

# Octocorallia from the Bismarck Sea (part II)

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Ofwegen van, L.P. Octocorallia from the Bismarck Sea (part II).

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Key words: Octocorallia; Alcyonacea; *Sinularia verseveldti* spec. nov.; Bismarck Sea; Papua New Guinea. A list of species of Alcyonacea from the Bismarck Sea is presented and one new species, *Sinularia verseveldti*, is described and figured.

## Introduction

Verseveldt & Tursch (1979) described seven new species of Alcyonacea from the Bismarck Sea and mentioned the occurrence of a further 76 taxa, which were not named. The most abundant were recorded as: *Sinularia* 23 species; *Sarcophyton* 10 species; *Xenia*, *Dendronephthya*, and *Lobophytum* 7 species each.

The list of species presented below is based on the material of Verseveldt & Tursch (1979) which is stored in the Nationaal Natuurhistorisch Museum, Leiden, The Netherlands (RMNH). Additional material, identified by Verseveldt after the 1979 publication, and for a small part by the present author (RMNH Coel. 23576-23581), is also included, and *Sinularia verseveldti* spec. nov. is described.

In the species list the following abbreviations are used: B = Boësa Island, L = Laing Island, M = Mililat Bay + Madang. For a short description of these collection sites see Verseveldt & Tursch (1979). Although the list contains more species (105) than mentioned by Verseveldt & Tursch, the ratio of the number of species within each genus did not change significantly. Viz.: *Sinularia* 30 species; *Sarcophyton* 14 species; *Lobophytum* 9 species; *Dendronephthya* 9 species; *Xenia* 8 species.

## List of the species

Family Clavulariidae Hickson, 1894

Genus *Clavularia* Blainville, 1830

*C. inflata* Schenk, 1896: RMNH Coel. 12985 (L)

*C. köllikeri* (Dean, 1929): RMNH Coel. 12956 (B)

Family Tubiporidae Ehrenberg, 1834

Genus *Pachyclavularia* Roule, 1908

*P. violacea* (Quoy & Gaimard, 1833): RMNH Coel. 15934 (L)

Family Alcyoniidae Lamouroux, 1812

Genus *Alcyonium* Linnaeus, 1758

*A. legitimum* Tixier-Durivault, 1970: RMNH Coel. 19868-19871 (L)

*A. simplex* Thomson & Dean, 1931: RMNH Coel. 12962; 12974; 15913; 17109-17111; 17114; 19872-19873 (L/M)

*A. utinomii* Verseveldt, 1971: RMNH Coel. 12975; 15914; 17112; 17113 (L/M)

Genus *Cladiella* Gray, 1869

*C. digitulata* (Klunzinger, 1877): RMNH Coel. 12945 (L)

*C. pachyclados* (Klunzinger, 1877): RMNH Coel. 15917; 15918; 19874 (L)

Genus *Lobophytum* von Marenzeller, 1886

- L. compactum* Tixier-Durivault, 1956: RMNH Coel. 12939 (L)
- L. crassum* von Marenzeller, 1886: RMNH Coel. 12938; 12940- 12943; 15927-15929 (B/L/M)
- L. crebriplicatum* von Marenzeller, 1886: RMNH Coel. 12944 (L)
- L. cryptocormum* Verseveldt & Tursch, 1979: RMNH Coel. 12861; 12990 (L)
- L. durum* Tixier-Durivault, 1956: RMNH Coel. 19877 (L)
- L. pauciflorum* (Ehrenberg, 1834): RMNH Coel. 15930; 19878-19879 (L)
- L. ?ransoni* Tixier-Durivault, 1957: RMNH Coel. 14587 (L)
- L. schoedei* Moser, 1919: RMNH Coel. 14603 (L)
- L. venustum* Tixier-Durivault, 1957: RMNH Coel. 19876 (L)

Genus *Sarcophyton* Lesson, 1834

- S. birkelandi* Verseveldt, 1978: RMNH Coel. 12950; 17135 (L)
- S. cinereum* Tixier-Durivault, 1946: RMNH Coel. 17121; 23581 (M)
- S. crassocaulum* Moser, 1919: RMNH Coel. 12947; 19889 (M)
- S. digitatum* Moser, 1919: RMNH Coel. 19886 (M)
- S. ehrenbergi* von Marenzeller, 1886: RMNH Coel. 12949; 12951; 14607; 15936-15937; 19891; 23580 (B/L)
- S. elegans* Moser, 1919: RMNH Coel. 12946; 13974; 19888 (L)
- S. glaucum* (Quoy & Gaimard, 1833): RMNH Coel. 13975; 15938; 23578-23579 (L)
- S. infundibuliforme* Tixier-Durivault, 1958: RMNH Coel. 19887 (L)
- S. latum* (Dana, 1846): RMNH Coel. 15938; 15940; 17136 (L)
- S. mililatensis* Verseveldt & Tursch, 1979: RMNH Coel. 12862; 12948; 17137; 19880 (L/M)
- S. regulare* Tixier-Durivault, 1946: RMNH Coel. 14595 (L)
- S. roseum* Pratt, 1903: RMNH Coel. 17138 (L)
- S. stolidotum* Verseveldt, 1971: RMNH Coel. 19890 (M)
- S. trocheliophorum* von Marenzeller, 1886: RMNH Coel. 15941 (L)

Genus *Simularia* May, 1898

- S. acetabulata* Verseveldt & Tursch, 1979: RMNH Coel. 12863 (L)
- S. conferta* Dana, 1946 var. *gracilis* Macfadyen, 1936: RMNH Coel. 12929-12930 (L)
- S. cruciata* Tixier-Durivault, 1970: RMNH Coel. 12926 (L)
- S. dura* (Pratt, 1903): RMNH Coel. 12989; 17101; 17139 (L/M)
- S. firma* Tixier-Durivault, 1970: RMNH Coel. 17103 (L)
- S. flexibilis* (Quoy & Gaimard, 1833): RMNH Coel. 14591; 14592; 15941 (L)
- S. fungoides* Thomson & Henderson, 1906: RMNH Coel. 14604 (L)
- S. grandilobata* Verseveldt, 1980: RMNH Coel. 12937; 17104 (L)
- S. gyrosa* (Klunzinger, 1877): RMNH 15944; 15945 (L)
- S. heterospiculata* Verseveldt, 1970: RMNH Coel. 12932 (L)
- S. hirta* (Pratt, 1903): RMNH Coel. 12928 (L)
- S. humesi* Verseveldt, 1968: RMNH Coel. 12936 (L)
- S. lamellata* Verseveldt & Tursch, 1979: RMNH Coel. 12864 (M)
- S. larsonae* Verseveldt & Alderslade, 1982: RMNH Coel. 17143; 17144; 19875 (L/M)
- S. leptoclados* (Ehrenberg, 1834): RMNH Coel. 14597; 14605; 15946; 15947 (L)
- S. lochmodes* Kolonko, 1926: RMNH Coel. 12987; 17105 (M)
- S. maxima* Verseveldt, 1971: RMNH Coel. 12925 (L)
- S. ornata* Tixier-Durivault, 1970: RMNH Coel. 17106 (L)
- S. ovispiculata* Tixier-Durivault, 1970: RMNH Coel. 12991 (L)
- S. peculiaris* Tixier-Durivault, 1970: RMNH Coel. 12922; 12933; 15948; 15949 (L/M)
- S. polydactyla* (Ehrenberg, 1834): RMNH Coel. 15950-15952 (L/M)
- S. querciformis* (Pratt, 1903): RMNH Coel. 17107 (M)
- S. ramosa* Tixier-Durivault, 1945: RMNH Coel. 12927 (L)
- S. rigida* (Dana, 1846): RMNH Coel. 12923; 12931; 12934; 17108 (L)
- S. robusta* Macfadyen, 1936: RMNH Coel. 12935 (L)
- S. sobolifera* Verseveldt & Tursch, 1979: RMNH Coel. 12865 (M)

- S. sandensis* Verseveldt, 1977: RMNH Coel. 12986; 14599 (L/M)  
*S. triangula* Tixier-Durivault, 1970: RMNH Coel. 12924 (L)  
*S. venusta* Tixier-Durivault, 1970: RMNH Coel. 14599 (L)  
*S. verseveldti* spec. nov: RMNH Coel. 23576-23577 (M)
- Family Asterospiculariidae Utinomi, 1951
- Genus *Asterospicularia* Utinomi, 1951
- A. randalli* Gawel, 1976: RMNH Coel. 12958; 19883-19884 (B)
- Family Nephtheidae Gray, 1862
- Genus *Dendronephthya* Kükenthal, 1905
- D. cervicornis* (Wright & Studer, 1889): RMNH Coel. 12968; 16896 (L)  
*D. ?disciformis* Kükenthal, 1905: RMNH Coel. 16898 (L)  
*D. divaricata* (Gray, 1862): RMNH Coel. 12967 (L)  
*D. florida* (Esper, 1791): RMNH Coel. 16899 (L)  
*D. gigantea* (Verrill, 1864): RMNH Coel. 16894-16895 (L)  
*D. hemprichi* (Klunzinger, 1877): RMNH Coel. 12971 (L)  
*D. köllikeri* Kükenthal, 1905: RMNH Coel. 12964-12965; 15919- 15920 (L)  
*D. spinifera* (Holm, 1895): RMNH Coel. 12982; 15921-15924; 17133 (L)  
*D. spissa* (Tixier-Durivault & Prevorsek, 1962): RMNH Coel. 16900 (L)
- Genus *Lemnalina* Gray, 1868
- L. bantayensis* Roxas, 1933: RMNH Coel. 12979 (M)  
*L. terminalis* (Quoy & Gaimard, 1833): RMNH Coel. 12955 (M)
- Genus *Litophyton* Forskål, 1775
- L. arboreum* Forskål, 1775: RMNH Coel. 15926 (L)  
*L. viridis* (May, 1898): RMNH Coel. 12976 (L)
- Genus *Nephthea* Andouin, 1828
- N. albida* (Holm, 1894): RMNH Coel. 15931 (M)  
*N. ?bayeri* Verseveldt, 1966: RMNH Coel. 14601 (L)  
*N. cupressiformis* Kükenthal, 1903: RMNH Coel. 12977 (M)  
*N. erecta* Kükenthal, 1903: RMNH Coel. 14606 (L)  
*N. filamentosa* Verseveldt, 1973: RMNH Coel. 14596 (L)  
*N. galbuloides* Verseveldt, 1973: RMNH Coel. 14588 (L)  
*N. junipera* Thomson & Dean, 1931: RMNH Coel. 12983 (L)  
*N. tenuis* (Kükenthal, 1895): RMNH Coel. 12983 (L)
- Genus *Paralemnalia* Kükenthal, 1913
- P. thyrsoides* (Ehrenberg, 1834): RMNH Coel. 15935 (L)
- Genus *Scleronephthya* Studer, 1887
- S. crassa* (Kükenthal, 1896): RMNH Coel. 12961; 12980 (L)
- Genus *Stereonephthya* Kükenthal, 1905
- S. imbricans* Thomson & Dean, 1931: RMNH Coel. 12970 (L)  
*S. inordinata* Tixier-Durivault, 1970: RMNH Coel. 14589-14590; 14595; 14600 (L)  
*S. ulicoides* Thomson & Dean, 1931: RMNH Coel. 12973 (L)  
*S. unicolor* (Gray, 1862): RMNH Coel. 12978; 12984; 15959-15960 (L)
- Family Nidaliidae Gray, 1869
- Genus *Nephtyigorgia* Kükenthal, 1910
- N. annectens* (Thomson & Simpson, 1909): RMNH Coel. 17123 (L)
- Genus *Siphonogorgia* von Kölliker, 1874
- S. macrospiculata* (Thomson & Henderson, 1906): RMNH Coel. 17117 (L)  
*S. variabilis* (Hickson, 1903): RMNH Coel. 12981; 17116 (L)
- Family Xenidiidae Verrill, 1866
- Genus *Anthelia* Lamarck, 1816
- A. flava* (May, 1899): RMNH Coel. 15915 (B)  
*A. glauca* Lamarck, 1816: RMNH Coel. 15964 (L)
- Genus *Cespitularia* Milne-Edwards, 1857

*C. stolonifera* Gohar, 1938: RMNH Coel. 12960 (M)

Genus *Heteroxenia* von Kölliker, 1874

*H. elisabethae* von Kölliker, 1874: RMNH Coel. 15925; 17120; 19885 (B/L)

Genus *Sympodium* Ehrenberg, 1834

*S. caeruleum* Ehrenberg, 1834: RMNH Coel. 12957; 14598 (B/L)

Genus *Xenia* Lamarck, 1816

*X. actiosa* Verseveldt & Tursch, 1979: RMNH Coel. 12866 (B)

*X. elongata* Dana, 1846: RMNH Coel. 15962 (L/M)

*X. hicksoni* Ashworth, 1899: RMNH Coel. 12954 (L)

*X. lepida* Verseveldt, 1971: RMNH Coel. 12953 (L)

*X. liliae* Roxas, 1933: RMNH Coel. 12959; 15963; 19881 (B)

*X. membranacea* Schenk, 1896: RMNH Coel. 19882 (B)

*X. mucosa* Verseveldt & Tursch, 1979: RMNH Coel. 12867 (B)

*X. novaebritanniae* Ashworth, 1900: RMNH Coel. 12952 (L)

### Descriptive part

*Sinularia verseveldti* spec. nov.

(figs 1-5)

Material.— Holotype (RMNH Coel. 23576), Mililat, Papua New Guinea, outside barrier reef, 25 m, leg. A. Tursch & B. Tursch, 1978; paratype (RMNH Coel. 23577), same data, 10 m.

Description of the holotype.— The cup-shaped colony is 7.5 cm high, and the maximum cross-section, at the top of the colony, is 4 × 6 cm (fig. 1). The depth of the cup, measured from the highest summit of the lobes to the bottom of the cup, is 5 cm. The sterile stalk is 3.5–4 cm high, flattened laterally and grooved longitudinally. Around the edge of the cup flattened finger-like lobes, up to 3–4 cm high, are present. Along their edge the primary lobes can have small irregularly placed secondary

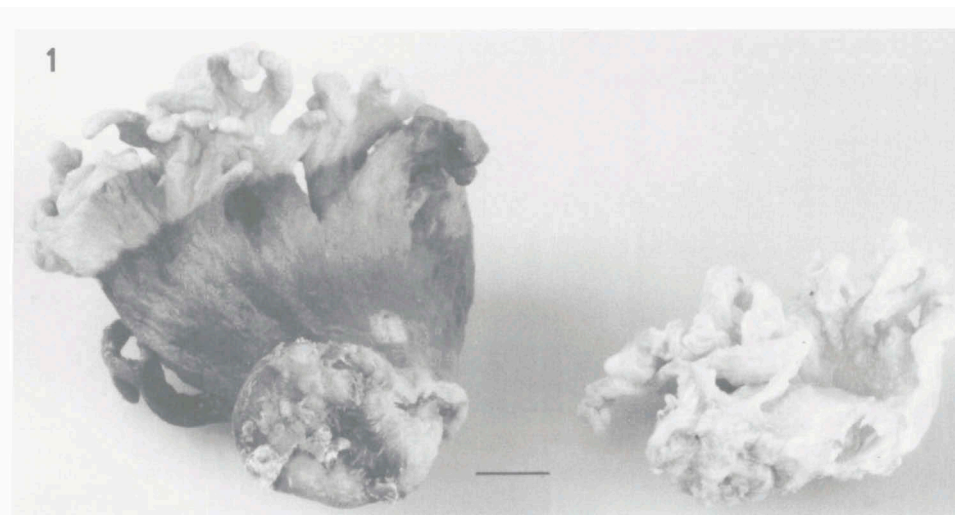


Fig. 1. *Sinularia verseveldti* spec. nov.; left, holotype (RMNH Coel. 23576); right, paratype (RMNH Coel. 23577). Scale 1 cm.

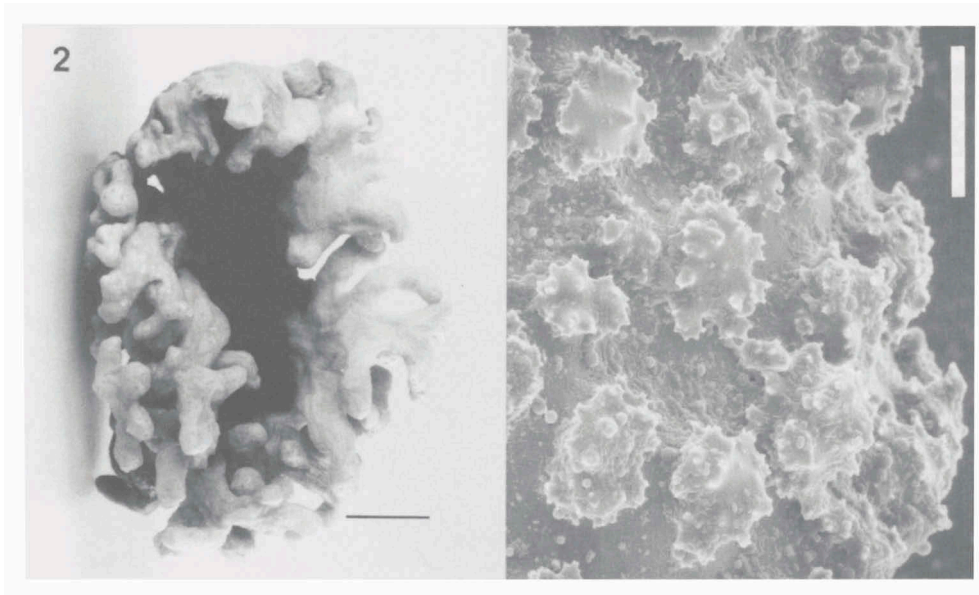


Fig. 2. *Sinularia verseveldti* spec. nov.; left, view from above of holotype (RMNH Coel. 23576), scale 1 cm; right, surface ornamentation of spindle of interior of base, scale 0.05 mm.

lobes, which are also more or less flattened. The distal part of most of the lobes is re-curved. On the primary lobes the pits of the retracted polyps are placed far apart but on the distal part of the secondary lobes they are more densely arranged. The distance between the centres of these pits is 0.80 to 1.50 mm.

The point sclerites are modified *leptoclados*-type clubs, up to 0.12 mm long (fig. 3b). The crown sclerites are slightly curved spindles, up to 0.12 mm long, with higher tubercles on the convex side (fig. 3b). Tentacles with flat spiny rods, up to 0.09 mm long (fig. 3b). The surface of the lobes with clubs of the *leptoclados*-type, 0.06-0.28 mm long, and wart clubs, up to 0.35 mm long (fig. 3a, 5). Furthermore, small spindles, up to 0.50 mm long, are present (fig. 3c). The interior of the lobes with unbranched spindles, up to about 4.5 mm long, with simple or complex tubercles (fig. 5). The surface of the stalk with capstans and wart clubs, 0.08-0.27 mm long (fig. 4a, 5). Furthermore, small spindles, up to 0.40 mm long, are present (fig. 4b). The interior of the base with unbranched spindles, up to about 3.5 mm long, with simple or complex tubercles (fig. 5). Many of the spindles of the interior of the colony show a narrow median constriction.

Colour.— The stalk is brownish, the lobes are whitish.

Etymology.— The species is named for the late Dr J. Verseveldt.

Remarks.— The paratype is white coloured and has a drapery-shaped colony form (fig. 1). The sclerites are similar to those of the holotype.

*Sinularia verseveldti* is characterized by the large *leptoclados*-like clubs, by far the largest ever recorded for the genus.

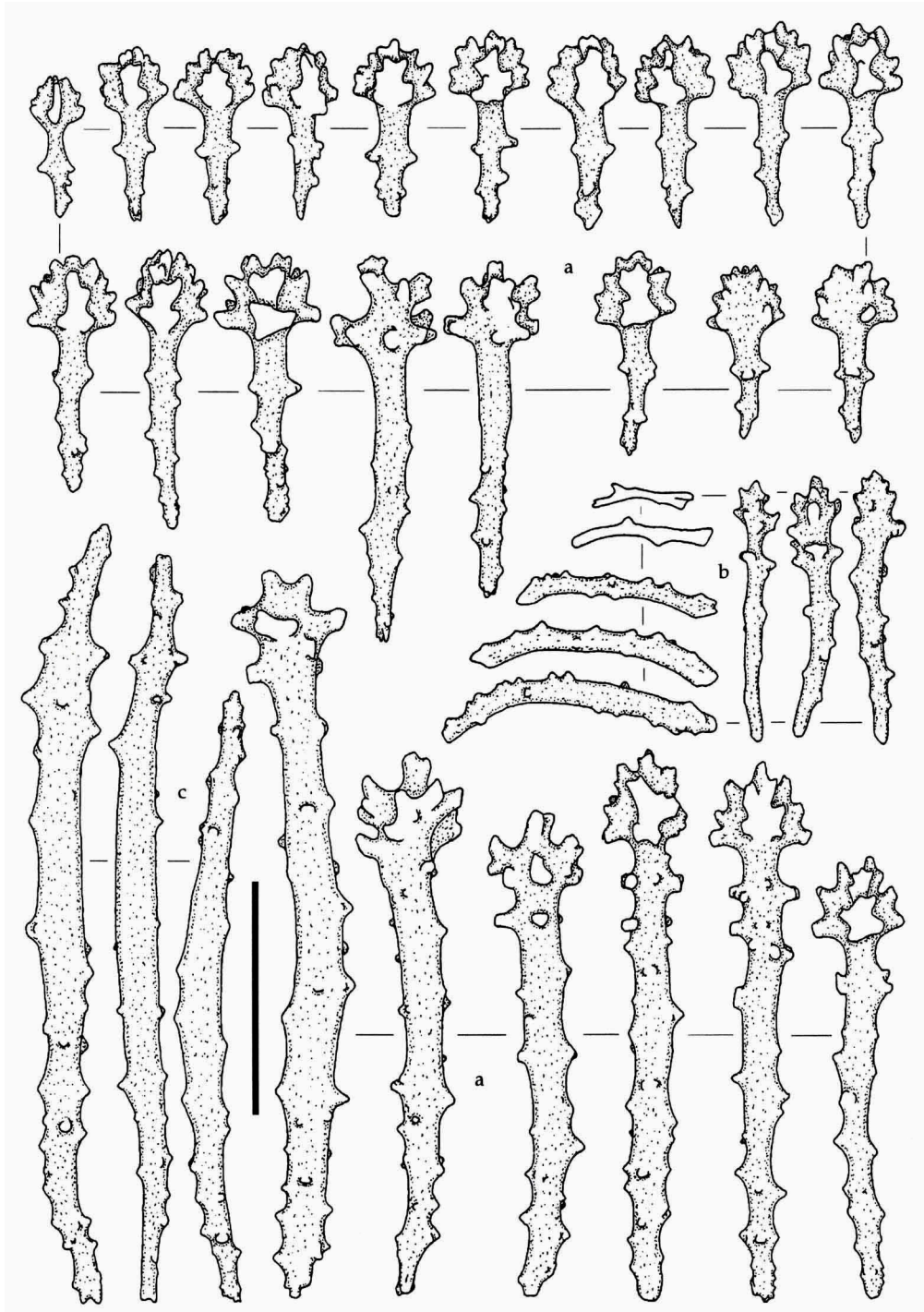


Fig. 3. *Simularia verseveldti* spec. nov. Sclerites of lobe of holotype (RMNH Coel. 23576); a, clubs of surface layer; b, anthocodial sclerites; c, spindles of surface layer. Scale 0.10 mm.



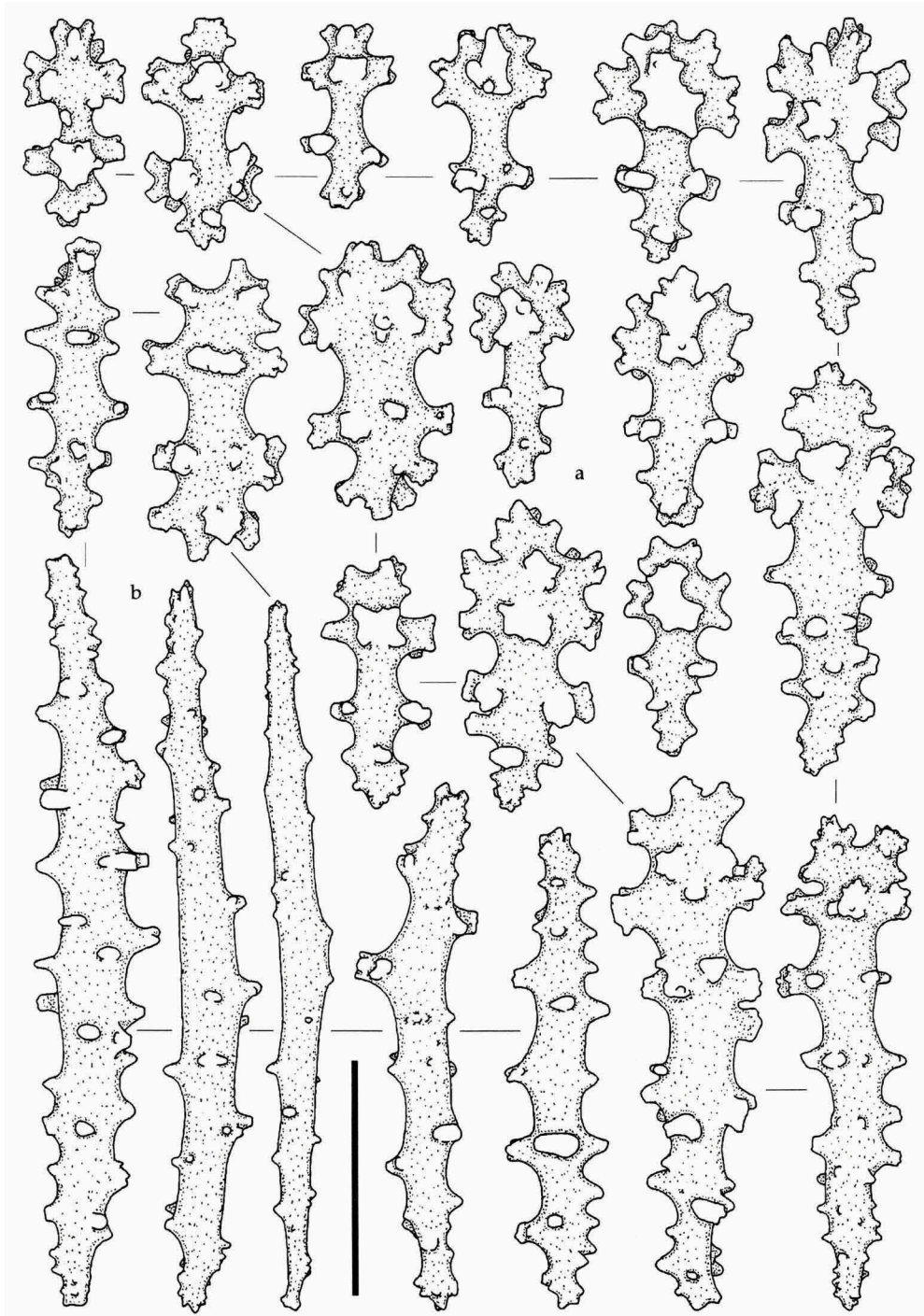


Fig. 4. *Simularia verseveldti* spec. nov. Sclerites of base of holotype (RMNH Coel. 23576); a, clubs of surface layer; b, spindles of surface layer. Scale 0.10 mm.

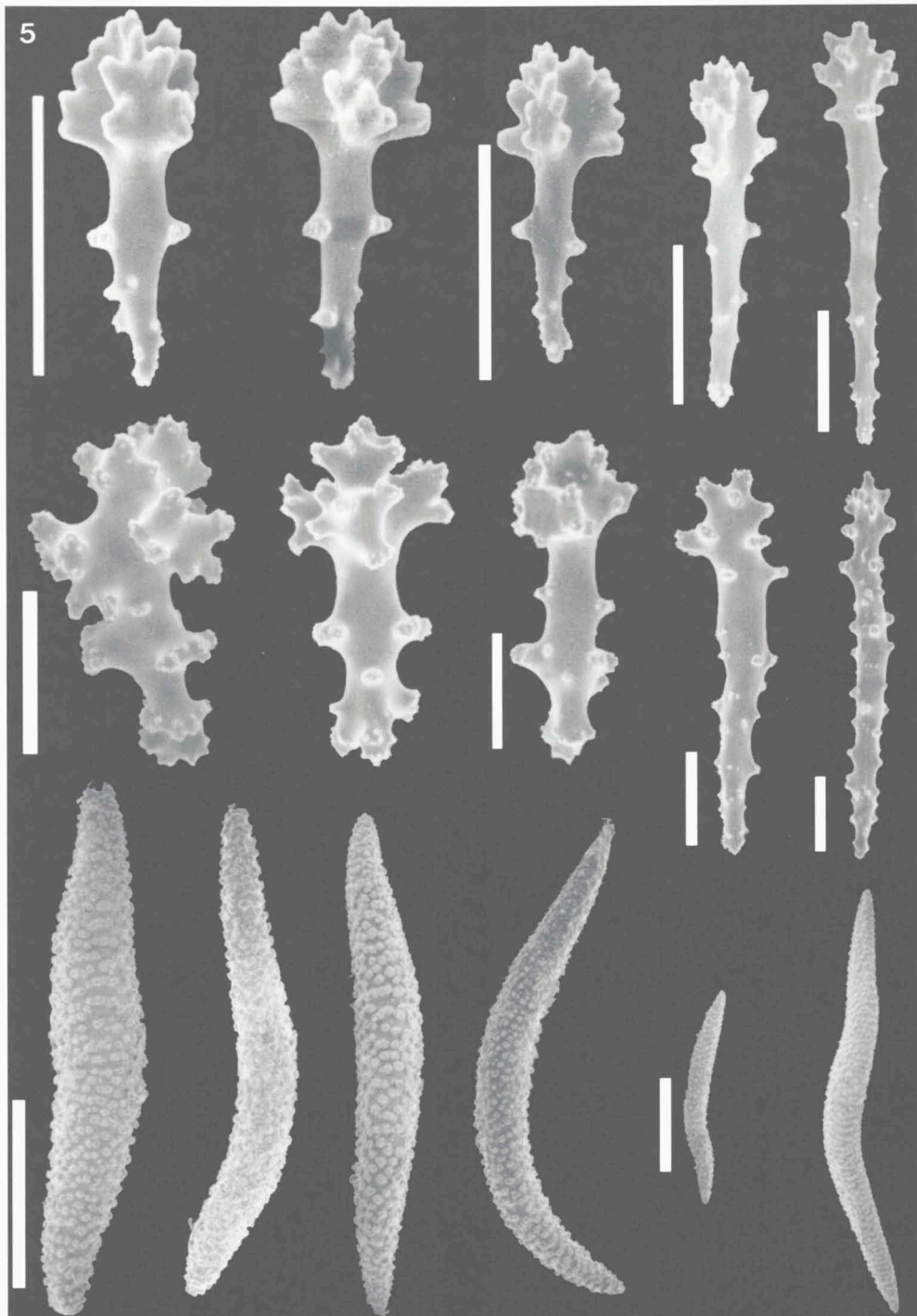


Fig. 5. *Simularia verseveldti* spec. nov.; sclerites of holotype (RMNH Coel. 23576); top row, clubs of surface layer of lobe; second row, clubs of surface layer of base; third row, spindles of interior of base (two to the left) and lobes (other four). Scales 0.05 mm (clubs) and 1 mm (spindles).



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