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**NOTES ON THE KEROEIDIDAE (ANTHOZOA: GORGONACEA)
COLLECTED IN 1963 AND 1964 BY THE INTERNATIONAL INDIAN
OCEAN EXPEDITION OF THE R/V "ANTON BRUUN", IN THE INDIAN
OCEAN, WITH THE DESCRIPTION OF A NEW SPECIES, *LIGNELLA*
*HARTOGI***

by

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Van Ofwegen, L.P.: Notes on the Keroeidae (Anthozoa: Gorgonacea) collected in 1963 and 1964 by the International Indian Ocean Expedition of the R/V "Anton Bruun", in the Indian Ocean, with the description of a new species, *Lignella hartogi*.

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Key words: Anthozoa; Gorgonacea; Keroeidae; *Keroeides koreni*; new records; *Lignella hartogi*; Indian Ocean.

Keroeides koreni Wright & Studer, 1889, is diagnosed and the sclerites are figured. *Lignella hartogi* spec. nov. is described; its sclerites are figured and compared with those of *Lignella richardii* (Lamouroux, 1816).

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INTRODUCTION

On examining material collected in 1963 and 1964 by the R/V "Anton Bruun" in the Indian Ocean, I found two species belonging to the Keroeidae. One of these, the well-known Indo-Pacific *Keroeides koreni* Wright & Studer, 1889, is diagnosed and drawings of the sclerites are presented. The other species belongs to *Lignella* Gray, 1870, to which hitherto only one species was assigned, viz., *Lignella richardii* (Lamouroux, 1816) from the West Indies. *Lignella hartogi* spec. nov. is described, figured and compared with *L. richardii*.

The specimens reported upon are deposited in the collections of the United

States National Museum, Washington D.C., U.S.A. (USNM) and in the Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands (RMNH).

DESCRIPTIVE PART

***Keroeides koreni* Wright & Studer, 1889** (pl. 1)

Keroeides koreni Wright & Studer, 1889: 169, pl. 40 fig. 3. For further references I refer to Bayer, 1956: 92, fig. 11e-g.

Material examined. — Cruise 8, sta. 420A, 02°42'S 40°53'E, 6.xi.1964, Shrimp Tr., 140 m, 3 fragments (USNM 83604); idem, 2 fragments (RMNH Coel. 17778); cruise 9, sta. 444, 09°36'N 51°01'E — 09°40'N 51°03'E, 16.xii.1964, benthic: trawl, 80m, 2 fragments (USNM 83605); idem, 2 fragments (RMNH Coel. 17779); cruise 9, sta. 445, 09°41'N 51°03'E, 16.xii.1964, benthic: trawl, 1 specimen (USNM 83606); idem 1 fragment (RMNH Coel. 17780).

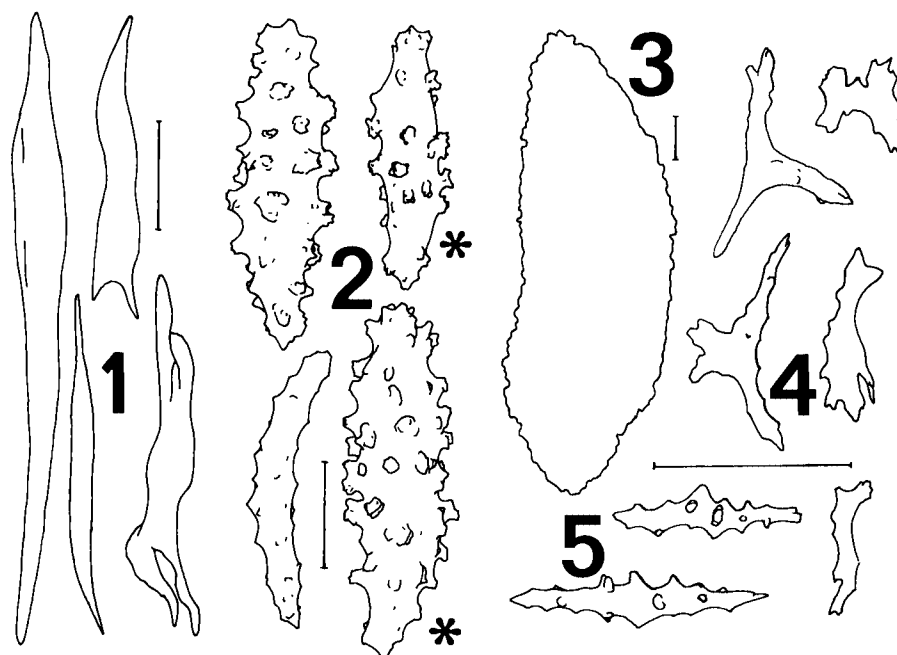


Plate 1. *Keroeides koreni* Wright & Studer, 1889. Sclerites of specimens from sta. 444 (USNM 83605) and sta. 445 (USNM 83606) (indicated by asterisk); 1, sclerites of axial cortex; 2, sclerites of coenenchyme; 3, large spindle of coenenchyme (outline only); 4, tentacular rods and crutches; 5, pharyngeal spindles. Scale lines 0.1 mm.

Diagnosis. — Branching in one plane, flabellate. Calyces subconical, placed all around the branches but mostly on the two sides. Colour red with white polyps.

Axial cortex with smooth, slender spindles up to about 0.60 mm long (pl. 1.1); occasionally these spindles are fused. Coenenchyme with spindles with simple or complex tubercles (pl. 1.2, 1.3); the latter up to about 2.5 mm long. Tentacles with spiny rods and crutches (pl. 1.4); crutches up to 0.10 mm long. Pharynx with small, pointed spindles up to 0.14 mm long Cpl. 1.5).

Sclerites of coenenchyme pink, those of the axial cortex and anthocodiae colourless.

***Lignella hartogi* spec. nov.**
(pls. 2, 3.6-3.12)

Material examined. — Cruise 4B, Sta. 221A, 22°32'N 68°07'E—22°31'N 68°05'E, 18.xi.1963, GMT, sediment type sandy green clay (mud), 57 m, holotype (USNM 83607), paratypes (USNM 81904, 4 colonies -merely fragments with holdfast- and many fragments; RMNH Coel. 17782, 2 colonies — also merely fragments with holdfast- and several fragments).

Description. — The holotype is a sparsely laterally branched colony about 15 cm tall (pl. 2). The branches reach a length of seven cm. Calyces cylindrical, placed in spiral around branches; anthocodiae exerted, curved inward toward axis. The lowest three cm of the colony without polyps. Colour of colony white.

Axial cortex with anastomosing sclerites (pl. 3.6). Coenenchyme with slender, acute spindles with simple tubercles (pl. 3.7); spindles up to about 0.45 mm long. Anthocodiae having these spindles arranged “en chevron” in eight longitudinal tracts. Tentacles with small spiny rods (pl. 3.8). All sclerites colourless.

Etymology. — I have named this species for J.C. den Hartog (curator of Coelenterata RMNH) for his continuous support to my work on Gorgonacea.

Remarks. — Two globular gall-like structures are attached to the holotype (pl. 2); also some paratypes bear these “galls”.

I have compared the sclerites of the holotype with those of one of the paratypes (pl. 3.9-3.12); they agree in all characters.

Furthermore, I have compared the above-described species with a specimen from Barbados (West Indies), identified by myself as *Lignella richardii* (Lamouroux, 1816) (RMNH Coel. 17194). Although Bayer (1961: 83) already depicted sclerites of *L. richardii*, he did not figure the sclerites of the anthocodiae. As these sclerites provide some good characters to distinguish between

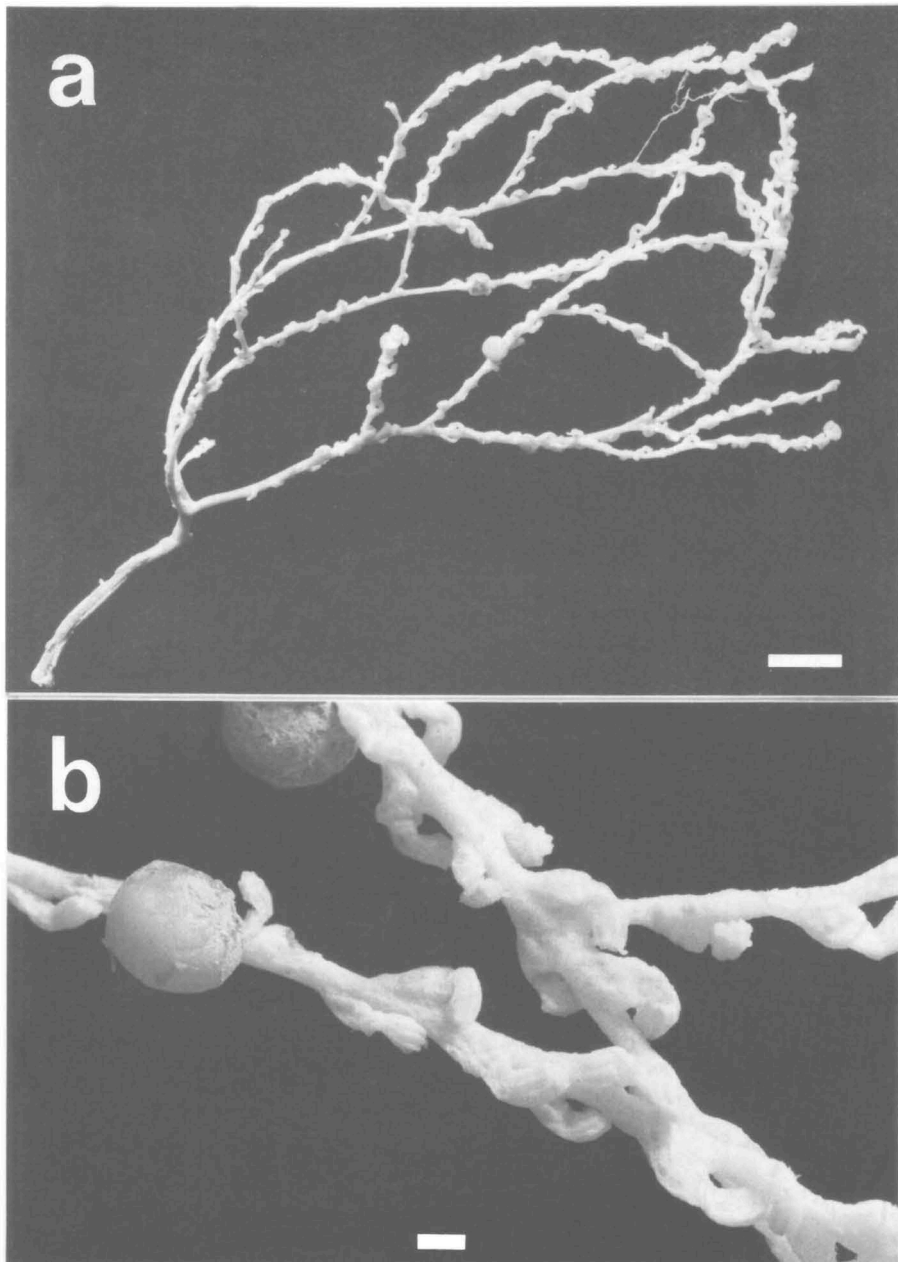


Plate 2. *Lignella hartogi* spec. nov. A, holotype (USNM 83607); B, detail of holotype showing globular, gall-like structures; scale bare of A 10 mm, of B 2 mm.

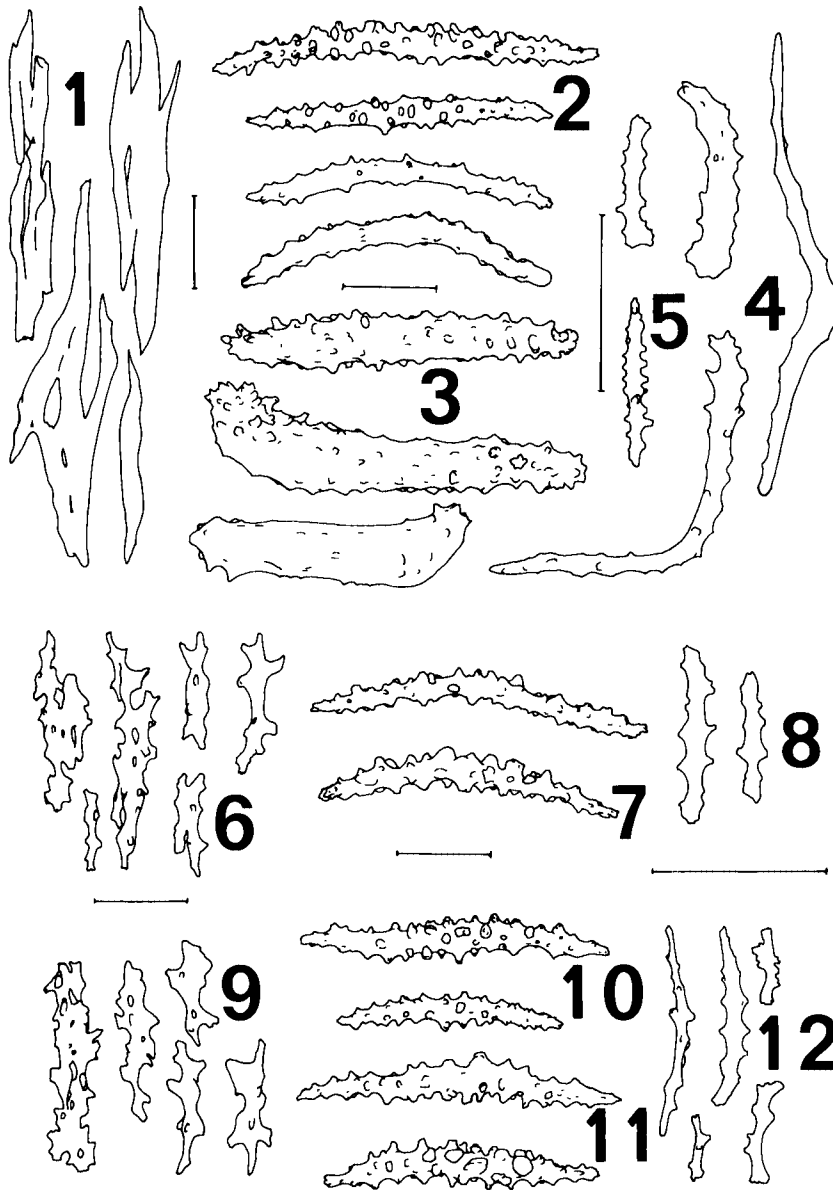


Plate 3. Sclerites of *Lignella richardii* (Lamouroux, 1816) (1-5) and *L. hartogi* spec. nov. (6-12).

Lignella richardii (Lamouroux, 1816). Sclerites of specimen from Barbados (RMNH Coel. 17194); 1, sclerites of axial cortex; 2, two spindles of coenenchyme of branch; 3, five spindles of anthocodiae (lowest three of distal part); 4, tentacular sclerites; 5, pharyngeal spindle.

Lignella hartogi spec. nov. Sclerites of holotype (6-8) (USNM 83607) and paratype (9-12) (USNM 81904); 6, 9, sclerites of axial cortex; 7, spindles of coenenchyme; 8, 12, tentacular sclerites; 10, spindles of anthocodiae; 11, spindles of coenenchyme of branch. Scale lines 0.1 mm.

the two species. I have added drawings of sclerites of all parts of the colony of *L. richardii* (pl. 3.1-3.5).

The sclerites of *L. richardii* differ from those of *L. hartogi* in the following characters: The anastomosing sclerites of the axial cortex (pl. 3.1) and the anthocodial rods (pl. 3.4) are larger, and pharyngeal spindles (pl. 3.5) are present. The sclerites of the coenenchyme of *L. richardii* (pl. 3.2) don't differ significantly from those of *L. hartogi*. The sclerites of the distal part of the anthocodiae of *L. richardii*, however, are distinctly wider than those of other parts of the coenenchyme (pl. 3.3), a feature not observed in *L. hartogi*.

Although the material of *L. richardii* at my disposal is too fragmentary to reveal anything about the branching pattern, it is obvious that the polyps are larger and distributed more sparsely around the branches than in *L. hartogi*.

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