Two new genera and one new species of stoloniferous octocorals (Anthozoa: Clavulariidae)

O. Ocaña & L.P. van Ofwegen

Ocaña, O. & L.P. van Ofwegen. Two new genera and one new species of stoloniferous octocorals (Anthozoa: Clavulariidae).
Zool. Verh. Leiden 345, 31.x.2003: 269-274, figs 1-3.— ISSN 0024-1652/ISBN 90-73239-89-3.
O. Ocaña, Instituto de Estudios Ceutíes, IEC (CECEL-CSIC), Paseo del Revellín 30, Apdo. 953, 51080, Ceuta (North-Africa), Spain (e-mail: lebruni@telefonica.net; ieceuties1@retemail.es).
L.P. van Ofwegen, Nationaal Natuurhistorisch Museum, P.O. Box 9517, 2300 RA Leiden, The Netherlands (e-mail: ofwegen@naturalis.nnm.nl).

Key words: Coelenterata; Cnidaria; Anthozoa; Clavulariidae; *Canarya*; *Denhartogia*; *Sarcodictyon*; stoloniferous octocorals; Canary Islands; eastern South-Africa.
A new genus and species of stoloniferous octocoral from the East coast of South Africa is described and depicted. Additionally, a new genus is described to accommodate *Sarcodictyon canariensis* Ocaña et al., 1992. The new taxa are placed in the stolon-bearing family Clavulariidae.

Introduction

Williams (1992: 260) diagnosed a stoloniferous octocoral from South Africa, and tentatively placed it in the genus *Sarcodictyon* Forbes (in Johnston), 1847. He noticed the differences with previously described species of that genus but as pertinent literature sources were unavailable in those days he did no attempt to identify it. In the same year the first author, in co-operation with other Spanish Coelenterate workers, started a series of papers about Atlantic and Mediterranean stoloniferous octocorals (Ocaña et al., 1992; López-González et al., 1995; Ocaña et al., 2000). This paper is a continuation of those studies. We describe a new genus to accommodate the material studied by Williams, and another to accommodate *Sarcodictyon canariensis* Ocaña et al., 1992. The genus *Sarcodictyon* is discussed.

Abbreviations

NNM = Nationaal Natuurhistorisch Museum, Leiden, The Netherlands (formerly known as Rijksmuseum van Natuurlijke Historie, RMNH).
SAM = South African Museum, Cape Town, South Africa.

Systematic part

Genus *Denhartogia* gen. nov.

Diagnosis.— Colonies with ribbon like stolons that often form a network, rarely membranous expansions. Calyces cylindrical or conical and polyps retractile. Sclerites of stolons and calyces are flattened double cones. Polyps with rods arranged in eight longitudinal tracks that diminish in size towards the tip of the tentacles.

Type species.— *Denhartogia hartogi* spec. nov. by original designation and monotypy.

Etymology.— The generic name is derived from Jacobus den Hartog, former curator of Coelenterata et al., NNM, who died in October 2000.

Denhartogia hartogi spec. nov.
(figs 1-3)

Sarcodictyon spec. Williams, 1992: 260.

Material.— Holotype: SAM H4974, colony with 30 polyps, on calcareous remains, tubes of Polychaeta and Bryozoa, coll. G.C. Williams, 12.vii.1984, off the mouth of the Qora River, Transkei, 350-360 m by dredge, 32º33.7'S 28º49.4'E. Paratypes: SAM H3785, six lots, same data as holotype; SAM H3782, one lot, coll. G.C. Williams, 12.vii.1984, off Mendu Point, Transkei, 250 m depth by dredge, 32º24.0'S 28º59.0'E; SAM H3783, three lots, same data as SAM H3782; SAM H3784, 21 lots, coll. G.C. Williams, 11.vii.1984, Shixini Point, 240 m depth by dredge, 32º31.4'S 28º51.9'E; RMNH Coel. 32191, fragments and three microscopic slides used to make the drawings of the sclerites, same data as H3784.

Description.— Colonies consisting of 7 to 30 polyps connected by ribbon-like stolons, forming a complex net-work that rarely shows membranous expansions. Commonly the polyps arise separately from a piece of stolon, however, colonies that grow on small pieces of substrate tend to form rather membranous expansions. The calyces

Fig. 1. *Denhartogia hartogi* gen. nov. spec. nov.; detail of polyp armature.

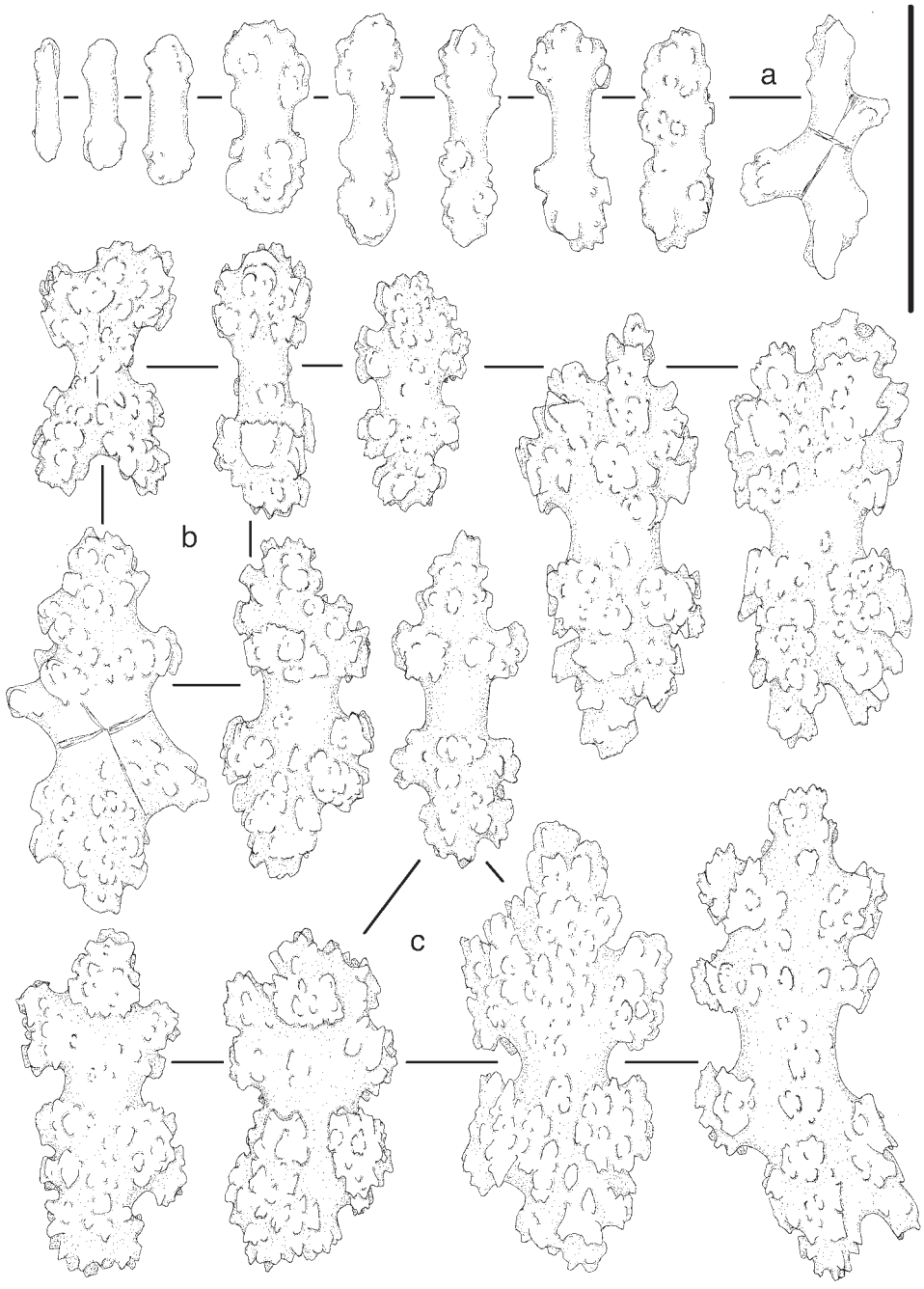

Fig. 2. *Denhartogia hartogi* gen. nov. spec. nov., sclerites; a, anthocodia, b, calyx, c, stolon. Scale 0.10 mm.

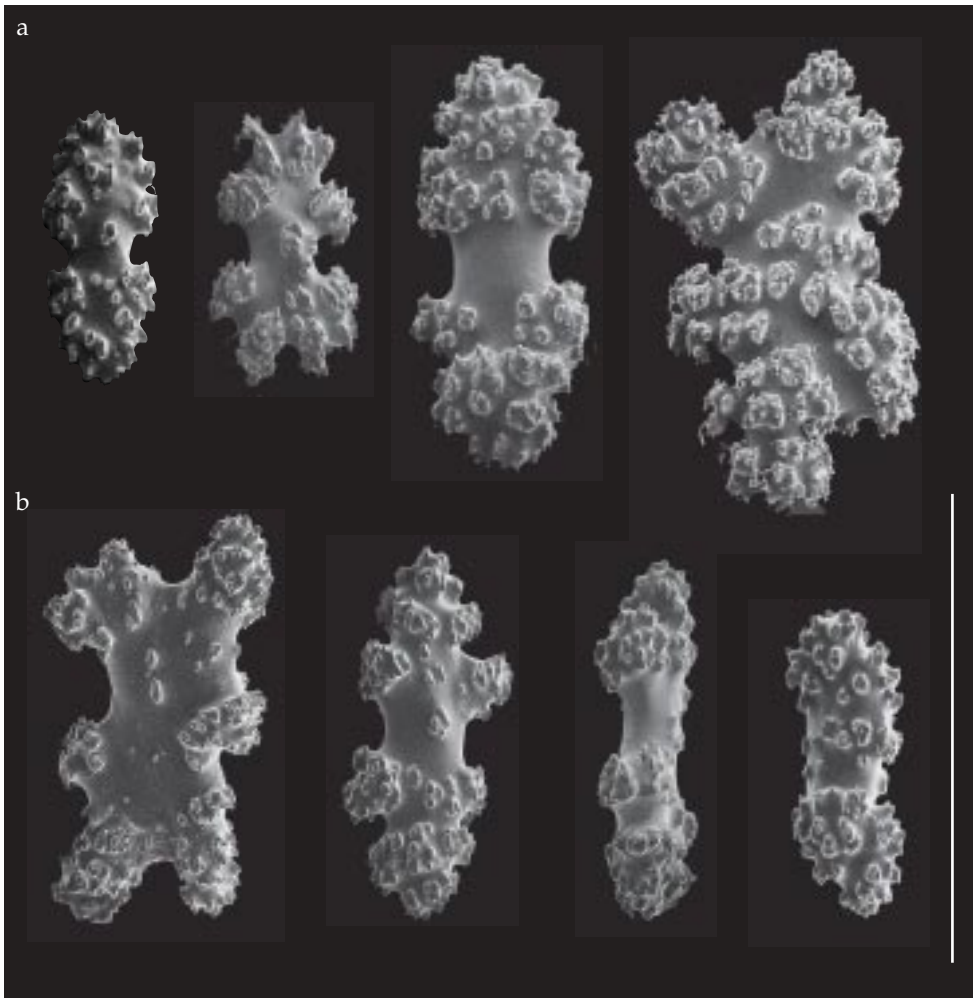

Fig. 3. *Denhartogia hartogi* gen. nov. spec. nov., sclerites; a, double cones of calyx, b, stolon. Scale 0.10 mm.

vary in shape, from almost flat to cylindrical, depending on the amount of retraction; most of them are conical in shape. Their size varies from two to seven mm in height and one to two mm in width. A number of polyps are expanded and up to about 3 mm long.

Polyps with rods (fig. 1), the larger ones have a few simple tubercles, enlarged ends and a distinct waist, while the smallest are straight rods with less ornamentation (fig. 2a). These sclerites are 0.03-0.08 mm long, and about 0.01-0.02 mm wide. A few crosses of the same size are also present.

Calyces and stolons with flattened double cones (fig. 2b, c, 3), with simple and complex tubercles. Several cross-shaped twinned forms are also present. Double cones of calyces 0.035-0.14 mm long; of stolons 0.07-0.16 mm long.

Colour of calyces and stolons orange, polyps milky-white. Most of the sclerites are orange but some are colourless.

Etymology.— The species is named for Jacobus den Hartog, former curator of Coelenterata et al., NNM.

Distribution.— This new taxon is exclusively known from off the Transkei province, East coast of South Africa, 240-360 m in depth.

Remarks

Both Bayer (1981: 885, fig. 3) and Ocaña et al. (2000: 415, figs 1-2) described and depicted the sclerites of *S. catenatum* Forbes, 1847, the type species of *Sarcodictyon,* and they discussed the history of that genus. Bayer's diagnosis of the genus, with regard to the sclerites, is as follows: "small six-radiates, commonly more or less flattened, sculptured by low to moderately prominent granulations and blunt prickles chiefly concentrated near the ends of the rays; many crosslike twinned sclerites present". He depicted these types of sclerites, as well as a few six-radiates showing very spiny rays. Ocaña et al. (2000) changed this diagnosis in order to incorporate *S. canariensis* Ocana et al., 1992. They described the sclerites as follows: "six-radiates, stellate plates, crosses, branched spindles and shuttles".

The description of *Scleranthelia microsclera* López-González et al., 1995, with sclerites as "massive plates, more or less polygonal, some of minor size, 6-radiate" would at first seem irrelevant with regards to the genus *Sarcodictyon*. However, if one compares fig. 2 of López-González et al. (1995) with fig. 3 of Bayer (1981) and fig. 1 of Ocaña et al. (2000) the similarity of the sclerites is obvious. Even the six-radiates with very spiny rays are shown in all three figures, though none of the authors mentioned them in their descriptions. *Scleranthelia microsclera* differs from *Sarcodictyon catenatum* in having somewhat larger sclerites, 0.16 mm versus 0.13 mm. In our opinion *S. microsclera* possibly represents another species of the genus *Sarcodictyon*, but certainly does not belong to the genus *Scleranthelia*, characterised by the presence of huge plates of 1.00 mm length or more

The different sclerites descriptions mentioned above merely reflect the difficulty in describing the wide range of sclerite forms present in *Sarcodictyon*. In our opinion they are best described as: small stellate plates, radiates with spiny rays, and forms intermediate between these two types of sclerites (for the latter see Ocaña et al. 2000: fig. 1, 16-22).

Some of the flattened double cones in *Denhartogia hartogi* can resemble some of the stellate plates in *Sarcodictyon*, but as they are derivatives of a different type of sclerite we feel confident in describing a new genus. Moreover, *D. hartogi* has rods in the polyps, whereas *Sarcodictyon* has minute stellate plates, and *D. hartogi* has no radiates with spiny rays.

Sarcodictyon canariensis Ocaña et al., 1992, shows sclerites quite different from *Sarcodictyon catenatum* and *S. microsclera*, and we propose a new genus to incorporate the species.

Genus *Canarya* gen. nov.

Diagnosis.— Colonies with ribbon like stolons that often form a network with membranous expansions. Calyces are cylindrical or conical, and polyps retractile. Sclerites of stolons and calyces are crosses, branched spindles and shuttles. Polyps without sclerites.

Type species.— *Canarya canariensis* (Ocaña et al., 1992).

Description.— See Ocaña et al., 1992.

Etymology.— The generic name is derived from the type locality, The Canary Islands, and is feminine.

References

Bayer, F.M., 1981. On some genera of stoloniferous octocorals (Coelenterata: Anthozoa), with descriptions of new taxa.— Proc. biol. soc. Wash. 94 (3): 878-901, figs 1-6.

López-González, P.J., O. Ocaña & J.C. García-Gómez, 1995. *Scleranthelia microsclera* n. sp. (Anthozoa: Stolonifera) from the Strait of Gibraltar and Canary islands.— Ophelia 43 (2): 119-125, figs 1-2.

Ocaña, O., A. Brito & J. Nuñez, 1992 A new species of *Sarcodictyon* (Anthozoa: Stolonifera) from Tenerife, Canary Islands.— Zool. Med. Leiden 66 (31): 423-428, figs 1-5.

Ocaña, O., P.J. López-González, J. Nuñez & J.C. García-Gómez, 2000. A survey of the genera *Sarcodictyon* Forbes, 1847, and *Rolandia* Lacaze-Duthiers, 1900, (Anthozoa: Octocorallia) in the Northeastern Atlantic and the Mediterranean.— Zool. Med. Leiden 73 (28): 413-426, figs 1-5.

Williams, G.C., 1992. The Alcyonacea of Southern Africa. Stoloniferous octocorals and soft corals (Coelenterata, Anthozoa).— Annals of the South African museum 100 (3): 249-358, figs 1-45.