ZOOLOGISCHE MEDEDELINGEN

UITGEGEVEN DOOR HET

RIJKSMUSEUM VAN NATUURLIJKE HISTORIE TE LEIDEN
(MINISTERIE VAN WELZIJN, VOLKSGEZONDHEID EN CULTUUR)

Deel 63 no. 3 21 juli 1989 ISSN 0024-0672

ON *WRIGHTELLA COCCINEA* (ELLIS & SOLANDER, 1786) AND *WRIGHTELLA STIASNYI* SPEC. NOV. (ANTHOZOA: GORGONACEA: MELITHAEIDAE)

by

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Van Ofwegen, L.P.: On *Wrightella coccinea* (Ellis & Solander, 1786) and *Wrightella stiasnyi* spec. nov. (Anthozoa: Gorgonacea: Melithaeidae).

Zool. Med. Leiden 63 (3), 21-vii-1989: 27-34, figs. 1-3. — ISSN 0024-0672.

Key-words: Anthozoa; Gorgonacea; Melithaeidae; *Wrightella coccinea* (Ellis & Solander, 1786), *W. stiasnyi* spec. nov.; Indian Ocean, Malay Archipelago.

Wrightella coccinea (Ellis & Solander, 1786), new for the Maldives, and *W. stiasnyi* spec. nov. are described and figured.

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INTRODUCTION

Hickson (1937: 186) in his monograph on the gorgonian family Melithaeidae stated about the genus *Wrightella* Gray, 1870: "There seems to be only one well-established species of *Wrightella* and that is *W. coccinea* which is confined to the region extending from the Seychelles to Mauritius". However, although included in several reports, there appears to be no satisfactory description of this species. Kükenthal (1919: 171), for instance, only gives some inadequate measurements of sclerites: "Kelche wie Rinde sind gleichmässig dicht geplastert mit verschieden grossen, in der Mitte etwa 0.12 mm Durchmesser haltenden annähernd kugeligen Scleriten.

For that reason the two specimens, with characters of the genus *Wrightella,* discovered in the type-series of *Melitodes variabilis* Hickson, 1905, had to remain unidentified at the time that I examined *M. variabilis* (for a discussion

of *M. variabilis* see Van Ofwegen, 1987: 33).

I now have compared the above-mentioned specimens (BMNH 1962.7.20.105) with a specimen identified by Hickson as *W. coccinea* (BMNH 1935.11.1.1), which proved them to belong to the same species. The specimens are described and figured below and for comparision drawings and measurements of sclerites of Hickson's specimen of *W. coccinea* are provided too.

In the collection of the RMNH some specimens are present, identified by Stiasny (1940: 237) as *W. coccinea* (RMNH 5536). A re-examination proved this to be a misidentification, these specimens in fact belonging to an as yet undescribed species of *Wrightella*. I have named this new species *W. stiasnyi* in honour of the late Dr. G. Stiasny. Drawings and measurements of the sclerites are presented below. Abbreviations: BMNH = British Museum (Natural History), London; RMNH = Rijksmuseum van Natuurlijke Historie, Leiden.

DESCRIPTIONS

Wrightella coccinea (Ellis & Solander, 1786)
(figs. 1-3c)

Isis coccinea Ellis & Solander, 1786: 107, pl. 12 fig. 5.

Wrightella coccinea Gray, 1870: 32. (Subjective junior homonymous synonym; for discussion see Hickson, 1937: 164)

Wrightella chrysanthos Gray, 1870: 32.

Wrightella coccinea; Thomson & Mackinnon, 1910: 200, pl. 10 figs. 3-4, 8-9, pl. 13 fig. 7; Kükenthal, 1919: 170, figs. 80-81, pl. 37 fig. 35; Hickson, 1937: 183, fig. 29; not *Wrightella coccinea;* Hickson, 1905: 219 (= *Acabaria capensis* Studer, 1878); Nutting, 1911: 51 [(= *Acabaria rubeola* (Wright & Studer, 1889)]; Thomson & Dean, 1931: 196 (= *Acabaria rubeola*); Stiasny, 1940: 237, fig. K, pl. 13 fig. 30 (= *Wrightella stiasnyi* spec. nov); not *Melitodes coccinea.* Thomson & McQueen, 1908: 66, pl. 6 figs. 1-2 (= *Acabaria pulchra* Hickson, 1937).

Material examined. — Two specimens included in the type-series of *Melitodes variabilis* Hickson, 1905 (BMNH 1962.7.20.105); Hulule, Male Atoll (Maldives). One of the specimens of *W. coccinea* investigated by Hickson (BMNH 1935.11.1.1); Mauritius.

Description. — The two specimens from the Maldives are four and six cm long (fig. 1). Colour of colonies scarlet. Largest specimen with a holdfast on one of its branches, about one cm above the lowest point of the specimen (fig. 1a). The smallest specimen even with a holdfast on a terminal branch (fig. 1b). Branching in one plane (smallest specimen) or more or less so (largest specimen). The largest specimen with one anastomosis. Calyces dome-like, situated irregularly around the branches, on three sides, biserially (smallest

branches) or even absent (some terminal branches of the the smallest specimen). Internodes up to about 15 mm long. Largest nodes somewhat swollen.

Coenenchyme with rods, spindles, leaf-spindles (few), capstans, foliate capstans, leaf-clubs and unilaterally foliate spheroids (predominant) (fig. 2a, c). Unilaterally foliate spheroids up to about 0.25 mm long and equally wide. Calyces with large leaf-clubs up to about 0.30 mm long and 0.20 mm wide (fig. 2b).

Anthocodiae (fig. 2d-f) with a crown of one or two rows of spindles and eight points of three to five spindles. Between these spindles of the points and the sclerites of the tentacles some small club-like sclerites may be present, so that the number of sclerites of the points may vary between three and seven.

Crown with slightly bent thorny spindles up to 0.27 mm long; middle part with more developed thorns, some with a short third leg. Points with slightly bent thorny spindles up to 0.28 mm long; distal end with more developed thorns, some with irregular projections on the convex side. Tentacles with two rows of irregularly formed rods up to 0.19 mm long; the smallest almost smooth, the largest crescent-shaped with spines, irregular projections and ridges. Pharynx with straight spiny rods up to 0.06 mm long and 0.02 mm wide.

Sclerites orange, with the exception of the pharyngeal and smallest tentacular rods, which are colourless.

Remarks. — Hickson's specimen of *W. coccinea* is similar to the above described specimens. It is three cm long, with exactly the same colour as the above specimens. The sclerites are almost identical (fig. 3a-c) and the remarkable sclerites of the tentacles (I have never seen before tentacular sclerites with ridges in species of this family) are also present.

Measurements of sclerites of Hickson's specimen of *W. coccinea* are as follows: Largest unilaterally foliate spheroid 0.23 mm long and 0.21 mm wide; largest leaf-club 0.32 mm long and 0.19 mm wide; spindles of crown up to 0.19 mm long; spindles of points up to 0.22 mm long; tentacular sclerites up to 0.17 mm long; pharyngeal rods up to 0.06 mm long and 0.02 mm wide.

Hickson (1937: 185) considered *W. braueri* Kükenthal, 1919, from the Seychelles to be a variety of *W. coccinea*. According to Hickson the only difference between these two species is in the anthocodial armature. *W. coccinea* with a crown of one row of spindles and *W. braueri* with three to four rows. Kükenthal, however, described foliate spheroids with a length of 0.05 mm (1919: 902), a large difference with the unilaterally foliate spheroids up to about 0.25 mm long and equally wide of *W. coccinea*. I therefore strongly doubt whether this species belongs in *Wrightella*.

Wrightella stiasnyi spec. nov.
(fig. 3d-f)

Wrightella coccinea; Stiasny, 1940: 237, fig. K, pl. 13 fig. 30.

Material examined. — The three specimens investigated by Stiasny (RMNH 5536). The holotype is the most complete colony, a creamy-pink specimen.

Description. — As Stiasny has correctly described the general morphology of the specimens I will restrict myself to a repetition of the most relevant characters.

Firstly there is a small colony (3 cm long), consisting of five, dichotomously branching, little stems on a joint holdfast. The internodes are up to 1 cm long and the nodes are slightly swollen. Colour of colony orange, at least of those parts with coenenchyme, for most of the coenenchyme is missing, revealing the pink axis. Secondly there is an even smaller colony (2.5 cm long), a twice branching fragment with a holdfast. The specimen has been stained with Indian ink, so nothing can be said about its colour.

Finally there is a fragment of 5 cm length, without holdfast. The internodes are up to 1 cm long, the nodes are slightly swollen. Stiasny described the calyces as being placed on all sides of the branches. Because parts of the coenenchyme are missing this is uncontrollable. The internodes are creamy and the nodes are pink; the axis of the internodes is white. Stiasny described the first specimen as being red, the last as being light pink. The differences in colour now observed are probably due to the dry condition of the material.

Coenenchyme with rods, spindles, leaf-spindles (few), capstans, foliate capstans, leaf-clubs and unilaterally foliate spheroids (predominant) (fig. 3e). Unilaterally foliate spheroids up to about 0.15 mm long and equally wide. Calyces with leaf-clubs up to 0.23 mm long and 0.12 mm wide (fig. 3d).

Crown with slightly bent thorny spindles up to 0.23 mm long, middle part with more developed thorns, some with a short third leg. Points with slightly bent thorny spindles up to 0.24 mm long, distal end with more developed thorns, some with irregular projections on the convex side. Tentacles with two rows of irregularly formed rods up to 0.15 mm long, the smallest almost smooth, the largest crescent-shaped with spines and irregular projections. Pharynx with straight spiny rods up to 0.06 mm long and 0.03 mm wide.

Pharyngeal and smallest anthocodial sclerites colourless, larger anthocodial sclerites yellow. Sclerites of coenenchyme of nodes and internodes predominantly pink to orange, some colourless (orange specimen) or predominantly colourless with some pink to orange (creamy-pink specimen). In the calyces additional yellow sclerites.

Remarks. — The material at hand is inadequate to investigate the arrangement of the anthocodial sclerites.

According to Hickson (1937: 184) *W. tongaensis* Kükenthal, 1908, is the only species from the Malay Archipelago which may belong to *Wrightella*. Regardless this matter, *W. tongaensis* differs from the above described species by its much smaller foliate spheroids (0.06 mm long).

W. coccinea differs from *W. stiasnyi* by its larger unilaterally foliate spheroids and leaf-clubs and its remarkable tentacular sclerites.

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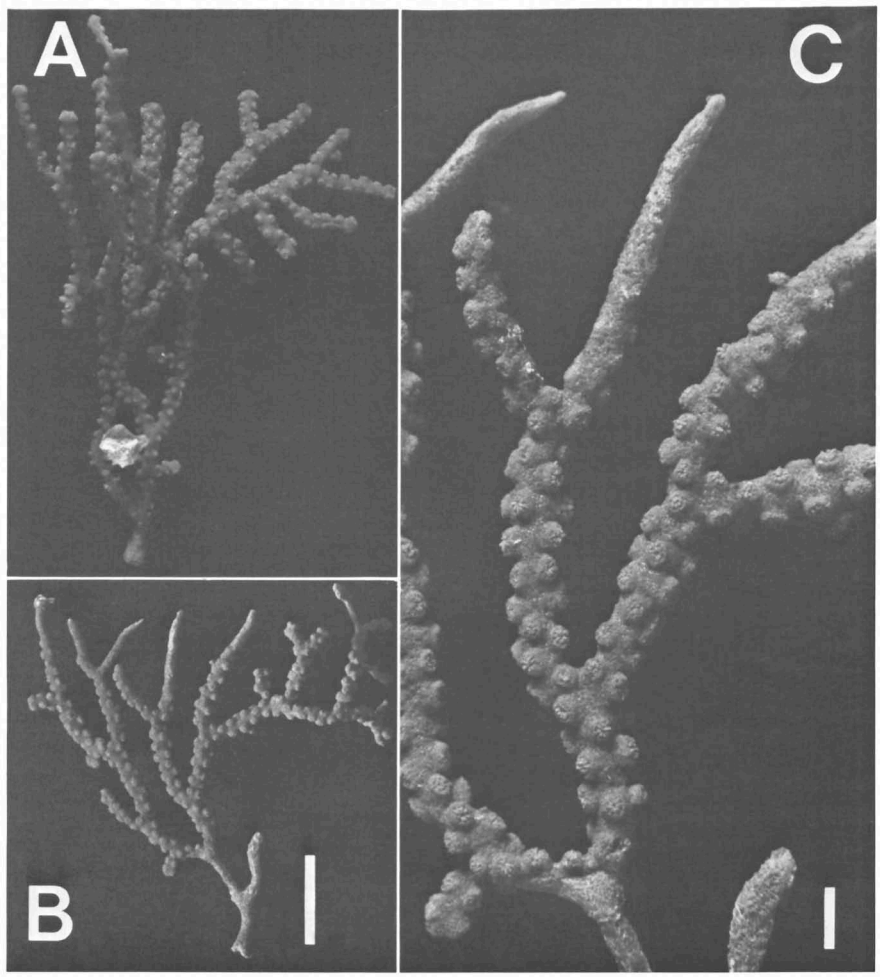

Fig. 1. *Wrightella coccinea* (Ellis & Solander, 1786). The two specimens included in the type-series of *Melitodes variabilis* Hickson, 1905 (BMNH 1962.7.20.105); a, largest specimen; b, smallest specimen; c, detail of b; bar is 0.1 mm.

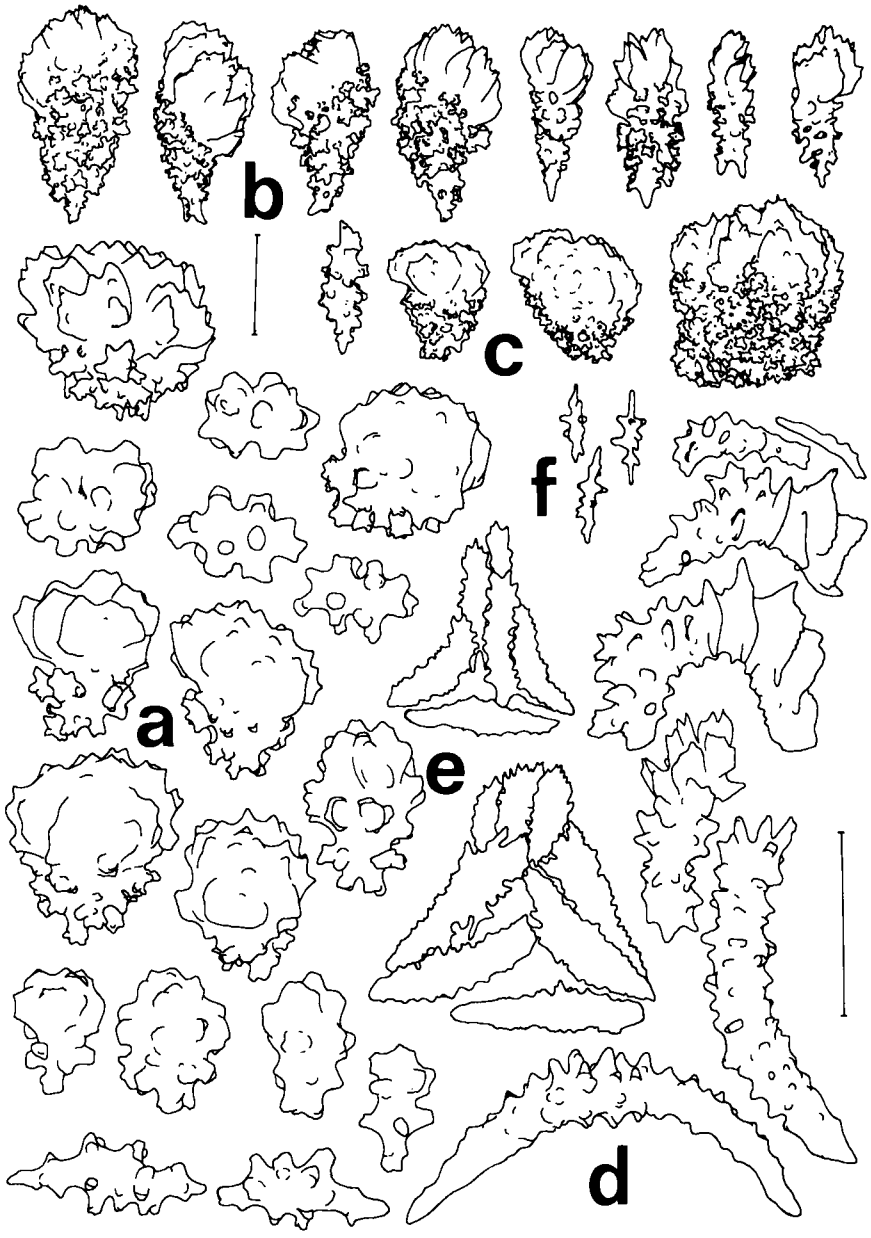

Fig. 2. *Wrightella coccinea* (Ellis & Solander, 1786). Sclerites of the specimens included in the type-series of *Melitodes variabilis* Hickson, 1905 (BMNH 1962.7.20.105); a, sclerites of nodes and internodes; b, spindle and clubs of calyces; c, three large foliate spheroids (origin unknown); d, anthocodial sclerites, (arranged after their original position in the anthocodiae); e, anthocodial armature; f, pharyngeal rods; 0.1 mm scale at b applies also to c and e; 0.1 mm scale at d to all others.

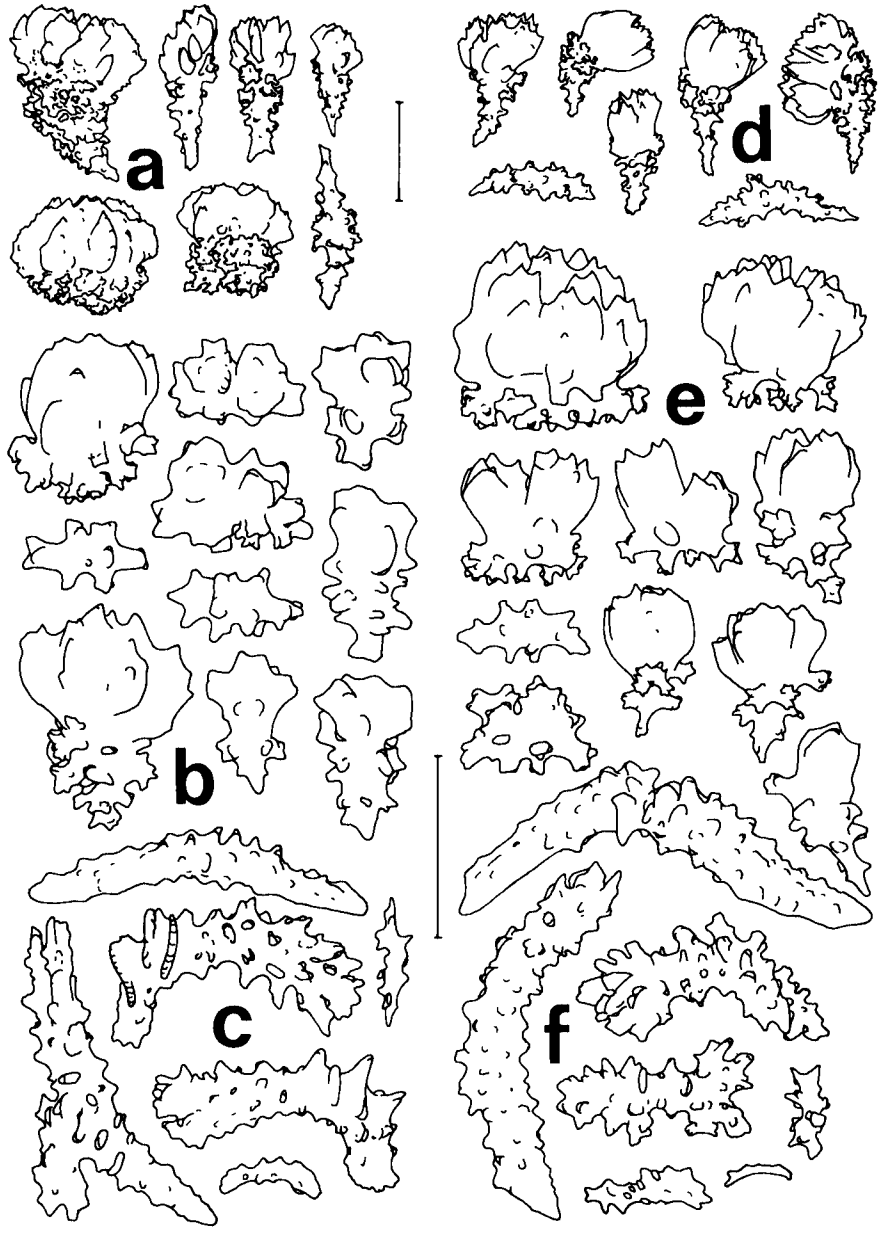

Fig. 3. *Wrightella coccinea* (Ellis & Solander, 1786). Sclerites of specimen previously investigated by Hickson (BMNH 1935.11.1.1); a, clubs, spindle and large foliate spheroids (origin unknown); b, rod, capstan, clubs, foliate capstans and spheroids (origin unknown); c, anthocodial sclerites. *Wrightella stiasnyi* spec. nov. (RMNH 5536); d, clubs and spindles of calyces; e, rod, clubs, and foliate spheroids (origin unknown); f, anthocodial sclerites; 0.1 mm scale between a and d applies to a and d; 0.1 mm scale between b and e to all others.