

***Bimeria vestita* (Hydrozoa: Anthomedusae: Bougainvilliidae)  
senior synonym of *Eudendrium vestitum*  
(Hydrozoa: Anthomedusae: Eudendriidae)**

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Marques, A.C., H. Mergner, R. Höinghaus & W. Vervoort. *Bimeria vestita* (Hydrozoa: Anthomedusae: Bougainvilliidae) senior synonym of *Eudendrium vestitum* (Hydrozoa: Anthomedusae: Eudendriidae). Zool. Med. Leiden 73 (22), 6.iii.2000: 321-325, figs 1-3.— ISSN 0024-0672.

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After studying the type specimens we conclude that the species *Eudendrium vestitum* Allman, 1888, is a junior synonym of the cosmopolitan bougainvilliid *Bimeria vestita* Wright, 1859. A re-description accompanied by optical micro- and SEM photographs of the species is presented.

### Introduction

Allman (1888) described *Eudendrium vestitum* from material dredged by the H.M.S. Challenger in the subantarctic waters around Heard Island, and described its similarity with the cosmopolitan *Bimeria vestita*, originally described by Wright (1859) from the British Isles. Allman's (1888) argument to classify his new species in the family Eudendriidae was prompted by the presence of a trumpet-shaped hypostome, which indeed can be considered a synapomorphy of the family (cf. Marques, 1996; for a traditional approach see e.g. Millard, 1975 and Watson, 1985). However, the trumpet-shaped hypostome is not clearly figured in his drawings (Allman, 1888, pl. 1 figs 1, 1a).

The species was subsequently mentioned in several papers, but it was never re-described. It appeared in lists of Antarctic hydrozoans, such as those of Pfeffer (1890: 567) and Hartlaub (1905: 515), always referring to Allman's (1888) original record. Apparently the only author actually dealing with another, putative specimen of *E. vestitum* was Alcock (1892: 211), when he referred to a hydrozoan of doubtful identification, having a conspicuously developed perisarc that could be either *Garveia*, *Bimeria* or *E. vestitum*. The species was also quoted in reviews of literature by Bedot (1916: 105; 1918: 132; 1925: 190). Rösler (1978: 152-153) expressed doubts regarding the classification of the species, but did not synonymize it because of lack of evidence.

The opportunity to accurately re-examine the type series of Allman's species, including optical studies and SEM microscopy, made it possible to correct the taxonomical misinterpretation of *E. vestitum*, to remove the species from the genus *Eudendrium* and to consider it conspecific with *Bimeria vestita*.

## Material and methods

The holotype of *E. vestitum* was deposited in the Natural History Museum (NHM, London, UK, collection number BMNH 1888.11.13.1). A fragment of the type series was presented to Dr H. Mergner by the late Curator Dr W.J. Rees; it is now preserved, along with the whole collection of Dr Mergner, in the Nationaal Natuurhistorisch Museum (RMNH, National Museum of Natural History), Leiden, the Netherlands where it is registered as RMNH-Coel. 28475. Under this number are also a total mount and sections from Mergner 's collection.

Preserved specimens, both spirit material and total mount, were studied with microscope and stereomicroscope. The total preparation had been stained in Alumn-carmine dissolved in distilled water or with Borax-carmine in 70% ethanol, and counterstained with Chlorazol Black in 80% ethanol, and finally embedded in Caedax.

Sections for light microscopy had been cut using chloroform-paraffin technique, embedding in paraffin and cutting microtome sections at various thickness. Specimens selected for SEM had been dehydrated in a graded series of ethanol, transferred to acetone, rinsed in liquid carbondioxyde to remove all traces of acetone, dried at *ca.* 40EC in a POLARON-Critical Point drying apparatus E3000, and sputter-coated with gold. Photomicrographs were taken with a Jeol-SMU 3 Electron Microscope. All photographs were made by R. Höinghaus.

## Taxonomical part

### *Bimeria vestita* Wright, 1859 (figs 1-3)

*Bimeria vestita* Wright, 1859: 109, pl. 8 fig. 4; Allman, 1872: 297, pl. 12 figs 1-3; Millard, 1966: 449, figs 5A-F; Millard, 1975: 95, fig. 32C-H; Calder, 1988: 21, figs 17-18; Hirohito, 1988: 94, figs 33d-f, 34a; Migotto, 1996: 9, fig. 2a-b.

*Manicella fusca* Allman, 1859: 51.

*Bimeria humilis* Allman, 1877: 8, pl. 5 figs 3-4.

*Eudendrium vestitum* Allman, 1888: 1, 3-4, pl. 1 figs 1, 1a; Pfeffer, 1890: 567; Alcock, 1892: 211; Murray, 1896: 414; Hartlaub, 1905: 515; Bedot, 1916: 105; Bedot, 1918: 132; Bedot, 1925: 190; Rösler, 1978: 152-153, pl. 29 figs 1-3, pl. 40 figs 4-6.

*Perigonimus vestitus*; Motz-Kossowska, 1905: 74.

*Bimeria vestita* f. *nana*; Vervoort, 1946: 294.

*Leuckartiara vestita*; Vervoort, 1946: 295.

*Perigonimus vestita*; Mammen, 1963: 42 [incorrect subsequent spelling].

*Garveia humilis*; Vervoort, 1968: 7.

*Bimeria* (*Garveia*) *umilis*; Wedler & Larson, 1986: 71 [incorrect subsequent spelling].

*Bimeria* (?*Garveia*) *humilis*; Wedler & Larson, 1986: 89-90, fig. 9B.

not *Bimeria vestita*; Annandale, 1907: 141, fig. 3 [= *Garveia franciscana* (Torrey, 1902)].

Material examined.— Indian Ocean (Subantarctic region): Fragment of holotype of *E. vestitum*, colony with gonophores (BMNH 1888.11.13.1), H.M.S. Challenger Stn 151, off Heard Island, *ca.* 53°08'N 73°45'E, 137 m, alcohol preserved specimen, on spines of sea-urchin, no collection date. In addition fragment of holotype with same labelling, being part of a colony without gonophores (RMNH-Coel. 28475), a total preparation on one slide and four slides with histological sections.



Figs 1-3. 1, General aspect of a fragment of the colony (scale: 1 mm); 2, SEM of the gonophore, showing its stalk linked direct to the branches (scale: 200 µm); 3, SEM of the hydranth, showing pseudo-hydrotheca extended up to the tentacular bases (scale: 200 µm). Photos: R. Höinghaus.

Description.— Colonies 15-19 mm high, unfascicled, delicate, bush-like, branched up to the second order in several planes. Side-branches more or less alternate, branching off at acute angles in relation to the main stem, generally less than 45°, developed upwards, densely concentrated around main stem. Perisarc of main stem and branches encrusted with silt and debris. Main stem apparently smooth, dark brown, 0.08-0.11 mm in diameter. Branches and pedicels widening distally, a few obscure annulations basally. Pedicels 0.04-0.06 in diameter at their base; 0.08-0.10 mm distally. Cup-like pseudo-hydrotheca continues periderm of pedicels over body of hydranth, reaching upwards to tentacular bases and involving hypostome. Hydranth vasiform, 0.11-0.27 mm in diameter, with *ca* 15 filiform tentacles, hypostome conical. Single sessile gonophores invested with perisarc, 0.14-0.19 mm in diameter, arising on comparatively long stalks (about same size as gonophore), budding from branches. Nematocysts microbasal euryteles, 5.1-5.6 × 2.5 µm and small ?desmonemes, 3.8-4.4 × 1.9-2.2 µm.

Remarks.— As stated above, in spite of the pseudohydrotheca and the sessile

gonophores supported by a stalk of medium length arising directly from the branches, Allman considered the trumpet-shaped hypostome enough evidence to classify the species as a representative of the genus *Eudendrium*. Rösler (1978: 152) expressed doubts with regards to the hypostome in Allman's description: "die Hydranthen haben nach Allman einen trompetenförmigen Proboscis...". After re-examination of the material, we only found conical hypostomes; in fact, the pseudohydrotheca (encrusted with debris) makes observation difficult, and the slightly expanding, fusiform hydranth body characteristic of certain Bougainvilliidae sometimes resembles species of Eudendriidae morphologically, which possibly explains Allman's mistake.

The material presently studied shows no real differences from descriptions of *Bimeria vestita* given by Calder (1988, for Bermuda material), Millard (1975, for South African material) and Migotto (1996, for Brazilian material). *Bimeria vestita* is a species with worldwide distribution (Calder, 1988), though this is the first record from sub-antarctic waters and the southernmost locality so far.

*Bimeria corynopsis* Vanhöffen, 1910, is another species of the genus, that might occur in the subantarctic region as it was originally described from the Antarctic. Its general habit resembles that of *B. vestita* but the knobs in the tip of the tentacles of *B. corynopsis*, that give those tentacles a capitate aspect, are a distinctive character (Vanhöffen, 1910). Although Vanhöffen is assured that these terminal knobs were not accidental in his material, we believe that a closer examination of the type might eventually prove it is conspecificity with *B. vestita*.

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