with tiny, often bifurcated spines. The diameter of the tubercle is 0.07 to 0.08 mm, spines included (fig. 6a, b).

The type specimen no. 100B has also been represented by Pratt, 1903, pl. 31 fig. 30. As appears from our photograph (pl. 2 fig. 1b) the funnel-shaped sterile stalk is much thinner than in Pratt's drawing, at the base it is only 5 to 7 mm wide. The total height of the colony is 32 mm, the maximum width of the capitulum is 24 mm. The clubs in the surface layer of the disc and of the sterile stalk are perfectly like those in the lobate specimen. The coenenchymal spicules are narrower and more fusiform (fig. 6 c-h). I noted the following dimensions: 2.30 × 0.55 mm; 2.45 × 0.45 mm; 4.30 × 0.75 mm; 5.60 × 0.90 mm. The tubercles are of the same shape as those in the lobate form.

In the double cup-shaped specimen 100C (pl. 2 fig. 1c) the coenenchymal spicules have intermediate dimensions, e.g., 3.00 × 0.80 mm; 4.20 × 0.75 mm; 4.20 × 1.00 mm; 4.30 × 0.90 mm; 5.40 × 1.20 mm.

In checking the measurements of the spicules represented by Pratt, 1903, pl. 29 fig. 31 a, d it appears that they must belong to the lobate type no. 100A.

The Siboga specimens. — Both in the funnel-shaped and in the lobate colony the spicules in the surface layer of capitulum and sterile stalk and in the interior closely resemble those in the type specimens. The two small, cup-shaped specimens from Sta. 299 very closely resemble Pratt's single cup-shaped specimen (syntype no. 100B, see above).

The New Caledonian specimens. — They all are low, encrusting, lobate colonies. The largest ones measure 195 × 95 mm and 185 × 105 mm, but according to the field-note added to the specimens RMNH Coel. no. 10444 the encrusting mass may cover an area of 1 m^2. The usually branched lobes are 20 to 30 mm high (pl. 2 fig. 2). In the surface layer of the sterile stalk we often find clubs with extremely wide heads (fig. 4 h). In the interior of the basal part of the colony the spicules are up to about 4 mm long; they have the big-bellied form of those represented in fig. 5.

Remarks. — Kolonko (1926: 304, pl. 1 fig. 4) established a new species, *Sinularia triaena*. From his description it appears that in all respects the characters of this species correspond with those of *S. dura*. So the name *S. triaena* must be abandoned. In a previous paper (Verseveldt, 1971: 35-38, figs. 20, 21, pl. 9 fig. 2) I described four colonies from Madagascar as *S. triaena*, but now this identification needs revision.

Tixier-Durivault (1970a: 288-289, figs. 142-144) described a new species, *S. cervicornis*. This lobate species has the same clubs and the same coenen-

chymal spicules as those in the present material. I think *S. cervicornis* is synonymous with *S. dura.*

Lüttschwager (1915: 9) reported on a colony of *S. dura* from the Red Sea. This colony cannot be identified with *S. dura,* for the clubs in the surface layer are too short (0.07 mm), and their heads have only few spines. The shape of the colony also seems to be different. Lüttschwager stated that from the low, encrusting disc a number of pillars arise, which bear many small, closely set lobules. But such pillars with densely placed lobules are not seen in the present specimens.

Geographical distribution. — The species has been recorded from the Maldives, Ceylon, the Seychelles, Palawan, Indonesian waters, Great Barrier Reef, Djibouti, New Caledonia, Nha-Trang.

Sinularia foveolata nov. spec. (fig. 7, pl. 3 fig. 1)

Material. — North of Point Pontillion, near Nouméa, depth 2 m; 28 June 1971. A. G. Humes & R. C. Halverson no. X-14; RMNH Coel. no. 10451, the holotype; RMNH Coel. no. 10461, three paratypes. Field-note: "Colour yellowish tan".

Description. — The holotype is a hard, low, encrusting colony, irregular in outline. It measures 160 mm in maximum diameter. The maximum height is 40 mm, but in many places the colony is much lower. The sterile stalk is up to 30 mm high. The disc is not distinctly set off from the stalk, and does not project beyond it. The lobes are not densely placed. Their height is up to 10 mm, the width is 5 to 8 mm, but a lobe may be flattened, and bifurcated or slightly branched. The surface of the lobes is full of small pits, in their bottom the completely retracted zooids are found. The pits are about 0.40 mm wide and 0.20 mm deep, the centres are 1.00 to 1.20 mm apart. The ridges between the pits are caused by the large coenenchymal spicules, which are only covered by a surface layer of clubs (see below). Owing to these ridges the lobes have a fantastically shaped, pock-pitted appearance.

The anthocodial spicules are clubs, 0.08 to 0.11 mm long, the heads are weakly developed (fig. 7 s). The arrangement of these clubs could not be ascertained. In the tentacles there are rods, 0.05 to 0.08 mm long (fig. 7 r).

The surface layer of the lobes has clubs, 0.07 tot 0.12 mm long (fig. 7a-f). The heads are composed of stout, rough warts, a central wart is absent, though in many cases the presence of such a wart is suggested by the peculiar shape of the other head warts. The spiny handle is usually pointed. In addition to these clubs there are a few warty spindles, 0.10 to 0.20 mm long.

In the interior of the lobes we find densely packed, unbranched, pointed or blunt-ended spindles, strongly varying in length (fig. 7 k-p). They are up to about 6.50 mm long and 1.90 mm wide. The smaller ones may have a slight median constriction. They are covered with spiny warts, 0.03 to 0.06 mm in

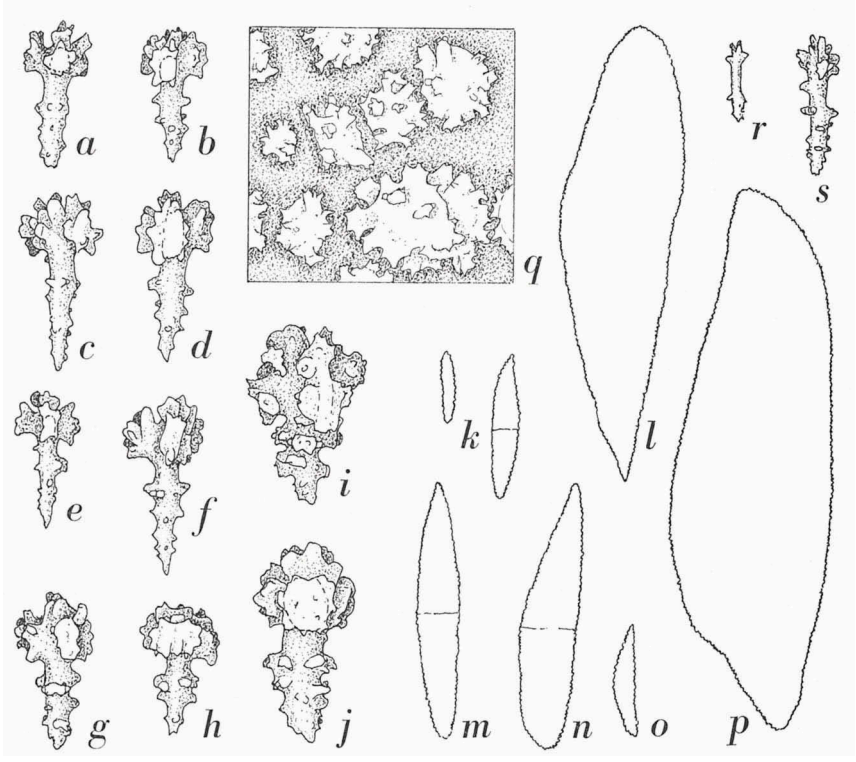

Fig. 7. *Simularia foveolata* nov. spec. a-f, spicules from surface layer of a lobe; g-j, spicules from surface layer of the sterile stalk; k-p, spicules from interior of a lobe; q, warts on coenenchymal spicule; r, spicule from a tentacle; s, anthocodial spicule. a-j, q-s, × 220; k-p, × 11.

diameter, and arranged in zones (fig. 7 q). In these zones the tubercles often seem to be grown together.

The clubs in the outer layer of the sterile stalk are slightly larger and wider (fig. 7 g-j), the warts forming the heads are more compound. The spindles in the coenenchyme are like those in the lobes, the length is up to 7 mm

Colour. — In alcohol the colour of the disc is brown, the lobes are dark brown, the pits in the lobes are nearly black.

Variability. — Two of the paratypes are low colonies, just as the holotype. The third one has a longer sterile stalk, up to 50 mm high, but the capitulum is smaller, the diameters are 68 and 44 mm (pl. 3 fig. 1). The capitula of the paratypes consist of the same irregularly shaped lobes, sometimes densely placed, now and then they form ridges. The height may be up to 15 mm,

sometimes as much as 25 mm. The colonies have the same colour as the holotype.

Remarks. — The species is characterized by the remarkable pock-pitted lobes, the rather small, warty clubs, and the enormous coenenchymal spicules.

In some respects there is an agreement with *S. marenzelleri* (Wright & Studer), but it differs in the shape of the lobes and in the dimensions of the spicules in outer layer and coenenchyme.

The shape of the lobes with their irregularly corrugated surface, and the large coenenchymal spicules reminds one of *S. dura* (Pratt). But in this species the clubs are much larger, and they have a very characteristic shape, quite different from those in our species. Moreover the coenenchymal spicules bear quite different warts.

The specific name *foveolata* (Latin: *fovea* = pit, pitfall) alludes to the tiny holes in the lobes.

Sinularia halversoni nov. spec. (figs. 8, 9, pl. 3 fig. 2)

Material. — Récif Mtere, off Nouméa, depth 25 m; 23 July 1971. A. G. Humes & R. C. Halverson no. X-24, RMNH Coel. no. 10453, the holotype; RMNH Coel. no. 10454, three paratypes. Field-note: "Colour light grey, polyps yellow".

Description. — The holotype (pl. 3 fig. 2) has diameters of 120 and 145 mm. The sterile stalk is about 35 mm high, it passes into the capitulum without a distinct boundary. The capitulum consists of a convex disc with a number of primary lobes, which are not densely placed. Some of them are unbranched and finger-like, others are slightly flattened and bear a few secondary lobes, still others are developed into plates with a number of secondary lobes along the edge. All secondary lobes are finger-shaped, they taper slightly distally. Their length may be up to 45 mm, but usually they are not longer than 30 mm; the width is 7 to 10 mm at the base. The total height of the lobes with their branches is up to 50 mm, along the edge of the disc the lobes are shorter. All lobes are a little flexible, and rather soft to the touch, the sterile stalk is stiff.

The zooids are scattered over the disc and the lobes. At the base of the lobes they are rather wide apart, the distance between the centres is 2 to 3.25 mm. On the distal parts of the lobes and their branches they are more densely placed, the centres are 1 to 2 mm apart. On the disc and on the basal parts of the lobes most of the zooids are retracted, but distally they are expanded. The anthocodiae are 0.50 mm wide at the base, they widen distally, the height is up to 1 mm. The expanded tentacles are 0.40 to 1.00 mm long, the number of pinnules cannot be ascertained.

The anthocodial armature consists of a crown of clubs and rods (fig. 8 h, i),

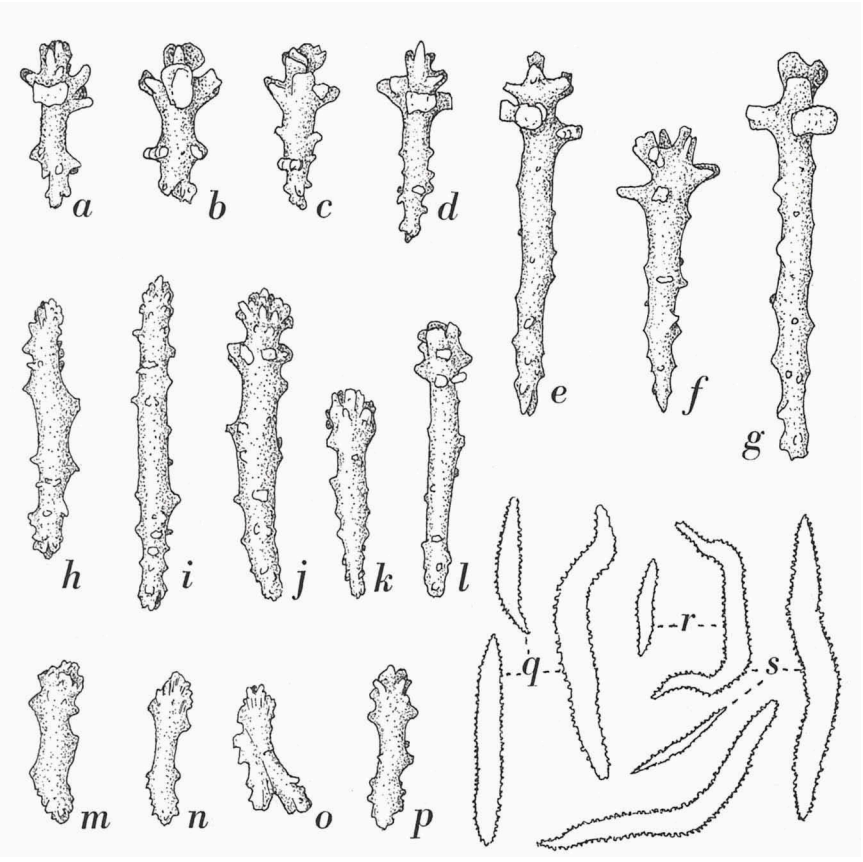

Fig. 8. *Sinularia halversoni* nov. spec. a-g, spicules from surface layer of a lobe; h, i, crown spicules; j-l, point spicules; m-p, spicules from distal part of a tentacle; q-s, spicules from coenenchyme of a lobe. a-p, × 220; q-s, × 11.

two to five rows deep. It is superposed by eight "points" of numerous, densely packed clubs with narrow heads (fig. 8 j-l). At the base these clubs are of the same length as those in the crown, viz., 0.10 to 0.19 mm, upwards they are smaller. In the distal parts of the tentacles we find tiny, flat, sometimes ramified rods, 0.07 to 0.10 mm long (fig. 8 m-p).

In the surface layer of the lobes there are clubs, 0.09 to 0.14 mm long (fig. 8 a-d). In most cases the head consists of a central wart and, below this, a few lateral warts. The handles are spiny and blunt. In addition to these we find some clubs with long, nearly smooth handles, up to 0.25 mm long (fig. 8 e-g). In the outer layer of the sterile stalk the small clubs are of about the same length, but they are wider (fig. 9 a-e). The clubs with long handles are up to 0.32 mm long (fig. 9 f, g).

The coenenchyme of the lobes has slender, irregularly curved, usually un-

branched spindles, up to 3.80 mm long and 0.38 mm wide (fig. 8 q-s). They are covered with rounded, spiny tubercles, averagely 0.07 mm in diameter (processes included). In the interior of the basal part of the colony the spindles are shorter, up to 2.80 mm (fig. 9 h-k), the irregularly distributed warts are large, up to about 0.10 mm in diameter (fig. 9 l).

Colour. — In alcohol the colour is grey.

Variability. — The paratypes are smaller. For the rest they agree in all respects with the holotype.

Remarks. — The species is characterized by the long, wide, finger-shaped lobes and secondary lobes, the relatively large zooids, which stand rather wide apart, the clubs in the surface layer having a central wart, and the large tubercles on the coenenchymal spicules.

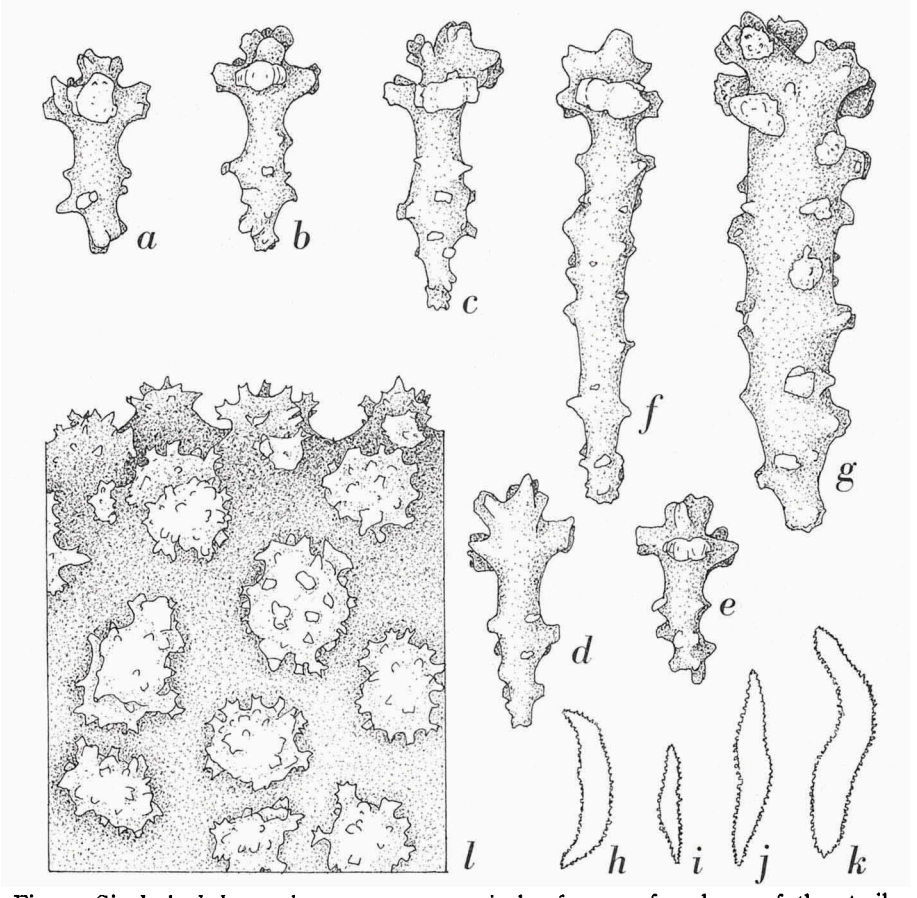

Fig. 9. *Simularia halversoni* nov. spec. a-g, spicules from surface layer of the sterile stalk; h-k, spicules from interior of the sterile stalk; l, warts on a coenenchymal spicule from the sterile stalk. a-g, l, × 220; h-k, × 11.

The species is named after Mr. R. C. Halverson, one of the collectors of the material.

Nephtheidae Gray, 1862

Dendronephthya Kükenthal, 1905

Dendronephthya (Dendronephthya) noumeensis nov. spec.

(figs. 10, 11, pl. 5 fig. 1)

Material. — Ile aux Canards, near Nouméa, depth 25 m; 25 May 1968. M. Wijsman-Best, collectrix. ZMA Coel. no. 7433, the holotype; no. 7434, the paratype.

Ile Porc Epic, near Nouméa, depth 12 m; 20 August 1968. M. Wijsman-Best, collectrix. ZMA Coel. no. 7435. One specimen.

Description. — The holotype (pl. 5 fig. 1) is 90 mm high, the polyparium is 55 mm wide, it is laterally flattened. The whole colony is stiff. The sterile stalk is 45 mm high and 20 mm wide. The undermost branches are foliaceous, but they do not form a complete collar. The stem divides into four branches. It bears low tubercles or hillocks, densely set with practically stalkless zooids. The number of zooids upon such a hillock varies from five to twenty or more. On the branches the hillocks are so densely placed that the surface is nearly uniform. The glomerate structure of the colony clearly appears from the photograph (pl. 5 fig. 1).

The zooids stand at an obtuse angle with the very short stalks. The latter are up to 0.20 mm long, most zooids, however, seem sessile. The anthocodiae are 0.60 to 0.70 mm high and 0.70 to 0.85 mm wide, they are more or less pear-shaped or cone-shaped. The armature consists of eight double rows of thin, curved, almost smooth needles, arranged en chevron (fig. 10). Each single row is formed by two to four spicules, most of which are 0.35 to

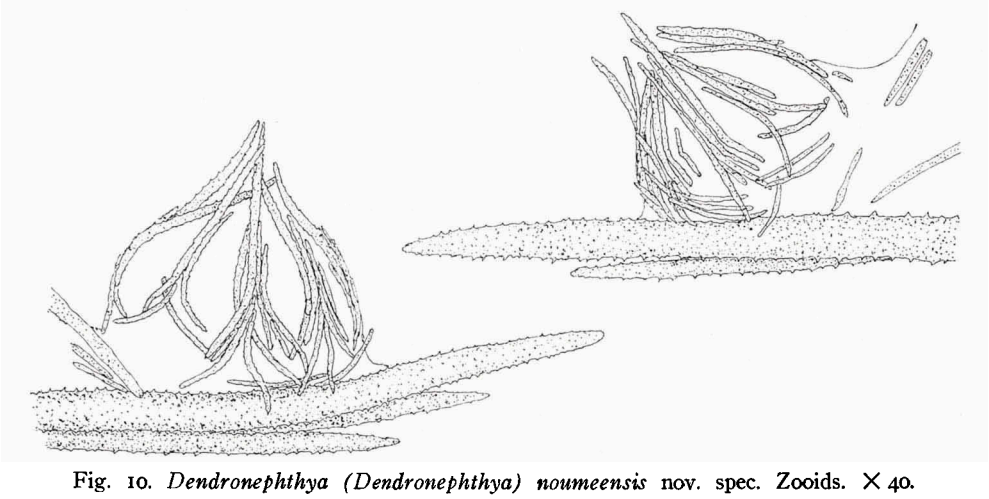

Fig. 10. *Dendronephthya (Dendronephthya) noumeensis* nov. spec. Zooids. × 40.

0.45 mm long. In each row one of the uppermost spicules is largest, up to 0.85 mm long; it is usually hockey-stick-shaped. It may project for a distance of up to 0.40 mm; the uppermost part is spiny.

Between the point spicules we often find one slender intermediate. Below the point spicules there are sometimes a few transversely placed accessory needles. The tentacles have transparent, flat rods, 0.035 to 0.055 mm long.

The supporting bundle is medium to strong. It consists of a few needles or thin spindles, covered with spines, and up to 3 mm long. One or two project beyond the anthocodia for a distance of up to 1.20 mm.

The anthocodial grade and formula is:

IV-V = 1P + (1—3) p + medium to strong S.B. + (0—½) M

In the surface layer of the stem there are thin needles, up to 3.25 mm long and 0.15 mm wide. In the distal part of the sterile stalk the needles are slightly wider, up to 0.22 mm, the length is up to 3.50 mm. They are covered with spines (fig. 11a). In the basal part of the stalk the spicules are shorter; the prominences are warts (fig. 11b). In addition to the spindles we find small stars and irregularly shaped forms, 0.15 to 0.42 mm long.

The interior of the stalk contains spindles up to 3.50 mm long and 0.38 mm wide. They bear small warts (fig. 11d). Smaller spindles are often ramified, some are triradiated. In many cases they are scantily covered with spines (fig. 11c).

Colour. — The colony is white.

Variability. — The paratype is only a little smaller. The specimen ZMA Coel. no. 7435 is a fragment of a stem.

Remark. — On receipt of the type specimens they were labelled as *Spon-*

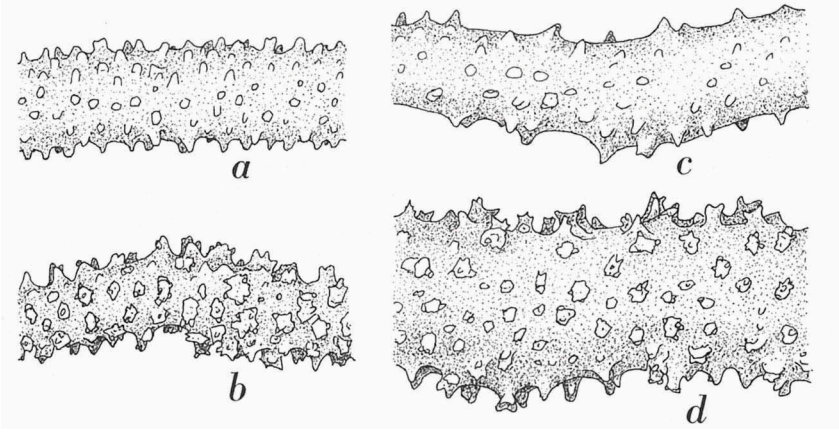

Fig. 11. *Dendronephthya (Dendronephthya) noumeensis* nov. spec. a, spicule from surface layer of the distal part of the sterile stalk; b, spicule from surface layer of the basal part of the sterile stalk; c, d, spicules from the interior of the sterile stalk. × 65.

godes merleti Tixier-Durivault, 1970. Probably the shape of the colony and its white colour suggested this identification. A closer investigation and a comparison with one of the type specimens of *S. merleti* kindly placed at my disposal by Mrs. A. Tixier-Durivault showed me that our colonies are quite different.

The species is characterized by the shortness of the polyp stalks, the long, projecting supporting bundles, the simple anthocodial armature composed of thin, curved needles arranged en chevron, and the large, projecting uppermost point spicules.

Dendronephthya (Dendronephthya) wijsmanae nov. spec.
(figs. 12, 13, pl. 4 fig. 1)

Material. — Passe de Uitoé, exterior of the reef; 15 July 1968. M. Wijsman-Best, collectrix. ZMA Coel. no. 7428. One colony, the holotype.

Description. — The height of the colony is 70 mm, the maximum spread is 75 mm, it is flattened laterally (pl. 4 fig. 1). The narrow sterile stalk is 25 mm high. Its distal part is hidden from view by the reflexed foliaceous lower branches, which form a complete collar. Just above this the short stem divides into four main branches, 10 to 15 mm wide. They give off side-branches and twigs, which bear the small groups of zooids. Round the four main branches the groups of zooids are united into distinct hemispherical masses. By this the species belongs to the *hemprichi*-group of the "Glomerates".

A group of zooids consists of four to seven individuals. A few have short stalks, others have long, diverging stalks, up to 1.40 mm long, the width is 0.40 to 0.50 mm. The anthocodiae make obtuse angles with the stalks (fig. 12). The width of the anthocodiae is 0.65 to 0.75 mm, the short-stalked zooids are smaller. The armature consists of eight pairs of long spicules, one of which is longest, up to 0.70 mm, it projects for a distance of up to 0.35 mm. In addition to these the anthocodial wall is thickly filled with more or less fusiform spicules, 0.07 to 0.20 mm long. There is no question of a distinct arrangement, and so it is impossible to record the anthocodial grade and formula. Between the large spicules we find numerous intermediates. In the tentacles are flat, toothed, transversely placed spicules, 0.05 to 0.07 mm long.

The supporting bundle is strong. It consists of a few, almost smooth, slender spindles. One of these may reach a length of more than 3 mm. It projects beyond the anthocodia for a distance of up to 2 mm, but usually the projecting point is 1.0 to 1.5 mm. A second and a third spicule may also project, but for a shorter distance. The lateral and ventral sides of the polyp stalk are densely filled with spindles, more or less longitudinally ar-

ranged, and of the same dimensions as those in the anthocodia, a few may be larger. All these spicules in polyp stalk and anthocodiae, the large, projecting point spicules included, are smooth.

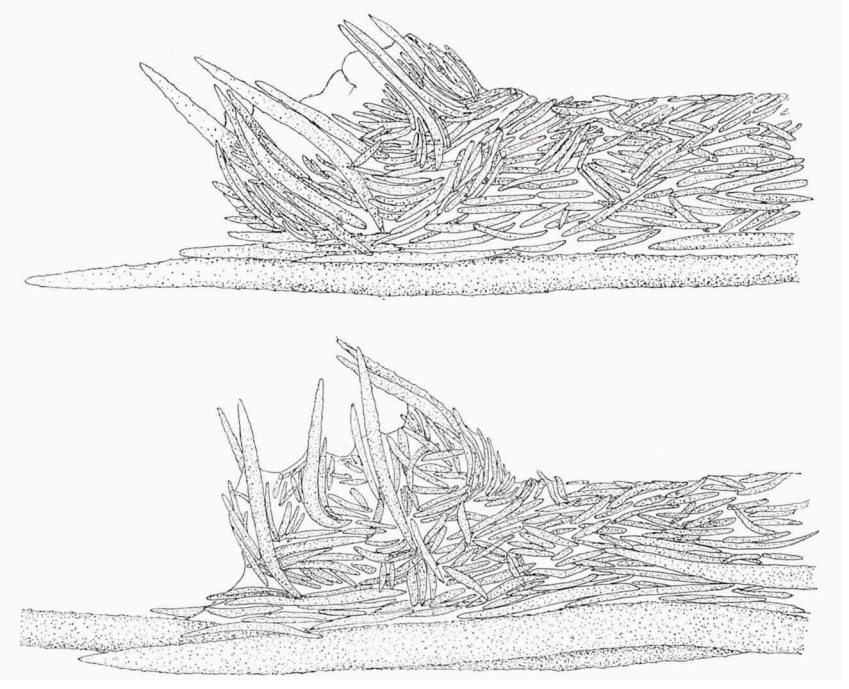

Fig. 12. *Dendronephthya (Dendronephthya) wijsmanae* nov. spec. Zooids. × 50.

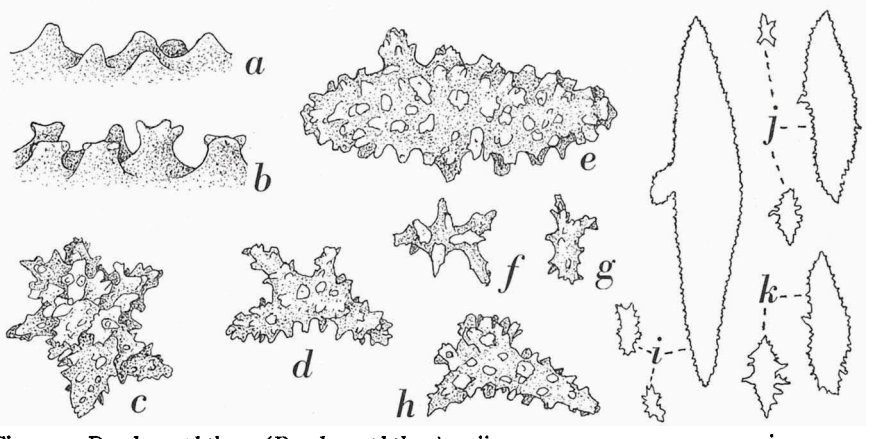

Fig. 13. *Dendronephthya (Dendronephthya) wijsmanae* nov. spec. a, prominences on spicule from surface layer of the stem; b, prominences on spicule from surface layer of the distal part of the sterile stalk; c-k, spicules from surface layer of the basal part of the sterile stalk. a, b, × 220; c-h, × 65; i-k, × 20.

In the surface layer of a main branch we find irregularly curved spindles, up to 4.80 mm long and 0.38 mm wide, they are covered with blunt spines (fig. 13a). In the distal part of the sterile stalk the spindles are shorter, the prominences are more wart-like (fig. 13b). In the basal part of the stalk a few large spindles occur, up to 3.20 mm long and 0.40 mm wide, but the majority consists of short, wide spindles, 0.80 to 1.20 mm long and 0.25 mm wide, spindles with short side-branches, stars, and irregularly shaped forms, 0.20 to 0.45 mm long (fig. 13 c-l).

The interior of a main branch has some spindles, about 0.30 mm long, with few cone-shaped prominences, and numerous tiny antlers, 0.10 to 0.13 mm long. In the sterile stalk the antlers are slightly larger, 0.13 to 0.17 mm. In addition to these we find some thin rods, 0.20 mm long, and a number of spindles, up to 2.50 mm long and 0.36 mm wide; the processes are warts and spines.

Colour. — The spicules in the basal part of the sterile stalk, in the twigs and the polyps are all dark wine-red. In the distal part of the stalk, in the leaf-like lower branches and in the main branches they are whitish with here and there a shade of red.

Remarks. — The species is characterized by the numerous, irregularly distributed spicules in the anthocodiae and the polyp stalks, by the long, projecting point spicules, and by the strong supporting bundle.

It is with great pleasure that I name this species after Mrs. Dr. Maya Wijsman-Best, collectrix of the specimen.

Dendronephthya (Morchellana) elegans Henderson, 1909
(figs. 14, 15, pl. 4 fig. 2)

Dendronephthya elegans Henderson, 1909: 85-87, fig. 42.
Morchellana elegans, Tixier-Durivault & Prevorsek, 1962: 96-97, fig. 56.

Material. — Passe de Uitoé, near Nouméa, exterior of reef; 15 July 1968. M. Wijsman-Best, collectrix. ZMA Coel. no. 7427. One colony.

Description. — The colony (pl. 4 fig. 2) measures 100 mm in height, of which 50 mm go to the sterile stalk. This stalk is flabby, and flattened laterally, the maximum diameter is 30 mm.

The lower branches are foliaceous, they form a nearly complete collar. From the top of the stalk two stems diverge, each bearing all around the twigs with the umbels. Consequently the polyparium really consists of two parts: one part is 65 mm wide, and distinctly flattened, the other is 30 mm wide and less flattened.

The zooids are united into umbels of seven to nine individuals. The low, rounded anthocodiae stand at obtuse to right angles to the stalks, which are up to 1.20 mm long, but in each umbel the length varies considerably.

The armature consists of eight double rows of curved, spiny spindles, arranged en chevron, four to six in a row (fig. 14). The uppermost are usually not longer than the other point spicules, they are 0.25 to 0.35 mm long, and sometimes they project slightly. Between these points four to six intermediates occur. In the tentacles we find numerous flat spicules, about 0.05 mm long, with rounded prominences along their edges. At the base of the anthocodia there are a number of accessory spicules.

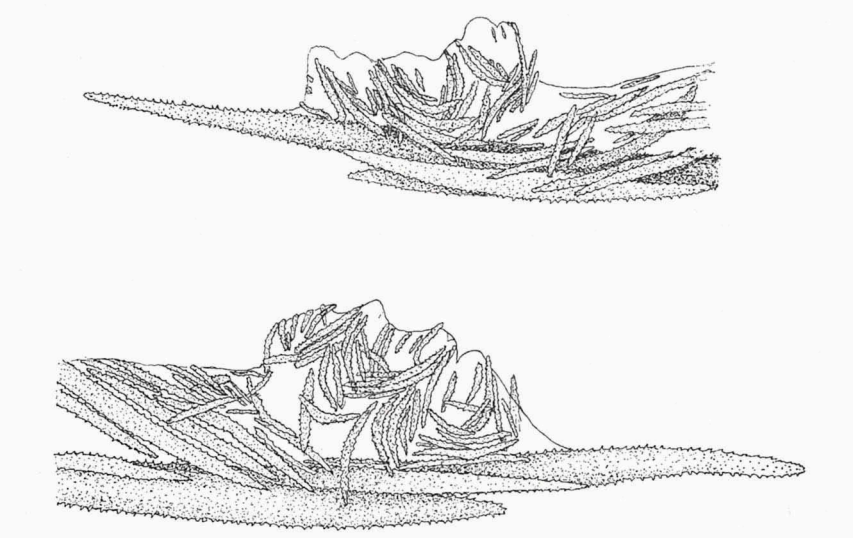

Fig. 14. *Dendronephthya (Morchellana) elegans* Henderson. Zooids. × 40.

The supporting bundle is medium to strong. It consists of a few stout spindles, up to 3.20 mm long, and some shorter ones. The projecting point may reach a length of 1.40 mm.

Anthocodial grade and formula:

III = (4—6) p + O Cr + medium to strong S.B. + (2—3) M

The surface layer of the stems has curved spindles, up to 3.50 mm long and 0.32 mm wide; sometimes they are bifurcated at one end. They are covered with blunt spines and small simple warts. In the sterile stalk the spicules are shorter and wider. There are many thick, curved, sometimes knee-shaped spicules, 0.30 to 0.70 mm long and 0.15 to 0.21 mm wide (without warts; 0.19 to 0.28 mm, warts included) (fig. 15a). Besides these there are clubs (fig. 15c, d) and more normal spindles, up to 1.00 mm long (fig. 15b). They all are thickly set with warts, on the convex side the prominences are often higher than on the other side. In the basal part of the stalk we find, in addition to these, more or less spherical and stellate forms (fig. 15 e-h).

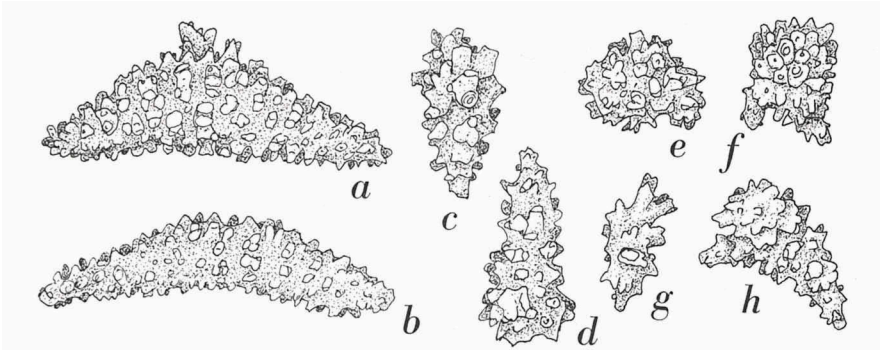

Fig. 15. *Dendronephthya (Morchellana) elegans* Henderson. a-d, spicules from surface layer of the middle part of the sterile stalk; e-h, spicules from surface layer of the base of the sterile stalk. × 65.

The interior of the stalk has thick spindles, up to 1.90 mm long and 0.40 mm wide, and many large triradiates. They are densely covered with blunt spines and small warts.

Colour. — The basal part of the sterile stalk, the supporting bundles and the zooid walls have dark-red spicules, the distal part of the stalk, stems, branches, twigs and tentacles have white spicules.

Remark. — Our colony agrees very well with that described by Henderson, 1909. This author stated that the anthocodiae make right angles with their stalks, but in his fig. 42 the angle is obtuse, just as in most of the zooids in our specimen.

Geographical distribution. — The species has been recorded from the Andamans.

Stereonephthya Kükenthal, 1905

Stereonephthya inordinata Tixier-Durivault, 1970 (fig. 16, pl. 5 fig. 2)

Stereonephthya inordinata Tixier-Durivault, 1970a: 313-314, figs. 161, 162.

Material. — Outside Récif Mtere, off Nouméa, depth 30 m; 23 July 1971. R. C. Halverson no. 1682, RMNH Coel. no. 10464. Five colonies. Field-note: "Colour grey".

Description. — The largest of the colonies (pl. 5 fig. 2) measures 70 mm in height, 85 mm in maximum width and 60 mm in thickness. All colonies are stiff and prickly. The sterile stalk is short. It passes into some stems, which bear fertile branches and side-branches. The primary branches are pointed, finger-shaped, at the base the width is 3 to 6 mm (without the zooids), the length is up to about 25 mm. The slender side-branches are shorter, up to about 12 mm long, and 2 to 3 mm wide.

The zooids are regularly distributed over branches and twigs. The antho-

codiae are 0.60 to 0.80 mm wide, the height varies from 0.40 to 0.70 mm. The spiny anthocodial spicules are irregularly placed, usually in a more or less longitudinal direction. Those on the dorsal side are largest, and have stronger spines. The anthocodiae stand at more or less right angles to the short stalks.

The supporting bundle is of the ensheathing type; it consists of a number of spiny spindles. Sometimes a few project beyond the anthocodia for a distance of up to 0.50 mm. On the ventral side of the polyp stalk we find numerous tiny rods, 0.04 mm long.

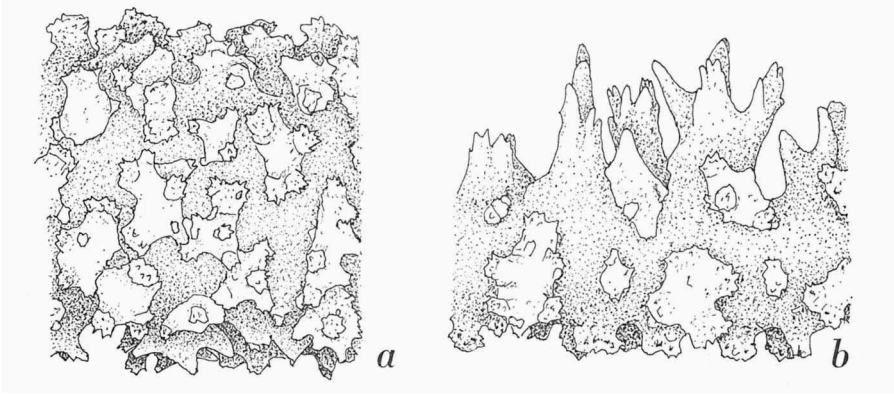

Fig. 16. *Stereonephthya inordinata* Tixier-Durivault. a, part of a spicule from surface layer of a branch; b, part of a spicule from surface layer of the base of the stem. × 220.

In the surface layer of the stem are thin spindles, up to 2.40 mm long, and rather thickly set with high warts and spines (fig. 16a). In the base of the stem the spicules are shorter, fusiform, in many cases the coarse processes are higher on one side than on the other, so they are caterpillar-like (fig. 16b). In addition to these we find numerous small spicules, 0.25 to 0.45 mm long, cylindrical, fusiform, or club-shaped. In the basal part of the sterile stalk the spicules hardly differ from those just described.

In the interior of the stalk the spindles are up to 1.75 mm long; they are slightly wider than the spicules in the outer layer, and they are densely packed with warts.

Colour. — The colour in alcohol is creamy-white.

Remarks. — I compared the colonies with a part of the colonies described by Tixier-Durivault, 1970a. In this specimen the colour is brownish, most anthocodiae are slightly darker brown. In our specimens the spicules in the anthocodiae, in the supporting bundles and in the surface layer of the branches have warts, in the specimen I received from Mrs. Tixier-Durivault these spicules bear spines. For the rest there are no important differences.

Xeniidae Ehrenberg, 1828

Xenia Lamarck, 1816

Xenia novaecaledoniae nov. spec. (fig. 17)

Material. — Banc Gail, Nouméa, depth 30 m; 1 May 1968. M. Wijsman-Best, collectrix. ZMA Coel. no. 7426. Three colonies.

Description. — The undivided syndete (stalk) of the holotype measures 20 mm in height and 7 mm in width. It is cylindrical in shape, but apically it widens, forming a convex capitulum. The anthocodiae are up to 16 mm long, the width is 1.5 mm, they are transparent. The tentacles are up to 6 mm long and 0.45 to 0.55 mm wide, in a cross-section the axis is oval in shape.

On either side of the tentacles the pinnules are usually arranged in one row of 17 to 20. But sometimes, especially in the distal part of the tentacle, we see signs of a second, internal row consisting of a few short pinnules. Those of the outer row are curved, finger-shaped, with rounded tips. Halfway the tentacle they are longest, 0.50 to 1.00 mm, the width is 0.15 to 0.18 mm (fig. 17).

Spicules are absent.

Colour. — In alcohol the colony is creamy-white.

Variability. — The second colony is slightly smaller. The unbranched stalk is 4 mm wide at the base, distally it gradually widens. In the third specimen the syndete is branched into two.

In these colonies the anthocodiae and the tentacles may be contracted. In that case the surface of the anthocodiae is folded transversely. The number of pinnules in a row is often less than 17. Spicules are absent.

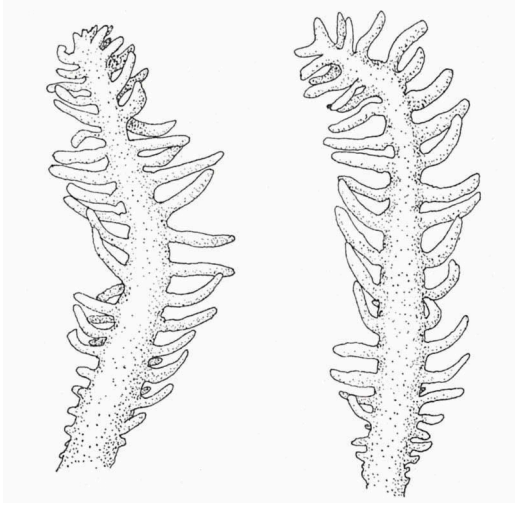

Fig. 17. *Xenia novaecaledoniae* nov. spec. Tentacles. × 11.

Remarks. — Up to now only one species of *Xenia* has been described possessing one row of pinnules, viz., *X. nana* Hickson, 1931. But this species has 5 to 8 pinnules in a row, and it has spicules.

If we assume that in our colonies there are in fact two rows of pinnules instead of one, then they come nearest to *X. puertogalerae* Roxas, 1933, but in the last-mentioned species the inner row is completely developed (cf. Roxas, 1933, pl. 1 fig. 3), and it possesses spicules. They also resemble *X. farauensis* Verseveldt & Cohen, 1971, but here the number of pinnules is 17 to 23, and spicules are present.

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Plate 1

Fig. 1. *Sarcophyton implanum* nov. spec., holotype, RMNH Coel. no. 10436. × 1.

Fig. 2. *Cladiella humesi* nov. spec., holotype, RMNH Coel. no. 10413. × 1.

Plate 2

Fig. 1. *Sinularia dura* (Pratt), syntypes. a, BMNH no. 1962.7.20.100A; b, BMNH no. 1962.7.20.100B; c, BMNH no. 1962.7.20.100C. × 1.

Fig. 2. *Sinularia dura* (Pratt), RMNH Coel. no. 10442. × 1.

Plate 3

Fig. 1. *Sinularia foveolata* nov. spec., paratype, RMNH Coel. no. 10461. × 1.5.

Fig. 2. *Sinularia halversoni* nov. spec., holotype, RMNH Coel. no. 10453. × 0.6.

Plate 4

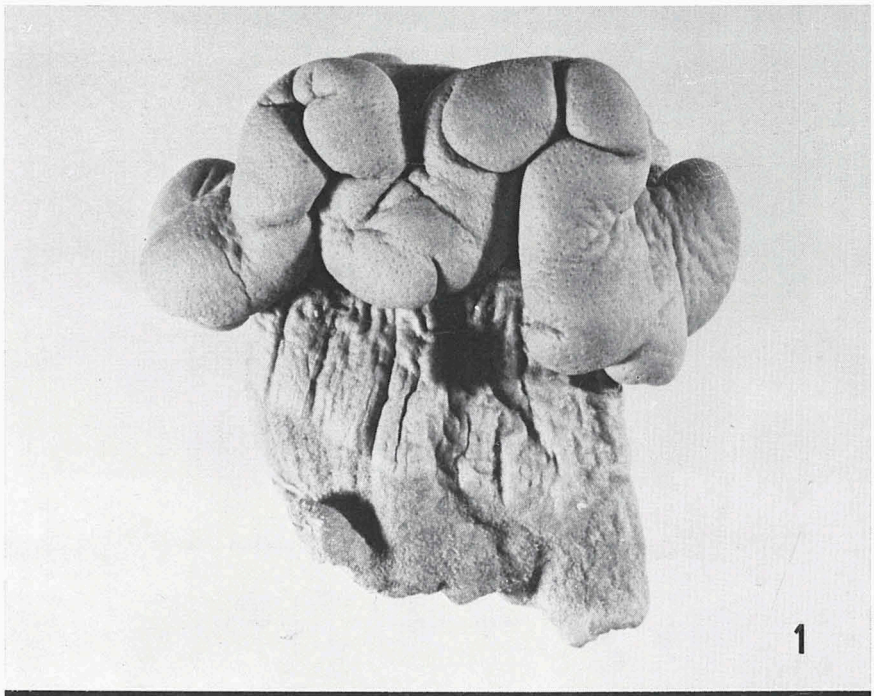
Fig. 1. *Dendronephthya* (*Dendronephthya*) *wijsmanae* nov. spec., ZMA Coel. no. 7428. × 1.

Fig. 2. *Dendronephthya* (*Morchellana*) *elegans* Henderson, ZMA Coel. no. 7427. × 1.

Plate 5

Fig. 1. *Dendronephthya* (*Dendronephthya*) *noumeensis* nov. spec., holotype, ZMA Coel. no. 7433. × 1.

Fig. 2. *Stereonephthya inordinata* Tixier-Durivault, RMNH Coel. no. 10464. × 1.



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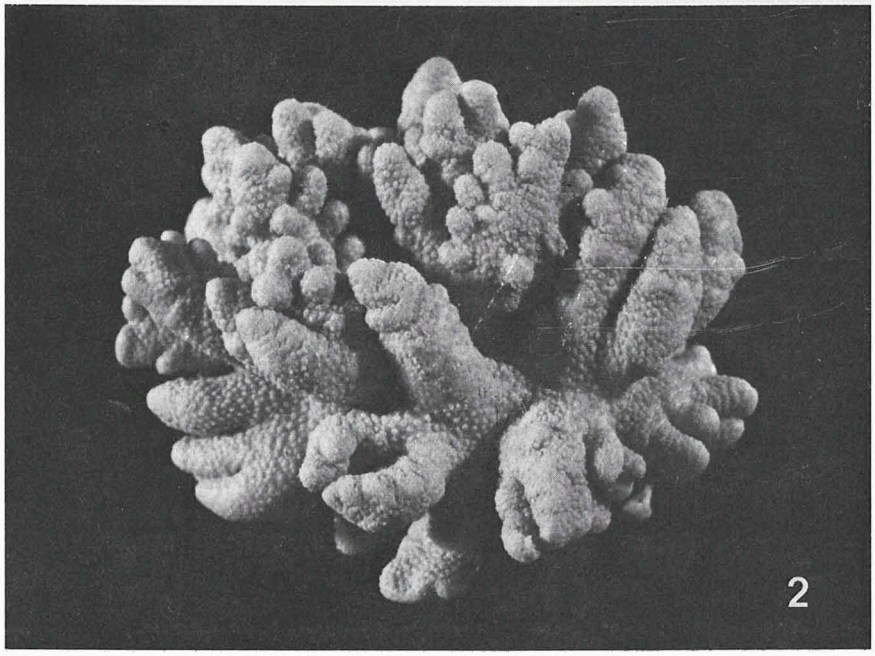

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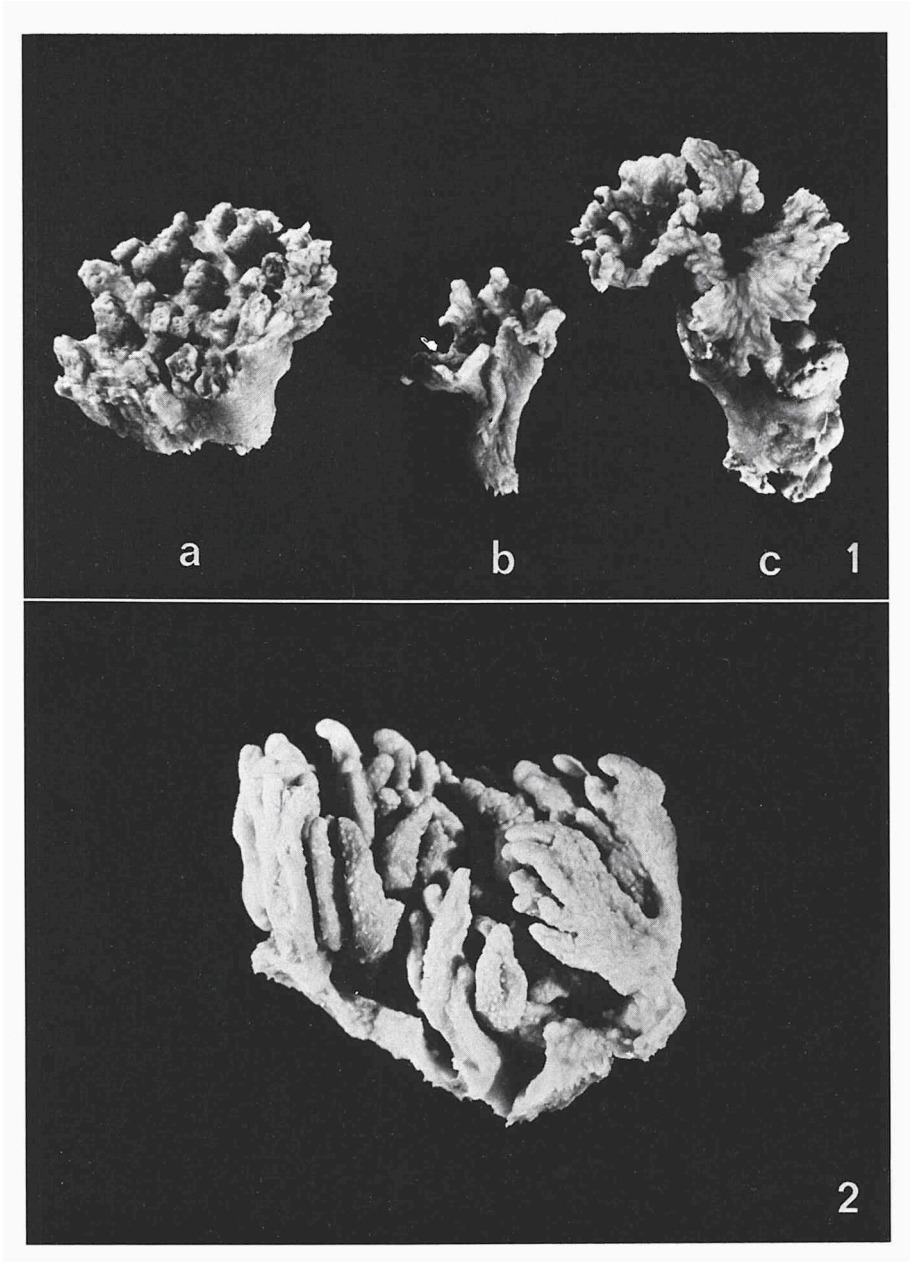
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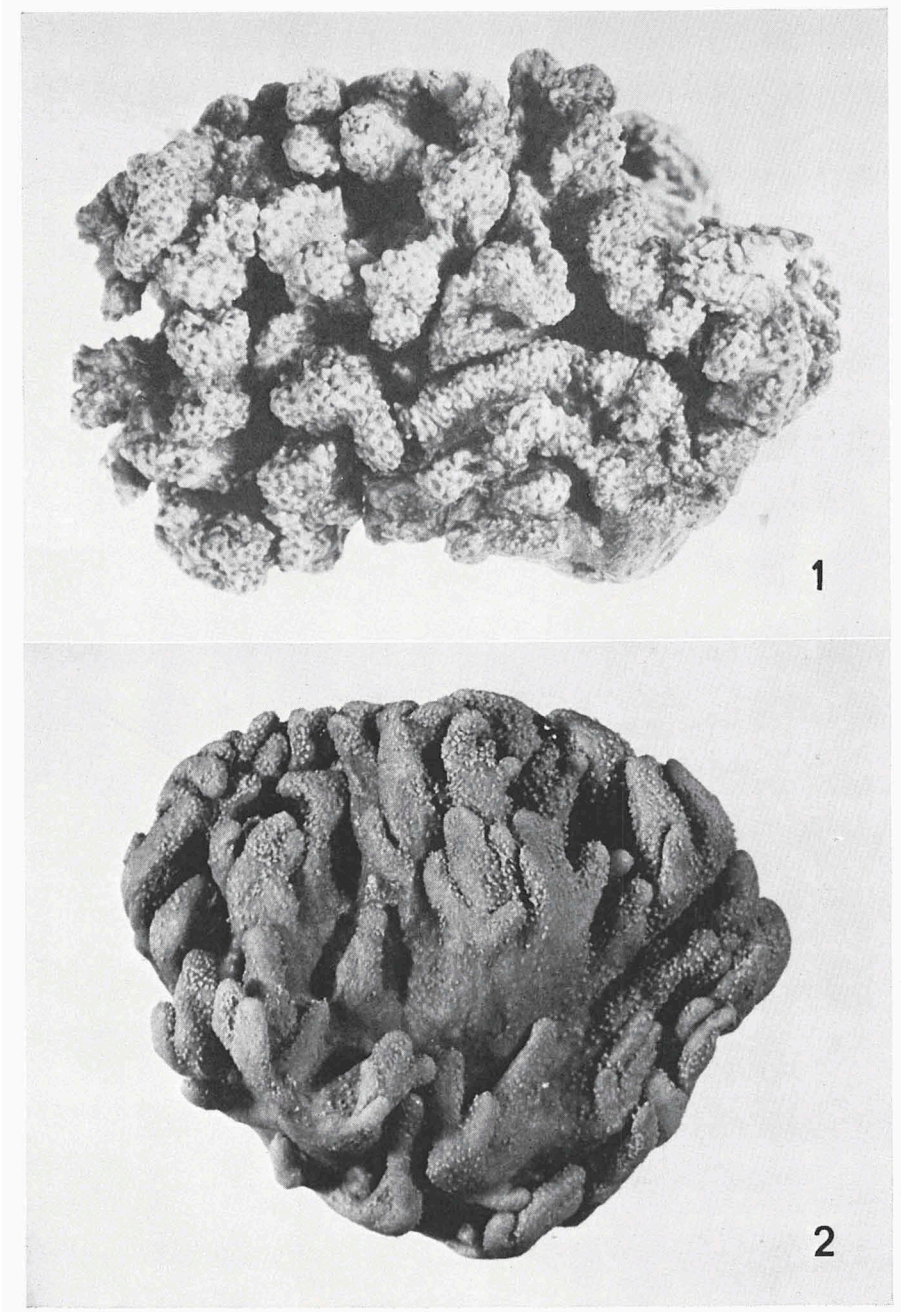
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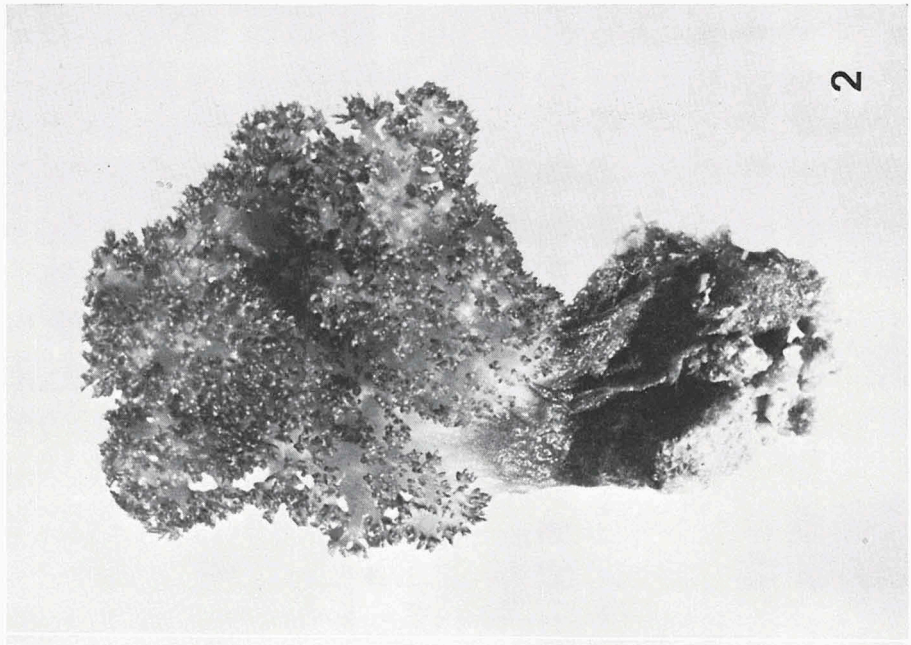
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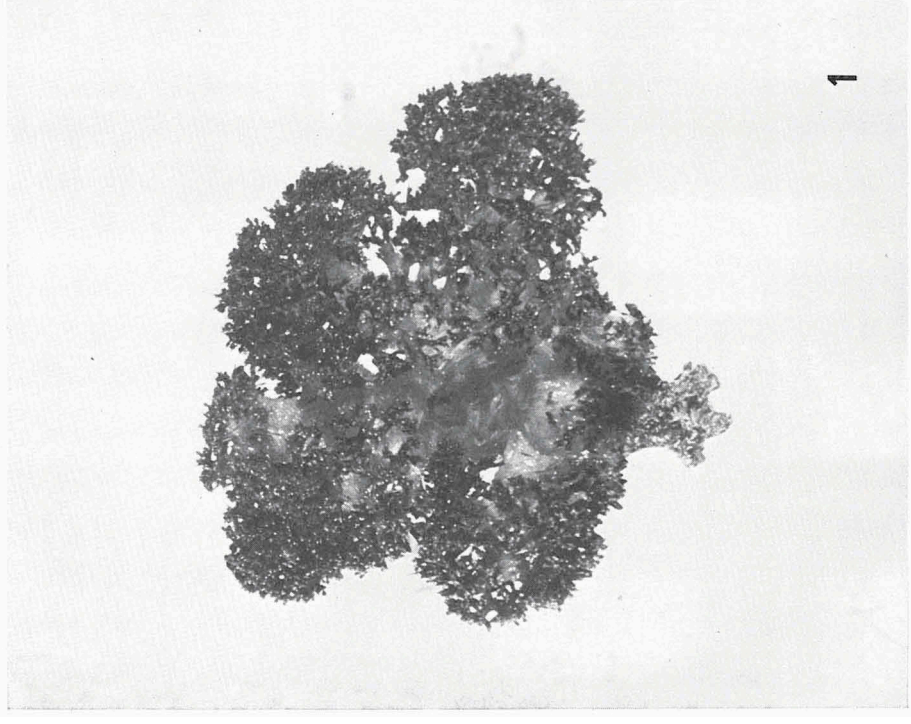
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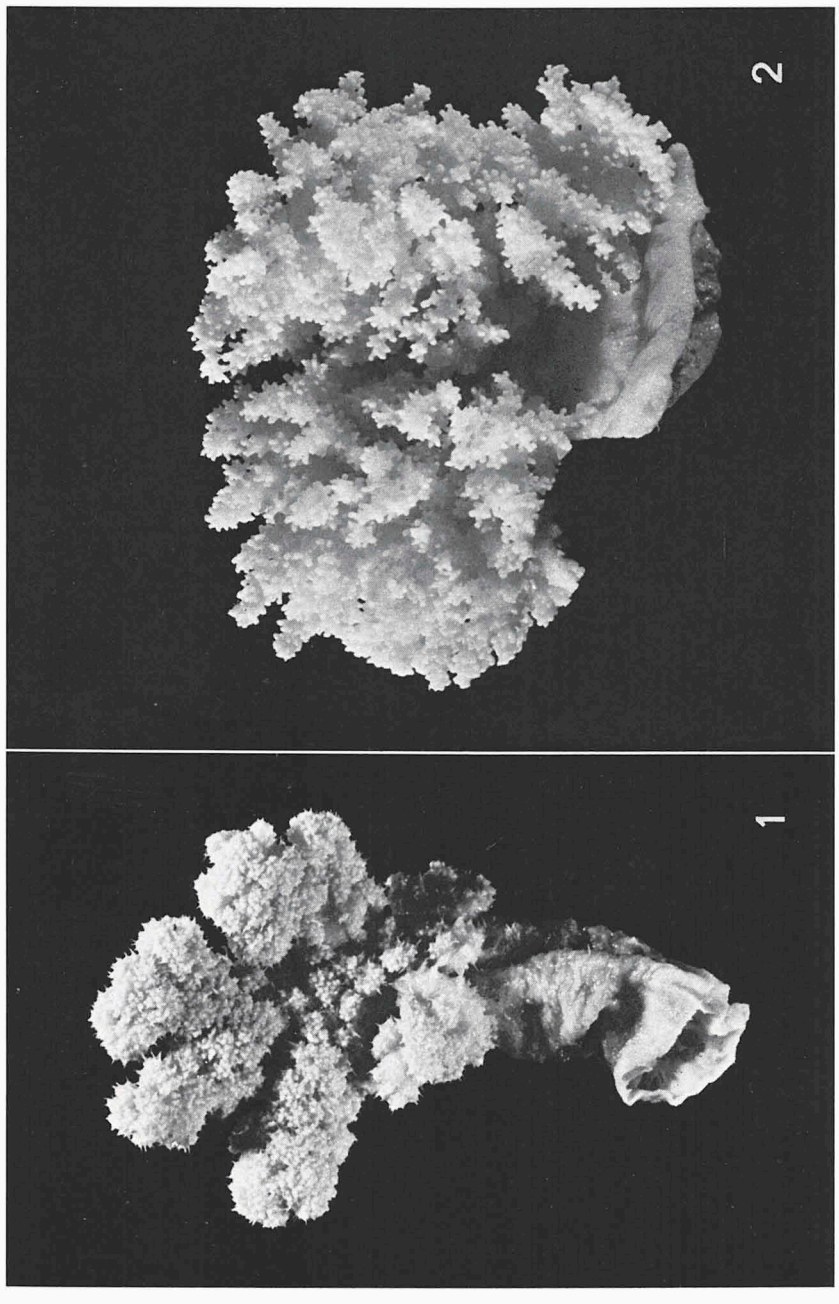
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