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OCTOCORALLIA FROM THE BISMARCK SEA (PART I)

Laing Island Biological Station, contribution no. 13

by

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With 7 text-figures and 10 plates

Abstract

In the years 1975-77 co-operators of the King Leopold III Biological Station at Laing Island, northern coast of Papua-New Guinea, collected a number of octocorals belonging to the orders Stolonifera and Alcyonacea. The more than eighty species include seven new species: *Lobophytum cryptocormum, Sarcophyton mililatensis, Sinularia acetabulata, Sinularia lamellata, Sinularia sobolifera, Xenia actuosa,* and *Xenia mucosa.* They are described in this paper.

Introduction

Laing Island (approx. 4°10'S, 144°50'E) lies in the middle of Hansa Bay, on the northern coast of Papua-New Guinea (western part of the Bismarck Sea). The island is a low, elongated, emerged coral formation, about 900 m long and roughly oriented North-South (fig. 1). It is rather densely wooded, swampy at both ends, and has no fresh water but for the rain; it is accessible only by boat. Although it was a traditional fishing ground for mainland villagers, Laing Island was never settled, except for a small Japanese detachment during World War II.

King Leopold III Biological Station, a field laboratory of the Collectif de Bio-Ecologie of the University of Brussels, was established on the island in 1975 and has been operational since 1977. The Station provides simple but adequate research facilities and is manned round-the-year by teams of the University of Brussels.

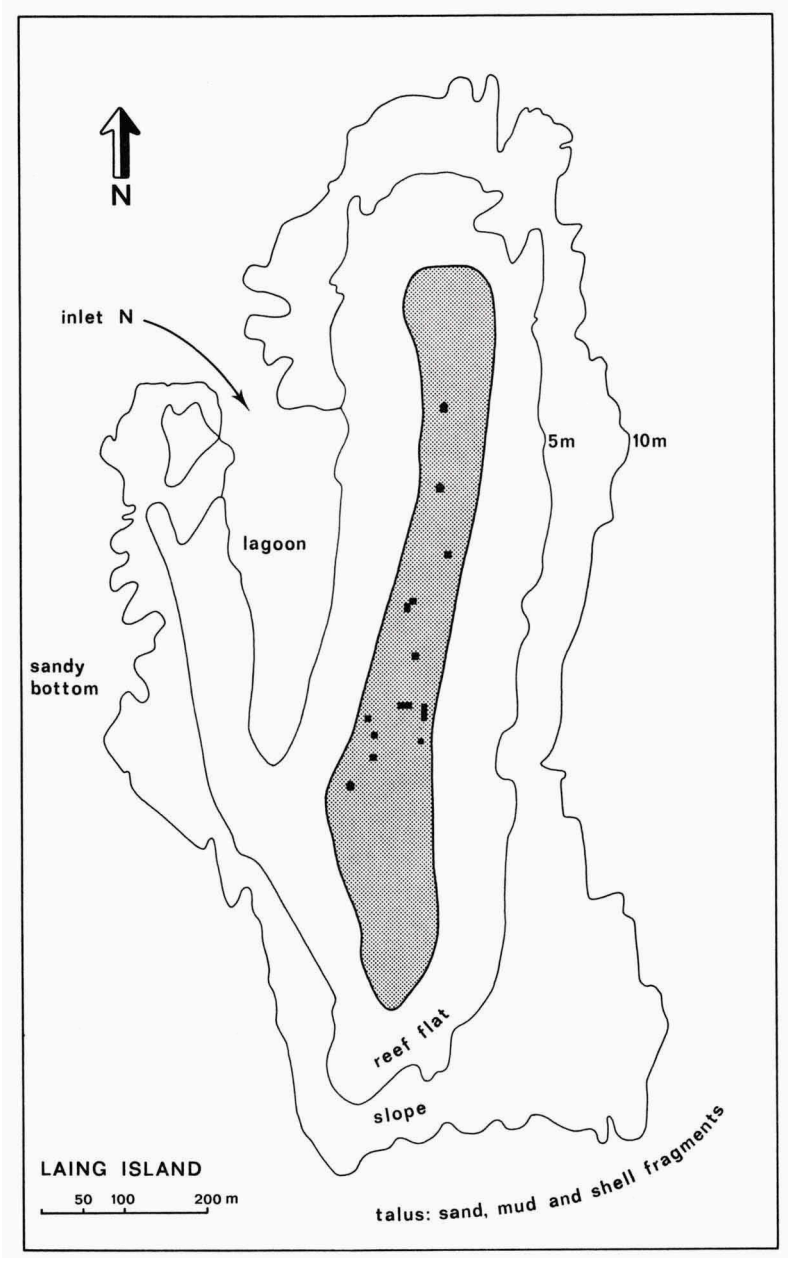

Fig. 1. Laing Island.

The greatest difference between low tide and high tide is only 0.90 to 1.20 m. Surface water temperatures are quite constant and oscillate around 25-26°. Salinities differ little from normal values, with the exception of restricted biotopes where rain water can occasionally accumulate (reef flats for instance). During the dry season (May to October) a regular strong breeze blows from the Southeast, generally starting before noon and calming during the night. The Eastern coast of the island is then submitted to appreciable erosion by wave action, while the Western shore is completely still and affords excellent shelter for boats. Underwater visibility is then very good and diving conditions are optimal, especially in the morning. In the rainy season (December to March), irregular winds accompanied by stronger gusts blow from the Northwest. Underwater visibility drops drastically with the massive discharge of sediment-loaden waters from the small Sakula river and Sisimango lagoon into Hansa Bay and the arrival of the waters of the large Ramu and Sepik rivers, located N.W. from the island. Large quantities of drift material (up to large trees) do then accumulate around Laing Island.

A large spectrum of diversified marine biotopes is accessible from the Station. Laing Island itself is surrounded by a very rich, steep fringing reef, including a sandy "lagoon" on the West coast. The rich submerged reefs of Durangit, Wanginem and Besampa lie within minutes by outboard. Manam (Vulcain) Island is a large, active volcano, 8 miles E.N.E. from Laing Island and is surrounded by a steep reef, quite different in composition from the previous ones. Similar conditions are found around the small Boësa (Aris) Island, about 2 miles N.W. of Manam Island. A variety of sandy and muddy bottoms are found in Hansa Bay itself. The very extensive Madang Harbour lies 115 miles to the S.E. It contains many islands and bays (amongst others Mililat Bay) and its large variety of biotopes offers excellent collecting possibilities.

Amongst other projects under way at the Biological Station, a study of the important octocoral fauna has been undertaken. While far from being complete, a collection of 83 species of Stolonifera and Alcyonacea (a figure bound to increase significantly) has already been gathered. Our first results indicate that in the localities considered here the most abundant genera are *Sinularia* (23 species), *Sarcophyton* (10 species), and *Xenia, Dendronephthya* and *Lobophytum* (7 species each).

This first paper describes seven new species collected in the years 1975-77: *Lobophytum cryptocormum, Sarcophyton mililatensis, Sinularia acetabulata, Sinularia lamellata, Sinularia sobolifera, Xenia actuosa,* and *Xenia mucosa.* Their holotypes are deposited at the Rijksmuseum van Natuurlijke Historie,

Leiden, The Netherlands; the register numbers are preceded by the abbreviation RMNH.

The photographs of the dried or in alcohol preserved colonies (pls. 1, 2, 4, 6, 7) have been made by Mr. G. J. Vrijmoeth. The living colonies (pls. 3, 5, 8-10) have been photographed under water by the junior author of this paper (A.T.).

Taxonomic Report

Alcyoniidae Lamouroux, 1812

Lobophytum Von Marenzeller, 1886

Lobophytum cryptocormum sp. nov. (fig. 2, pl. 1)

Material. — Laing I., December 1975, depth 30-35 m. Anita and Bernard Tursch, collectors. Tursch OCTO-12, RMNH Coel. no. 12861. Many colonies, one of them is the holotype, the others are paratypes.

Description of the holotype. — The dried, hard colony (pl. 1a) has a sterile stalk 90 mm long; the greater part of it was buried in sand and only the uppermost part, 20 mm long, projected above the bottom. This projecting part is 15 to 17 mm wide, the buried part is narrower. The capitulum consists of a number of lobes, which only arise from the edge of the concave disc. The lobes are fingerlike, unbranched or bearing a few short side-branches. The length of the lobes is up to 20 mm, the width varies from 4 to 7 mm; sometimes the lobes are slightly flattened laterally.

In the basal part of the lobes, at the outside, there is a sterile strip, which may be considered as a continuation of the sterile stalk. For the rest, the lobes are covered with polyps. Most of the autozooids project above the surface of the lobes for a distance of 0.40 to 0.80 mm, the width is about 0.70 mm. The centres are 1.10 to 2.00 mm apart. The anthocodiae show eight longitudinal ribs, in which there are lengthwise disposed, densely arranged, slender, flat spindles, 0.10 to 0.30 mm long and 0.015 to 0.027 mm wide, with minute round processes around the edge (fig. 2a, b). In the grooves between the ribs spicules are absent. The siphonozooids are clearly visible. In the distal parts of the lobes there are two to three of them (sometimes one) between two autozooids, but downwards there are up to six or seven.

The surface layer of the lobes has indefinite clubs, 0.12 to 0.22 mm long and bearing zones of truncated spines or small warts (fig. 2c-g). In the outer layer of the sterile stalk there are the same clubs, usually slightly shorter, and provided with coarser warts; the smaller spicules are more rod-shaped (fig. 2h-k).

The coenenchyme of the lobes contains spindles 0.35 to 0.40 mm long, some elongated, others more compact (fig. 2l, m). Others again look like oval bodies about 0.23 mm long (fig. 2n, o). They all bear zones of tubercles. In the interior of the sterile stalk lie compact casklike or oblong spicules

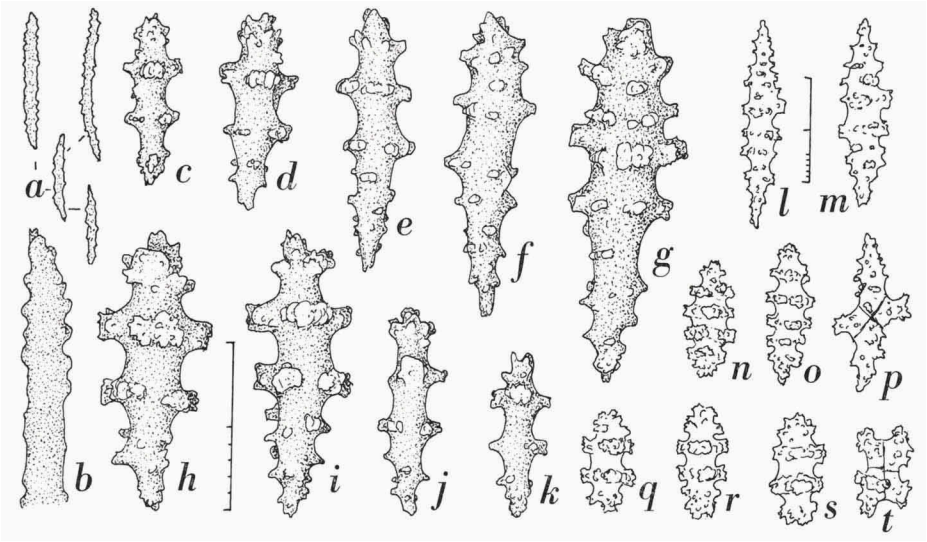

Fig. 2. *Lobophytum cryptocormum* sp. nov., holotype, Tursch Octo-12. a, b, anthocodial spicules; c-g, spicules from surface layer of a lobe; h-k, spicules from surface layer of the sterile stalk; l-p, sclerites from coenenchyme of a lobe; q-t, sclerites from coenenchyme of the sterile stalk. Enlargement of a, l-t indicated by 0.2 mm scale between l and m; that of b-k by 0.1 mm scale at right of h.

0.18 to 0.22 mm long, with two distinct zones of warts and two terminal clusters of warts (fig. 2q-s). In all parts of the colony crosses occur (fig. 2p, t).

Colour. — The dried specimen is grey.

Variability. — Three colonies, preserved in alcohol, are cream-coloured. The others are dry, the colour is grey. They all have long, slender sterile stalks, the length is up to 90 mm. The discs have maximum diameters of 10 to 25 mm. In all colonies, most lobes arise from the edge of the hollow disc. Of the whole stock of dried specimens, only about forty per cent had a small number of lobes arising inside the disc. The length of the lobes is up to 35 mm.

Remarks. — The characteristics of this species are:

(1) the remarkable length of the rather slender sterile stalk, the greater part of which is always buried in the bottom;

(2) the hollow disc with digitiform lobes, usually arising only from the edge of the disc;
(3) the autozooids standing rather wide apart;
(4) the numerous siphonozooids, and
(5) the shape and the dimensions of the sclerites.

The specific name *cryptocormum*, a combination of the Greek words *crypto* = hide, conceal, and *kormos* = trunk of a tree, refers to the fact that the greater part of the stalks are buried in the sandy bottom.

Field-notes. — All specimens have been collected at Laing I. in one spot, from a population of 150 to 200 colonies scattered on a surface of about 100 square meters. They grew on a gentle slope of silty grey sand at a depth of 30 to 35 m, well below the foot of the outer Western reef. This species was the only Alcyonarian present in this sandy zone. The stalks were buried to three quarters of the total height of the colonies on the average and tapering downwards. When fresh, the capitula are yellow-beige to greyish. Expanded autozooids are star-shaped, with a diameter of 2 to 3 mm, and with white to yellowish tentacles.

Sarcophyton Lesson, 1834

Sarcophyton mililatensis sp. nov. (fig. 3, pls. 2, 3)

Material. — Mililat Bay, Madang Harbour, coastal reef, on coral debris in sand, depth 5 m. A. Tursch, collector. Tursch 77: SAR 48, RMNH Coel. no. 12862. One incomplete colony, holotype.

Description. — The total height of the specimen, preserved in alcohol, is 70 mm (pl. 2). The curved sterile stalk measures about 30 mm in height, the width is 16 mm, but the undamaged colony had a wider stalk. The capitulum has a maximum spread of 50 mm. It is deeply cup-shaped; the margin is much convoluted into erect folds, the highest arising to a height of 55 mm from the level of the centre of the capitulum. Half-way up at each side of the highest folds there is one secondary fold. The edge of the capitulum at the lobes is strongly bent outwards.

Many autozooids are not completely retracted (pl. 3). With their nearly expanded tentacles they protrude above the surface like white stars; the diameter is 0.50 to 0.70 mm, tentacles included. Extended tentacles are 0.40 to 0.50 mm long; the tips are usually thicker (fig. 3h). At each side they bear eight to eleven pinnules, clavate or digitiform, arranged in one row, distally perhaps in two rows. On the edge of the capitulum the distance between the centres of the autozooids is 0.80 to 0.90 mm; in the hollow centre the distance is about 1.00 mm, sometimes 1.40 mm. In the preserved

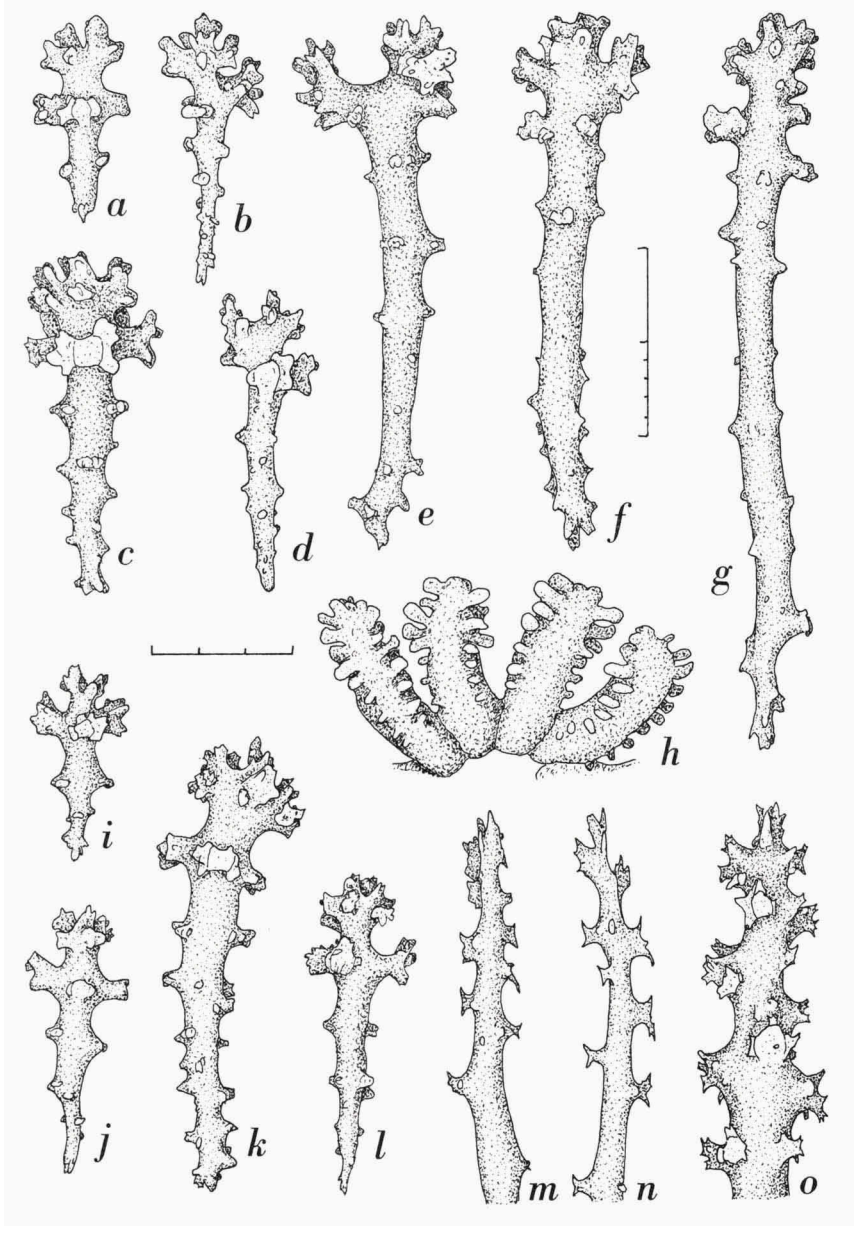

Fig. 3. *Sarcophyton mililatensis* sp. nov., holotype, Tursch 77: SAR 48. a-g, sclerites from surface layer of the disc; h, tentacles; i-l, sclerites from surface layer of the sterile stalk; m, n, sclerites from interior of the disc; o, sclerite from interior of the sterile stalk. Enlargement of all sclerites according to 0.1 mm scale at right of f; that of h according to 0.3 mm scale below d.

specimen the siphonozooids are very indistinct (in life they are clearly visible). They can be seen in sections parallel to the surface. The coelenterons, averagely 0.35 mm wide, are separated from each other by thin walls, 0.05 mm wide.

In these walls lie clubs, 0.11 to 0.45 mm long (fig. 3a-g). The shorter ones have heads composed of high warts, and shafts with many simple warts and blunt spines. The heads of the longer clubs have fewer warts, the shafts are slender, and bear few blunt spines. The surface layer of the sterile stalk contains clubs, 0.09 to 0.26 mm long, with warty heads and handles (fig. 3i-l).

In the coenenchyme of the disc lie needles up to 0.58 mm long. They bear prominences, which widen antlerlike, not unlike those occurring in *S. ehrenbergi*; the ends often show an accumulation of (flat) processes (fig. 3m, n). In the interior of the sterile stalk the spicules, up to 0.65 mm long, are more fusiform; the prominences may be high, spiny warts (fig. 3o) or they are antlerlike.

Colour. — In alcohol the specimen is creamy white.

Remarks. — The species is characterized by the remarkable shape of the erect folds, by the extremely long clubs in the surface layer of the capitulum and by the spicules in the coenenchyme of the capitulum with their antlerlike prominences.

Field-notes. — Stalk 50 to 60 mm high and wide, rough, pinkish grey, hardly visible when the capitulum is extended. Coenenchyme white, forms threads when broken. Capitulum very undulated, folds pointing upwards around the edge, thirty-seven folds for a diameter of 150 mm when in extension; general colour greenish brown. Siphonozooids clearly visible, packed close together. Autozooids about 2 mm high; tentacles forming pale yellow stars with distal parts thickened or rolled. Uncommon: only one colony was found, fixed on coral debris in sand.

Sinularia May, 1898

Sinularia acetabulata sp. nov. (fig. 4, pls. 4, 5)

Material. — Laing I., lagoon inlet N, under overhang, depth 5 m. A. Tursch, collector. Tursch 77: SIN 45, RMNH Coel. no. 12863. A fragment of a colony, holotype.

Description. — The specimen is about two thirds of a colony. The base of attachment of the whole colony had a diameter of 50 mm, in the described preserved fragment dimensions are 30 × 25 mm. From this base, the stalk widens upwards and passes into the cup-shaped capitulum (pl. 4 fig. 1a, b).

The lobes arise all around the edge. They are up to 25 mm long, flattened

laterally, and bear two or more lobules. The terminal ones are 5 to 8 mm wide and 3 to 4 mm thick. A few lobes, 30 mm long, arise also from the inside of the cup.

The polyps are regularly distributed over the lobes and the inside of the cup. They are completely retracted leaving small pits. On the lobes the centres are 1.10 to 1.60 mm apart, on the disc 1.30 to 2.25 mm.

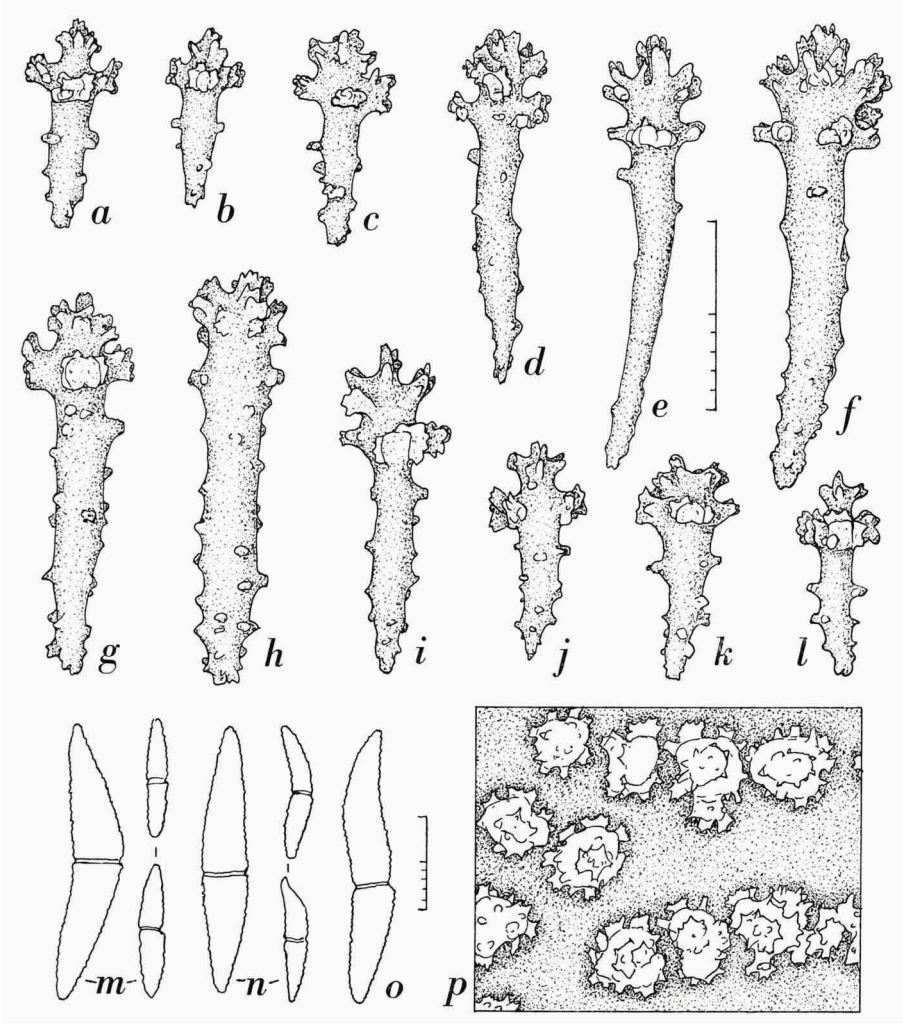

Fig. 4. *Sinularia acetabulata* sp. nov., holotype, Tursch 77: SIN 45. a-f, sclerites from surface layer of a lobe; g-l, sclerites from surface layer of the sterile stalk; m-o, spicules from coenenchyme of the sterile stalk; p, warts on coenenchymal spicule from the stalk. Enlargement of a-l and p indicated by 0.1 mm scale at right of e; that of m-o by 1 mm scale at right of o.

The surface layer of the lobes contains clubs, 0.10 to 0.22 mm long, with warty heads; in many cases there is a distinct central wart (fig. 4a-f). The shorter clubs have handles with blunt spines, the longer ones have handles with few, low cones. The clubs occurring in the surface layer of the sterile stalk hardly differ from those in the lobes if at all (fig. 4g-l).

In the coenenchyme of the lobes and the sterile stalk there are unbranched spindles up to 3.25 mm long and 0.55 mm wide (slightly shorter and narrower in the lobes); they are blunt-ended, and have a median constriction (fig. 4m-o). The warts are fairly small, 0.05 mm in diameter; they are strongly crenellated, and usually arranged in transverse rows (fig. 4p).

Colour. — In alcohol the colour is brown, some parts have turned black.

Remarks. — The cup-shaped disc with the lobes arising from the edge is typical of this species. The specific name *acetabulata* (Latin *acetabulum* = a vinegar cup) refers to this shape.

Field-notes. — Two colonies were found together under a coral overhang at 5 m depth. They were oblong and cup-shaped, one with a capitulum width of 200 mm, a fragment of which is the holotype (pl. 4 fig. 1a, b), the other one with a maximum width of 100 mm (pl. 4 fig. 2a, b). Stalks were low, semi-encrusting, diameter about 50 mm, height 20 to 50 mm. Capitula were pinkish cream in colour, with most lobes around the edge, only a few lobes arose inside of the disc (pl. 5). Autozooids were very short when extended, the small crown of pale pink tentacles (diameter 1 to 1.5 mm, length about 1 mm) arising at the level of the disc surface (velvety aspect).

Sinularia lamellata sp. nov. (fig. 5, pl. 6)

Material. — Mililat Bay, Madang Harbour, depth 20 m. J. Pierret, collector. Tursch 77: SIN 47, RMNH Coel. no. 12864. One colony, holotype .

Description. — The colony is funnel-shaped, but the funnel is strongly flattened laterally (pl. 6). At one side the funnel-wall is 28 mm high, at the other side 65 mm. It is strikingly thin, only a few mm thick. The edge is irregularly incised, and curled outwards. The sterile stalk is 15 mm high and 25 × 17 mm wide at the base.

According to the (short) field-note the polyps are scarce; in the preserved specimen they are not to be found.

The surface layer of the inside of the funnel has clubs 0.13 to 0.21 mm long. The terminal prominences of the club-head consist of a number of closely arranged, pointed, thin spines (fig. 5a-d). Below these there is a girdle of more normal, more or less wartlike processes. The handle is weakly spined; at the blunt end there is an accumulation of inconspicuous spines, cones, and hemispherical processes.

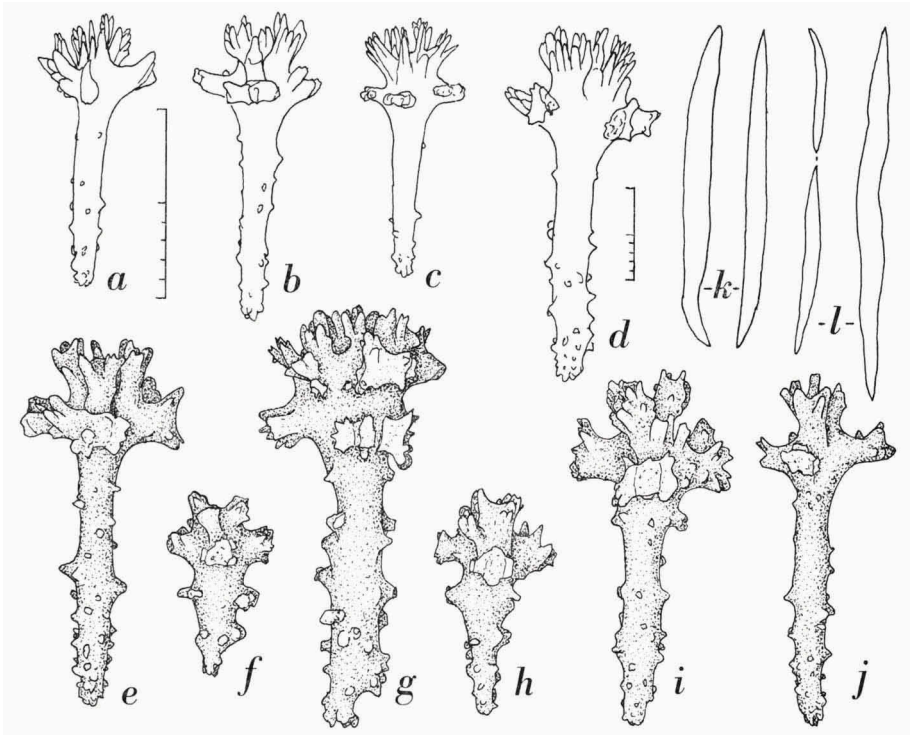

Fig. 5. *Sinularia lamellata* sp. nov., holotype, Tursch 77: SIN 47. a-d, sclerites from surface layer of the upperside of the funnel; e-j, sclerites from surface layer of the sterile stalk; k, l, spicules from coenenchyme of the stalk. For the sake of clearness the clubs a-d have not been dotted. Enlargement of a-j indicated by 0.1 mm scale at right of a; that of k, l by 1 mm scale at right of d.

The clubs in the surface layer of the outside of the funnel and of the sterile stalk are 0.08 to 0.23 mm long (fig. 5e-j). They distinctly differ from those described above. The large heads consist of compound warts; the handles are wider, and bear more prominences, which are sometimes wartlike.

The surface layer of funnel and stalk is so thin and contains so few clubs, that everywhere the coenenchymal sclerites are visible from the outside. The latter are thin, unbranched needles, up to about 4.50 mm long and 0.35 mm wide, and covered with blunt spines, cones, or tiny warts (fig. 5k, l).

Colour. — In alcohol the colony is cream-coloured, in life the colony is dull pink.

Remarks. — This interesting colony is characterized by its shape with the thin, platelike funnel-wall (hence the specific name), and by the spiculation.

Detailed field-notes are not available.

Sinularia sobolifera sp. nov. (fig. 6, pls. 7, 8)

Material. — Mililat Bay, Madang Harbour, coastal reef, depth 10 m. A. Tursch and J. Pierret, collectors. Tursch 77: SIN 55, RMNH Coel. no. 12865. One fragment of a colony, holotype.

Description. — The fragment is two thirds of a colony, it is 110 mm high (pl. 7). The base of attachment is absent, the remainder part of the thick sterile stalk is 30 mm long and wide; it is deeply grooved longitudinally. The thick primary lobes bear a number of secondary and tertiary lobes; the latter are up to 26 mm long, the width is 4 mm. These lobules are irregularly curved, stiff but flexible. The total height of the lobes is 80 mm.

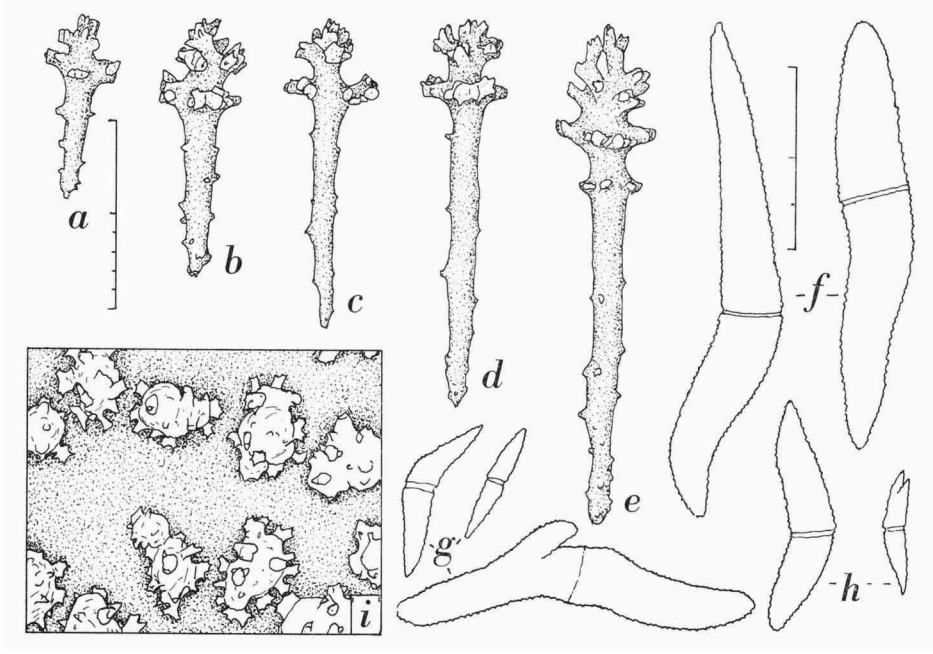

Fig. 6. *Sinularia sobolifera* sp. nov., holotype, Tursch 77: SIN 55. a-e, sclerites from surface layer of a lobe; f-h, sclerites from interior of the sterile stalk; i, warts on coenenchymal sclerite of the stalk. Enlargement of a-e and i indicated by 0.1 mm scale at right of a; that of f-h by 2 mm scale at f.

The polyps are completely retracted, on the lobules the centres are 1.10 to 1.60 mm apart.

The surface layer of the lobes and of the sterile stalk contains slender clubs, 0.10 to 0.27 mm long (fig. 6a-e). Their heads consist of a central compound wart, and below this, a girdle of flat prominences projecting at right angles to the sclerite. The handle is thin and very weakly spined.

In the coenenchyme of the lobes and of the sterile stalk there are curved spindles up to 6.50 mm long and 0.85 mm wide (fig. 6f-h). They are covered with crenellated warts, 0.04 to 0.06 mm in diameter, often arranged in transverse rows (fig. 6i). In the lobes the spicules are more slender, pointed at both ends, and frequently covered with low spines.

Colour. — In alcohol the colony is partly cream-coloured, partly light to dark brown (pl. 7).

Remarks. — The very long, thin clubs and the stout coenenchymal sclerites are typical of the species. The specific name *sobolifera* (Latin: *soboles* = sprout, twig, and *fero* = bear) refers to the treelike branching of the lobes.

Field-notes. — Colonies found in groups. The height of the colonies is 150 to 250 mm. Thick massive sterile stalks 50 to 100 mm high, capping ends of dead coral and strongly attached to this substrate by a basal plate of welded spicules. When torn from its base the stalk shows wide canals (diameter 3 mm) in its periphery. Capitulum arborescent with six to eight thick primary lobes, 50 to 150 mm high, dividing into zig-zag-shaped, finger-thick secondary lobes, 50 to 60 mm high. Long (6 to 7 mm) thick spicules are visible under surface layer.

When partly retracted, polyps show as white dots; when extended, tentacles form white crowns about 1 mm high (velvety aspect). The general colour of the capitula is pale brown. In one colony, however, two lobes were pale yellow (pl. 8).

Sun-dried specimens turn black. Specimens in alcohol other than the one described here turn dark brown to black, and a flaky deposit is formed.

In the preserved described specimen the wide canals in the periphery of the stalk mentioned above are hardly visible if at all.

Xeniidae Ehrenberg, 1828

Xenia Lamarck, 1816

Xenia actuosa sp. nov. (fig. 7, pl. 9)

Material. — Boësa I., S reef flat, depth 5 m. A. Tursch, collector. Tursch 77: VAR 23, RMNH Coel. no. 12866. One colony, holotype.

Description. — For a *Xenia* the colony is a big one (pl. 9). The height is about 50 mm. Although the stalks are rather stiff, in alcohol the whole specimen is slimy.

From a common basal plate, 45 × 15-20 mm wide, 15 mm thick, three stems arise. At their base the width is 16 to 18 mm, the height about 25 mm. Two stems remain unbranched, the capitula are 38 mm wide. The third

stem divides distally into two short, thick branches, each bearing a capitulum 22 mm wide. The capitula are flat or slightly hollow. The whole group of four capitula touching one another is oval in shape, about 80 × 60 mm in diameter.

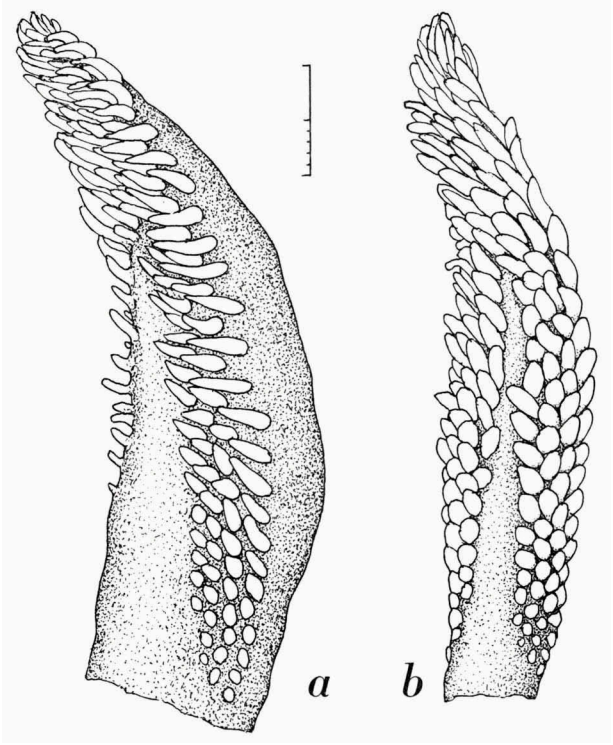

Fig. 7. *Xenia actuosa* sp. nov., holotype. Tursch 77: VAR 23. a, b, tentacles. Enlargement as indicated by 1 mm scale.

The polyps are opaque, flabby. The anthocodiae are either cylindrical with a width of about 1.50 mm, or they are flattened laterally, with a width of 1.75 to 2.25 mm; the length is up to 9.50 mm. The tentacles are 4.30 to 6.40 mm long (fig. 7). At each side they bear four very regular rows of densely placed pinnules. At the base they are small knobs; upwards they are cone-shaped; in the distal part they are pointed, 0.60 mm long. The outermost row has twenty-one to twenty-eight pinnules. In some polyps the tentacles are thick, 1.60 mm wide at the base, flabby, more or less transparent; in this case there is at the oral side of the tentacle a wide median strip free from pinnules nearly up to the tip of the tentacle (fig. 7a). In most polyps, however, the tentacles are more slender, 0.80 to 1.00 mm wide at the base,

slightly stiffer, not transparent (probably by the fixative); here only the basal part of the tentacle is free (fig. 7b). Sclerites are absent.

Colour. — In alcohol, the base of attachment and the stems are dirty white, the polyps are white or brown or partly white and brown.

Remarks. — Just as the new species *X. mucosa* described hereafter, this species is characterized by the presence of four rows of pinnules on each side of the tentacle, and by the absence of sclerites. But *X. mucosa* is much more fragile on collection, slimier in alcohol, and has much more pinnules in the outermost row.

The specific name *actuosa* refers to the active pulsation of the polyps (see below).

Field-notes. — Colonies of this species are found in small groups. Most have two or three stems diverging from a common basal plate or a common "trunk". Stem surface is pearl-white and smooth. The most obvious character in situ is the very active pulsation of the polyps, retained to some extent even after transfer in an aquarium. The polyps are white, up to 30 mm long, the tentacles (length about 10 mm) show on both faces a thin median white line surrounded by sepia-brown pinnules.

Stem and polyps are not slimy in vivo. When dipped in alcohol the colony exudes a thick yellow mucus.

Xenia mucosa sp. nov. (pl. 10)

Material. — Boësa I., S reef flat, depth 5 m. A. Tursch, collector. Tursch 77: VAR 22, RMNH Coel. no. 12867. One colony, holotype.

Description. — The very flabby colony measures 80 to 90 mm in total height. At its base the stem has a diameter of 10 mm. At a height of 15 mm it is 18 mm wide. Here it gives off a side-branch, and at a height of 40 mm the stem divides into two branches, which begin to bear polyps at a height of about 55 mm from the base. The concave capitula vary in width from 14 to 22 mm.

The anthocodiae are up to 18 mm long. A lot of them are contracted; owing to this the polyp wall is wrinkled transversely. The tentacles are slender and pointed, and up to 15 mm long. At the base the width is 2.50 mm. The pinnules are in four, sometimes five regular rows on each side of the tentacle, leaving a bare median region, which narrows upwards; the distal part of the tentacle is not free. The outermost row has thirty-six to thirty-eight pinnules, which are curved, often twisted, tapering distally, up to 0.80 mm long and 0.15 mm wide at the base.

Sclerites are absent; the anthocodiae and tentacles are transparent.

Colour. — In alcohol the colony is light brown.

Remarks. — All species of *Xenia* known till now with four rows of pinnules on each side of the tentacle have much fewer pinnules in the outermost row than this new species.

The specific name *mucosa* = slimy refers to the property of autolysing into a slimy mass after being taken out of the water.

Field-notes. — This species is quite abundant in the collection locality, some groups covering surfaces up to one square meter. The colonies have mostly single, about 100 mm high, columnar stems (diameter about 40 mm), but some forked ones are also present, with two or three stems. Stem surface is pinkish white, soft to the touch. An obvious characteristic in situ is the presence side by side of fully extended colonies and of contracted, curled inwards ones (pl. 10). When extended, polyps are rosy beige, about 30 to 40 mm long, the tentacles are up to 30 mm long and dark beige. They are not pulsating but float to form a wide tuft, which hides the stem from above. In the other condition, polyps are not retracted but tightly contracted with tentacles curling inwards. The stem becomes then visible, and the capitulum is grey.

When collected, this *Xenia* autolyses in a matter of 15 to 20 minutes into a shapeless slime, in seawater or even in 70% alcohol when the colony is merely dropped in a container. The only way found of preserving it was to dip it immediately after collection in 90% alcohol, taking good care not to let the colony touch any container walls.

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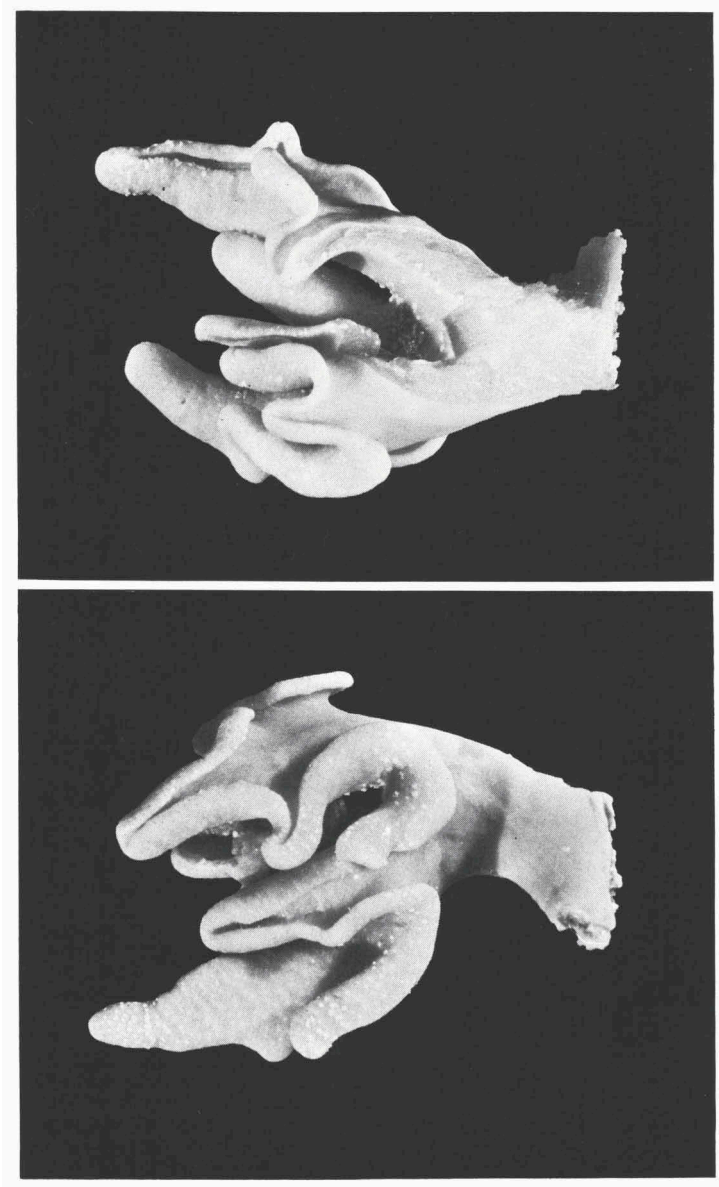
Lobophytum cryptocormum sp. nov.; *a*, holotype, RMNH Coel. no. 12861; *b*, *c*, paratypes.
× 1.



Sarcophyton mililatensis sp. nov., holotype, RMNH Coel. no. 12862; seen from two sides. × 1.

Sarcophyton mililatensis sp. nov., holotype, under water photo, enlarged.

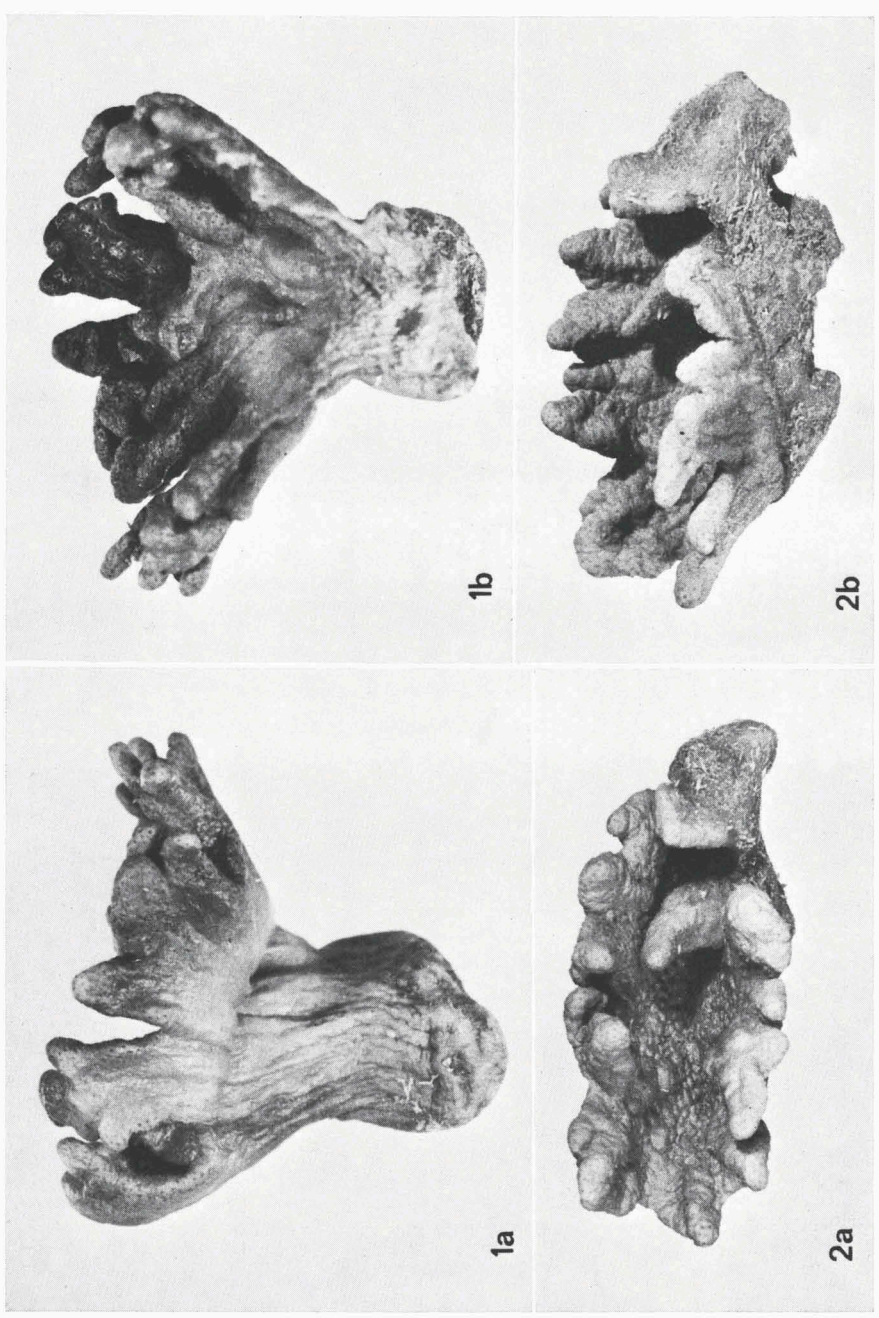
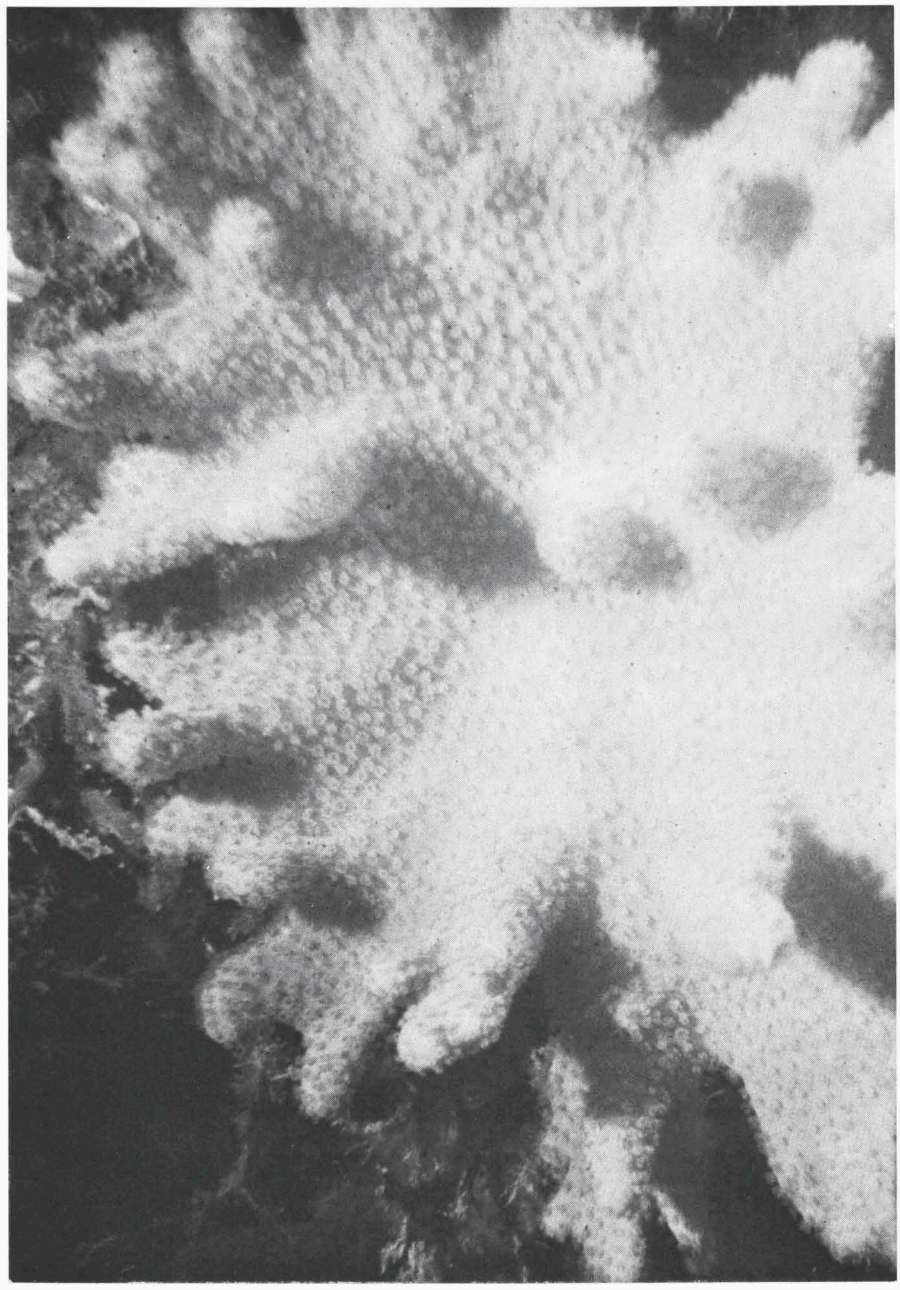


Fig. 1a, b. *Simularia acetabulata* sp. nov., holotype, RMNH Coel. no. 12863. × 1.
Fig. 2a, b. *Simularia acetabulata* sp. nov., paratype. × 1.



Simularia acetabulata sp. nov., under water photo, enlarged.

Simularia lamellata sp. nov., holotype, RMNH Coel. no. 12864; seen from two sides. × 1.

Sinularia sobolifera sp. nov., holotype, RMNH Coel. no. 12865; seen from two sides. × 1.

Simularia sobolifera sp. nov., under water photo, enlarged.

Xenia actuosa sp. nov., under water photo, enlarged.

Xenia mucosa sp. nov., under water photo showing several colonies in different stages of contraction.