# Results of the Rumphius Biohistorical Expedition to Ambon (1990)



# Part 3. The Alcyoniidae (Octocorallia: Alcyonacea)

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Key words: Octocorallia; Alcyonacea; Alcyoniidae; new species; new records; Ambon; Indonesia. New records of Alcyoniidae for Ambon are given and one new species, *Sinularia slieringsi*, is described and figured. Specimens of *S. capitalis* (Pratt, 1903), *S. flexibilis* (Quoy & Gaimard, 1833), *S. hirta* (Pratt, 1903), *S. muralis* May, 1899, and *S. procera* Verseveldt, 1977, are discussed.

#### Introduction

This publication deals with a collection of soft corals from Ambon, collected by C.H.J.M. Fransen and J.C. den Hartog, Nationaal Natuurhistorisch Museum, The Netherlands, during the Rumphius Biohistorical Expedition in 1990. All specimens are preserved in 70% alcohol. The material is deposited in the Nationaal Natuurhistorisch Museum, Leiden, The Netherlands.

Up till now the following Alcyoniidae have been recorded from Ambon:

1) Sarcophyton glaucum (Quoy & Gaimard, 1833); described by Burchardt, 1903, as Sarcophytum gracile, S. glaucum var. pauperculum and S. glaucum var. amboinensis; by Roule, 1908, as Sarcophytum fungiforme; by Thomson & Dean, 1931, as Sarcophytum glaucum.

2) S. ehrenbergi von Marenzeller, 1886; described by Burchardt, 1903, as Sarcophytum var. areolata; by Roule, 1908, as Sarcophytum Reichenbachi.

3) S. trocheliophorum von Marenzeller, 1886; described by Burchardt, 1903, as Sarcophytum trocheliophorum var. amboinensis, S. trocheliophorum var. intermedia and Alcyonium sarcophytoides; by Roule, 1908, as Sarcophytum plicatum.

4) ? S. boettgeri Schenk, 1896; described by Roule, 1908, as Sarcophytum Boettgeri

[according to Verseveldt (1982) the description of Roule is too incomplete to ascertain this identification].

5) ? Lobophytum crassum von Marenzeller, 1886; described by Roule, 1908, as Lobophytum Hedleyi [according to Verseveldt (1983) a doubtful identification].

6) L. pauciflorum (Ehrenberg, 1834); described by Roule, 1908, and Thomson & Dean, 1931, as L. candelabrum.

7) Sinularia leptoclados (Ehrenberg, 1834); described by Burchardt, 1903, as Alcyonium leptoclados; by Thomson & Dean, 1931, as Sinularia leptoclados.

8) S. mayi Lüttschwager, 1914 [Verseveldt (1980) suspects that part of the material described by Burchardt, 1903, as Alcyonium polydactylum belongs to this species].

9) S. polydactyla (Ehrenberg, 1834); described by Burchardt, 1903, as Alcyonium polydactylum; by Roule, 1908, as A. polydactylum and Sclerophytum Herdmani; by Thomson & Dean, 1931, as Sinularia polydactyla.

10) S. rigida (Dana, 1846); described by Burchardt, 1903, as Alcyonium rigidum var. amboinensis.

Furthermore, Burchardt, 1903, described two other species from Ambon: Alcyonium lobatum Pallas, 1776, and Metalcyonium molle spec. nov. The first is a misidentification as A. lobatum is a synonym of the Atlantic A. digitatum Linnaeus, 1758. The description of the second species was based on a badly preserved specimen as only one sclerite was found in the coenenchyme. The status of both species is still uncertain.

In this publication 39 species are listed, one of which is new. Of the 10 species listed above *Sarcophyton boettgeri*, *Sinularia mayi* and *S. rigida* are not present in the material examined.

The following abbreviations for depositories have been used: BMNH = The Natural History Museum (formerly British Museum [Natural History]), London; RMNH = Nationaal Natuurhistorisch Museum (formerly Rijksmuseum van Natuurlijke Historie), Leiden; ZMB = Zoologisches Museum Berlin; ZMTAU = Zoological Museum Tel Aviv University.

For a list of the stations we refer to Strack (1993) and fig. 1.

#### List of the species

Family Alcyoniidae Lamouroux, 1812

Genus Alcyonium Linnaeus, 1758

A. rotundum Thomson & Dean, 1931: sta. 5 (RMNH Coel. 18979)

A. simplex Thomson & Dean, 1931: sta. 3 (RMNH Coel. 18980)

Genus Cladiella Gray, 1869

C. australis (Macfadyen, 1936): sta. 3 (RMNH Coel. 18981); sta. 11 (RMNH Coel. 18982); sta. 27 (RMNH Coel. 18983)

C. krempfi (Hickson, 1919): sta. 11 (RMNH Coel. 18984); sta. 27 (RMNH Coel. 18985)

C. pachyclados (Klunzinger, 1877): sta. 15 (RMNH Coel. 18986)

Genus Dampia Alderslade, 1983

D. pocilloporaeformis Alderslade, 1983: sta. 27 (RMNH Coel. 18987)

Genus Lobophytum von Marenzeller, 1886

L. crassum von Marenzeller, 1886: sta. 3 (RMNH Coel. 18988); sta. 5 (RMNH Coel. 18989); sta. 15 (RMNH Coel. 18990); sta. 27 (RMNH Coel. 18991)

L. denticulatum Tixier-Durivault, 1956: sta. 15 (RMNH Coel. 18992)

L. gazellae Moser, 1919: sta. 5 (RMNH Coel. 18993)



Fig. 1. Map of Ambon Island showing all localities sampled.

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- L. pauciflorum (Ehrenberg, 1834): sta. 3 (RMNH Coel. 18994); sta. 5 (RMNH Coel. 18995); sta. 16 (RMNH Coel. 18996); sta. 23 (RMNH Coel. 18997)
- L. schoedei Moser, 1919: sta. 3 (RMNH Coel. 18998)
- L. strictum Tixier-Durivault, 1957: sta. 39 (RMNH Coel. 18999)

Genus Sarcophyton Lesson, 1834

- S. ehrenbergi von Marenzeller, 1886: sta. 3 (RMNH Coel. 19000)
- S. elegans Moser, 1919: sta. 15 (RMNH Coel. 19528)
- S. glaucum (Quoy & Gaimard, 1833): sta. 3 (RMNH Coel. 19529)
- S. trocheliophorum von Marenzeller, 1886: sta. 15 (RMNH Coel. 19530); sta. 16 (RMNH Coel. 19531); sta. 23 (RMNH Coel. 19532); sta. 27 (RMNH Coel. 19533).

Genus Sinularia May, 1898

- S. brassica May, 1898: sta. 3 (RMNH Coel. 19536)
- S. capitalis (Pratt, 1903): sta. 3 (RMNH Coel. 19537)
- S. cristata Tixier-Durivault, 1969: sta. 21 (RMNH Coel. 19571)
- S. cruciata Tixier-Durivault, 1970: sta. 3 (RMNH Coel. 19538); sta.39 (RMNH Coel. 19539)
- S. depressa Tixier-Durivault, 1970: sta. 21 (RMNH Coel. 19540); sta. 27 (RMNH Coel. 19541)
- S. flexibilis (Quoy & Gaimard, 1833): sta. 3 (RMNH Coel. 19542); sta. 5 (RMNH Coel. 19543)
- S. granosa Tixier-Durivault, 1970: sta. 5 (RMNH Coel. 19544); sta. 16 (RMNH Coel. 19545); sta. 27 (RMNH Coel. 19546); sta. 39 (RMNH Coel. 19547)
- S. heterospiculata Verseveldt, 1970: sta. 11 (RMNH Coel. 19548)
- S. hirta (Pratt, 1903): sta. 3 (RMNH Coel. 19549); sta. 15 (RMNH Coel. 19550); sta. 16 (RMNH Coel. 19551)
- S. humesi Verseveldt, 1968: sta. 3 (RMNH Coel. 19573); sta. 15 (RMNH Coel. 19574)
- S. intacta Tixier-Durivault, 1970: sta. 15 (RMNH Coel. 19552)
- S. kavarattiensis Alderslade & Shirwaiker, 1991: sta. 5 (RMNH Coel. 19553); sta. 39 (RMNH Coel. 19554)
- S. leptoclados (Ehrenberg, 1834): sta. 5 (RMNH Coel. 19555); sta. 39 (RMNH Coel. 19556)
- S. lochmodes Kolonko, 1926: sta. 3 (RMNH Coel. 19557); sta. 15 (RMNH Coel. 19558)
- S. molesta Tixier-Durivault, 1970: sta. 11 (RMNH Coel. 19559)
- S. muralis May, 1899: sta. 39 (RMNH Coel. 19560)
- S. nanolobata Verseveldt, 1977: sta. 5 (RMNH Coel. 19561); sta. 11 (RMNH Coel. 19562)
- S. notanda Tixier-Durivault, 1966: sta. 3 (RMNH Coel. 19563); sta. 23 (RMNH Coel. 19564)
- S. ovispiculata Tixier-Durivault, 1970: sta. 39 (RMNH Coel. 19565)
- S. polydactyla (Ehrenberg, 1834): sta. 3 (RMNH Coel. 19566); sta. 5 (RMNH Coel. 19567); sta. 15 (RMNH Coel. 19568); sta. 23 (RMNH Coel. 19569)
- S. procera Verseveldt, 1977: sta. 16 (RMNH Coel. 19570)
- S. slieringsi spec. nov.: sta. 11 (RMNH Coel. 19534, 19535)
- S. variabilis Tixier-Durivault, 1945: sta. 16 (RMNH Coel. 19575)

## **Descriptive part**

Sinularia capitalis (Pratt, 1903) (figs. 2-3)

For synonymy see Verseveldt, 1980: 25.

Material.— Sta. 3, Leitimur, Ambon Bay, outer bay, Batumerah (near Ambon city), 1-3 m, 7/9.xi.1990, 1 specimen (RMNH Coel. 19537).

Remarks.— The colony (fig. 2) resembles *S. capitalis* (Pratt, 1903), although it is much larger than the colonies examined by Verseveldt (1980, pl. 5 figs. 1-2). The specimen also has the same type of sclerites as *S. capitalis* but the clubs of the surface layer of the lobes are much longer than reported by Verseveldt (1980: 25). Whereas



Fig. 2. Sinularia capitalis (Pratt, 1903); specimen from sta. 3 (RMNH Coel. 19537). Scale 1 cm.

Verseveldt mentioned clubs up to 0.17 mm long; they are up to 0.27 mm long in the present material. Some forms, intermediate between clubs and spindles, even reach a length of 0.30 mm. In the stalk the sclerites do not differ significantly from those of *S. capitalis*. For comparison sclerites of the surface layer of the holotype of *S. capitalis* (fig. 3a) and of the present specimen are presented (figs. 3b-c).

Sinularia flexibilis (Quoy & Gaimard, 1833) (figs. 4-9)

For synonymy see Verseveldt, 1980: 54.

Material.— Sta. 3, Leitimur, Ambon Bay, outer bay, Batumerah (near Ambon city), 1-3 m, 7/9.xi.1990, 3 specimens (RMNH Coel. 19542); sta. 5, Leitimur, Ambon Bay, outer bay, Tg. Benteng, 1-2 m, 8/9.xi. & 2.xii.1990, 1 specimen (RMNH Coel. 19543).

Remarks.— Up till now all specimens referred to S. flexibilis (Quoy & Gaimard,



Fig. 3. *Sinularia capitalis* (Pratt, 1903), sclerites; a, holotype (BMNH 1936.5.12.3), clubs of surface layer of lobe; b-c, specimen from sta. 3 (RMNH Coel. 19537), b, clubs of surface layer of lobe; c, spindle of surface layer of lobe. Scale 0.10 mm.



Fig. 4. Sinularia flexibilis (Quoy & Gaimard, 1833); two specimens from sta. 3 (RMNH Coel. 19542). Scale 1 cm.

1833) only showed sclerites in the base of the colony, the terminal lobes having no sclerites at all. In all of the present specimens the lobes also have many sclerites. The surface layer of the lobes has clubs with warty heads (figs. 5, 8a). Most of the clubs vary in length from 0.07-0.15 mm, but some are up to 0.27 mm long. The longer clubs have a distinct handle but some of the smaller ones have an elliptical outline (fig. 5a). Several clubs show a central wart (figs. 5c, e-h, j-k, m-n). Furthermore, spindles up to about 0.35 mm long, with simple tubercles (fig. 8b), are present. The interior has a few spindles, up to 0.75 mm long, mostly with simple, some with complex tubercles (figs. 7a-f). The sclerites of the base (figs. 6, 7g-k, 8c) do not differ from those of other specimens of *S. flexibilis* (figs. 9a-b).

Because the colony form (fig. 4) and the sclerites of the base are similar to those of *S. flexibilis*, we refer the present specimens to that species rather than describing them as a new species.

Sta. 16 contains one specimen (RMNH Coel. 19570) much resembling *S. procera* Verseveldt, 1977. The specimen shows no sclerites in the terminal lobes, the surface layer of the distal part of the stalk has clubs, 0.05-0.07 mm long, with ill defined heads. These clubs are identical to those described by Verseveldt (1977: 30, fig. 23) for *S. procera*. In the surface layer of the lower part of the stalk of the colony from sta. 16 the same small clubs occur, but here also larger clubs are present, up to 0.20 mm long (fig. 9c). As Verseveldt based his description of *S. procera* on a specimen with only a distal part of the stalk he did not find these large clubs.

The present specimen differs from *S. procera* in having mostly unbranched spindles in the interior, while Verseveldt mentioned branched spindles. As some spindles are branched in the specimen from sta. 16 we consider this difference as intraspecific varation.

S. fibrillosa Li, 1982, like S. procera based on a specimen lacking the base, differs from S. procera in having only unbranched spindles in the interior of the distal part of the stalk. Considering the above mentioned specimen, S. fibrillosa possibly also represents intraspecific variation of S. procera.



Fig. 5. Sinularia flexibilis (Quoy & Gaimard, 1833), sclerites of specimen from sta. 3 (RMNH Coel. 19542), clubs of surface layer of lobe. Scales 0.05 mm. Scale at 5e applies to 5a-i; scale at 5p to 5j-p.



Fig. 6. Sinularia flexibilis (Quoy & Gaimard, 1833), sclerites of specimen from sta. 3 (RMNH Coel. 19542); a-k, clubs of surface layer of base; l-m, spindles of surface layer of base. Scales 0.05 mm. Scale at 6d applies to 6a-e; scale at 6g to 6f-g; scale at 6k to 6h-k; scale at 6m to 6l-m.



Fig. 7. Sinularia flexibilis (Quoy & Gaimard, 1833), sclerites of specimen from sta. 3 (RMNH Coel. 19542); a-f, spindles of interior of lobe; g-k, spindles of interior of base. Scales at 7a and 7f 0.10 mm, others 0.50 mm. Scale at 7a applies to 7a-e; scale at 7f to 7f; scale at 7g to 7g-h.

Comparing *S. procera* with *S. flexibilis*, both with the same colony form and only differing by the presence of the small clubs in *S. procera*, we don't exclude the possibility that we are dealing with one variable species instead of two different species. As more material is required to decide about this matter, we treat them as different species.

Sinularia hirta (Pratt, 1903) (figs. 10-11)

For synonymy see Verseveldt, 1980: 71.

Material.— Sta. 3, Leitimur, Ambon Bay, outer bay, Batumerah (near Ambon city), 1-3 m, 7/9.xi.1990, 1 specimen (RMNH Coel. 19549); sta. 15, Hitu, Baguala Bay, 0.5 km W of Tial, 1-3 m, 13/14.xi.1990, 1 specimen (RMNH Coel. 19550); sta. 16, W-side of Pombo Island, 15/17.xi.1990, 3 specimens (RMNH Coel. 19551).



Fig. 8. Sinularia flexibilis (Quoy & Gaimard, 1833), sclerites of specimen from sta. 3 (RMNH Coel. 19542); a, clubs of surface layer of lobe; b, spindle of surface layer of lobe; c, clubs of surface layer of base. Scale 0.10 mm.



Fig. 9. Sinularia flexibilis (Quoy & Gaimard, 1833), sclerites of specimen from New Caledonia (RMNH Coel. 10450); a, clubs of surface layer of base; b, spindles of surface layer of base; Sinularia procera Verseveldt, 1977, sclerites of specimen from sta. 16 (RMNH Coel. 19570); c, clubs of surface layer of base, d, spindles of surface layer of base. Scale 0.10 mm.



Fig. 10. Sinularia hirta (Pratt, 1903); a, specimen from sta. 3 (RMNH Coel. 19549); b, specimen from sta. 16 (RMNH Coel. 19551). Scale 1 cm.

Remarks.— The specimens from sta. 16 show a remarkable growth form (fig. 10b). Whereas the other two specimens examined (fig. 10a) look similar to the holotype (see Verseveldt, 1980, pl. 22 figs. 1-2), the colonies from sta. 16 have a growth form more similar to that of *S. lochmodes* Kolonko, 1926 (see Verseveldt, 1980, pls. 25-27). We have compared the sclerites of the present specimens with those of the holotype of *S. hirta* (Pratt, 1903). Although not mentioned by Verseveldt (1980: 71), many clubs of the surface layer of the holotype possess a central wart (Verseveldt, 1980, figs. 33g, i, j), and the polyps also contain bent spindles in addition to the clubs and small rods. The sclerites of the present specimens (fig. 11) agree with those of the holotype.

> Sinularia muralis May, 1899 (figs. 12-14)

For synonymy see Verseveldt, 1980: 94.

Material.— Sta. 39, Hitu, W coast, S-side Larike, up to and including Batu Suangi, 1.5-4 m, 8, 9.xii.1990; 1 colony, broken into two pieces (RMNH Coel. 19560).

Description.— The largest colony fragment has a maximum cross-section of 10.5  $\times$  8 cm (fig. 12a); the smaller fragment 11  $\times$  5 cm (fig. 12b). The height of the stalk var-



Fig. 11. *Sinularia hirta* (Pratt, 1903), sclerites; a-c, specimen from sta. 16 (RMNH Coel. 19551); a, clubs of surface layer of lobes; b, spindle of surface layer of lobe; c, anthocodial sclerites; d-f, specimen from sta. 3 (RMNH Coel. 19549); d, clubs of surface layer of lobe; e, spindle of surface layer of lobe; f, anthocodial sclerites. Scale 0.10 mm.



Fig. 12. Sinularia muralis May, 1899; specimen from sta. 39 (RMNH Coel. 19560). Scales 1 cm.

ies between 2.5-5 cm. The lobes are finger like with occasionally a small side branch. Several of the primary lobes are flattened laterally with some small lobes at the upper end. The largest lobe is about 5 cm long. Polyps with bent spiny rods up to about 0.20 mm long and modified *leptoclados*-type clubs up to 0.13 mm long (fig. 13c). Tentacles with small rods, about 0.05 mm long. The surface of the lobes with small clubs of the *leptoclados*-type up to about 0.12 mm long and wart clubs up to 0.20 mm long (fig. 13a). Furthermore, small spindles, up to 0.30 mm long, are present (fig. 13b). Transitions of the small spindles to the clubs as well as to the spindles of the interior are present. The interior of the lobes with unbranched spindles, up to about 3.50 mm long, with simple or complex tubercles. The surface of the stalk has similar sclerites as the lobes, but they are wider (fig. 14c). The interior of the stalk with unbranched spindles, up to 2.50 mm long, with simple or complex tubercles.

Colour.— The preserved specimen is brown-coloured.

Remarks. — Although the colony form is quite distinct from *Sinularia muralis*, the sclerites are rather similar. The main difference is that most of the clubs of the lobes have pointed handles, all but absent in the holotype of *S. muralis* (fig. 14a).

Micro-slide preparations of the holotype of *S. muralis* examined contain no anthocodial sclerites. For that reason a specimen from the Seychelles, identified as *S. muralis*,



Fig. 13. *Sinularia muralis* May, 1899, sclerites of specimen from sta. 39 (RMNH Coel. 19560); a, clubs of surface layer of lobe; b, spindles of surface layer of lobe; c, anthocodial sclerites. Scale 0.10 mm.



Fig. 14. *Sinularia muralis* May, 1899, sclerites; a-b, holotype (ZMB C2370); a, clubs of surface layer of crest; b, spindles of surface layer of crest; c-d, specimen from sta. 39 (RMNH Coel. 19560); c, clubs of surface layer of base; d, spindles of surface layer of base. Scale 0.10 mm.

was also examined. This specimen shows the wide, wall-like crests, characteristic for *S. muralis*. The polyps also have bent spiny rods, but the anthocodial clubs are slightly different from the modified *leptoclados*-type. However, the surface layer of the crests shows many more clubs with pointed handles than in the holotype.

Because of the similarity of the sclerites and despite of the different colony form we include the specimen from Ambon in *S. muralis*.

Sinularia slieringsi spec. nov. (figs. 15-20)

Material.— Holotype (RMNH Coel. 19534), sta. 11; paratype (RMNH Coel. 19535), sta. 11, Leitimur, Cape Nusaniwe, 1-4 m, 12.xi.1990.

Description.— The holotype has an encrusting growth form with a maximal cross-section of  $9 \times 6.5$  cm (fig. 15a). The capitulum consists of a number of small laterally flattened lobes and crests. Most lobes are about 0.5 cm high, but some reach 1 cm in height. The polyps contain poorly developed clubs up to about 0.10 mm long, and small rods about 0.05 mm long. The surface layer of the lobes contains clubs, 0.06-0.25 mm long (figs. 16a-n). Some of the smallest are like *leptoclados*-type clubs (fig. 16f), the others are with (fig. 16e) or without a central wart. Furthermore, small spindles, 0.20-0.40 mm long, with simple tubercles are present (figs. 16o-p). A few



Fig. 15. Sinularia slieringsi spec. nov.; a, holotype (RMNH Coel. 19534); b, paratype (RMNH Coel. 19535). Scale 1 cm.



Fig. 16. *Sinularia slieringsi* spec. nov., sclerites of lobe of holotype (RMNH Coel. 19534); a-n, clubs of surface layer; o-p, spindles of surface layer; q-s, spindles of interior. Scale at 16r 1 mm, others 0.05 mm. Scale at 16f applies to 16a-g; scale at 16h to 16h; scale at 16k to 16i-k; scale at 16o to 16l-o; scale at 16p to 16p, scale at 16r to 16q-s.



Fig. 17. *Sinularia slieringsi* spec. nov., sclerites of base of holotype (RMNH Coel. 19534); a-j, clubs of surface layer; k-m, spindles of surface layer; n-o, spindles of interior. Scale at 17n 0.10 mm, others 0.05 mm. Scale at 17b applies to 17a-b; scale at 17g to 17c-g; scale at 17l to 17h-l; scale at 17m to 17m; scale at 17n to 17n-o.



Fig. 18. *Sinularia slieringsi* spec. nov., sclerites of paratype (RMNH Coel. 19535); a, clubs of surface layer of lobe; b, anthocodial sclerites; c, spindles of surface layer of lobe. Scale 0.10 mm.



Fig. 19. *Sinularia slieringsi* spec. nov., sclerites; a, clubs of surface layer of base of paratype (RMNH Coel. 19535); b, clubs of surface layer of base of holotype (RMNH Coel. 19534); c. spindles of surface layer of base of holotype. Scale 0.10 mm.

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Fig. 20. Sinularia barcaformis Verseveldt & Benayahu, 1983, sclerites of holotype (ZMTAU Co 19217); a, clubs of surface layer of disc; b, anthocodial clubs; c, spindles of surface layer of disc. Scale 0.10 mm.

transitional forms between the clubs of the surface layer and the spindles of the interior were also found. The interior of the lobes contains spindles up to 3.00 mm long, some with a side branch (figs. 16q-s). The surface layer of the base has similar sclerites as the lobes, but most clubs and spindles are wider than those of the top of the colony (figs. 17a-j, 19b-c). The interior of the base with spindles up to 4.00 mm long, some with a side branch (figs. 17n-o).

Colour.— The preserved specimen is cream-coloured.

Etymology.— The species is named for Mr M. Slierings (technical assistent of the Coelenterate section of the Nationaal Natuurhistorisch Museum) for his continuous support to our work on octocorals.

Remarks.— The paratype is laterally compressed (fig. 15b) but shows the same small lobes. The sclerites are similar to those of the holotype (figs. 18, 19a).

The species belongs to group 3 of Verseveldt (1980: 7); most clubs are 0.06-0.12 mm long, not of the *leptoclados*-type, and without central wart. In this group the species resembles most *S. barcaformis* Verseveldt & Benayahu, 1983, especially the laterally flattened paratype. It differs in having small lobes, whereas *S. barcaformis* has no lobes at all. The anthocodial clubs are much shorter (up to 0.10 mm long) than in *S. barcaformis* (up to 0.20 mm long), and the clubs of the surface layer of the lobes have less compressed heads. For comparison some drawings of sclerites of the surface layer and polyps of the holotype of *S. barcaformis* are also presented (fig. 20).

The sclerites of *S. slieringsi* also resemble those of *S. cristata* Tixier-Durivault, 1969, but that species has a distinct stalk and the polyps have a crown of bent spindles.

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### References

- Burchardt, E., 1903. Alcyonaceen von Thursday Island (Torres-Strasse) und Amboina. II. Alcyonaceen von Amboina. In: Semon, Zoologische Forschungsreisen 5 (6).— Denkschr. med.-naturw. Ges. Jena 8: 645-682, pls. 54-57.
- Li, C., 1982. Studies on the Alcyonacea of the South China Sea 1. Alcyonacea from Yalong Bay.-Tropic Oceanology 1 (2): 156-169, figs. 1-2, pls. 1-6.

Roule, L., 1908. Alcyonaires d'Amboine.- Revue Suisse Zool. 16 (2): 161-194, pls. 6-8.

- Strack, H.L., 1993. Results of the Rumphius Biohistorical Expedition to Ambon (1990). Part 1. General Account and List of Stations.— Zool. Verh. Leiden 289: 1-72, figs. 1-65.
- Thomson, J.A. & L.M.I. Dean, 1931. The Alcyonacea of the Siboga Expedition with an addendum to the Gorgonacea.— Siboga Exped. 13d: 1-227, pls. 1-28.
- Verseveldt, J., 1977. Octocorallia from various localities in the Pacific Ocean.— Zool. Verh. Leiden 150: 1-42, figs. 1-28, pls. 1-10.
- Verseveldt, J., 1980. A revision of the genus *Sinularia* May (Octocorallia, Alcyonacea).— Zool. Verh. Leiden 179: 1-128, figs. 1-68, pls 1-38.
- Verseveldt, J., 1982. A revision of the genus Sarcophyton Lesson (Octocorallia, Alcyonacea).— Zool. Verh. Leiden 192: 1-91, figs. 1-39, pls. 1-24.
- Veseveldt, J., 1983. A revision of the genus Lobophytum Von Marenzeller (Octocorallia, Alcyonacea).— Zool. Verh. Leiden 200: 1-103, figs. 1-51, pls. 1-31.
- Verseveldt, J. & Y. Benayahu, 1983. On two old and fourteen new species of Alcyonacea (Coelenterata, Octocorallia) from the Red Sea.— Zool. Verh. Leiden 208: 1-33, figs. 1-16, pls. 1-7.

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