

***Porites decasepta*: a new species of scleractinian coral (Scleractinia, Poritidae) from Oman**

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Abstract

A new species of scleractinian coral, *Porites decasepta* spec. nov. (Scleractinia, Poritidae) is described from the Bar Al-Hikman reef complex along the Arabian Sea coast of the Sultanate of Oman. *Porites decasepta* spec. nov. forms encrusting, bright blue colonies rarely exceeding 7 cm in diameter. Corallites, about 1mm in diameter, have only 10 septa: the two lateral septa of the ventral triplet typical of *Porites* septal arrangement are missing or strongly reduced.

Une nouvelle espèce de scleractiniaire, *Porites decasepta* spec. nov. (Scleractinia Poritidae) est décrite du complexe récifal de Bar Al-Hikman situé le long de la côte de la mer d'arabie du Sultanat d'Oman. La nouvelle espèce forme de petites colonies encroûtantes, de couleur bleu-violet, ne dépassant guère 7 cm de diamètre. Les corallites d'à peu près 1mm de diamètre n'ont que 10 septa: les deux septa latéraux du triplet ventral étant le plus souvent manquants ou fortement réduits.

Key words: Cnidaria, Scleractinia, *Porites*, Poritidae, new species, Arabian Sea, Oman

Introduction

The Bar Al-Hikman reef complex, located along the Arabian Sea Coast of the Sultanate of Oman (Fig. 1), is one of the few true reefs of the Sultanate of Oman. The complex is composed of a string of large (tens of km) reefs aligned parallel to the southern tip of the Bar Al-Hikman Peninsula and West of the Island of Masirah. The framework of these reefs consists of a single species of a yet unidentified foliaceous *Montipora* sp. The south facing fore reef shows a well defined spur and groove structure in which a more diverse scleractinian coral community develops. In the deeper part of this fore reef, around 4–7 m in depth, numerous small colonies of an unidentified poritid coral were observed in the field and photographed. Collected specimens were then compared to corals of congeneric species; they appeared to belong to a new species with distinctive skeletal characters.

Material and methods

Numerous colonies were photographed in the fore reef spur and groove area of the Bar Al-Hikman Reef complex and some collected by SCUBA. Collected specimens were rinsed overnight in freshwater, energetically hosed to remove as much soft tissue as possible, bleached in commercial sodium hypochlorite solution for 24 h, then rinsed again in fresh water, and dried in the sun. Cleaned skeletons were photographed on an Olympus dissecting microscope mounted with a digital camera.

Systematic Account

Family Poritidae Gray, 1842

Genus *Porites* Link, 1807

Porites decasepta spec. nov. (figs. 2–4)

Material examined

Holotype: Sultan Qaboos University, SQU05080, Oman, Bar Al-Hikman, 4.0 m, 20° 20.301' N, 58° 22.914' E . Collector: Michel Claereboudt. Colony 6x4 cm (figs. 2A, 3A, 3B).

Paratypes: 1—Florida Museum of Natural History, UF5672 , Oman, Bar Al-Hikman, 4.5 m, 20° 20.301' N, 58° 22.914' E . Collector: Victor Bonito.

2—Institut Royal des Sciences Naturelles de Belgique, IG30418, Oman, Bar Al-Hikman-, 5.0 m, 20° 20.301' N, 58° 22.914' E (). Collector: Michel Claereboudt (figs. 2B, 3B).

Diagnosis

Corallites are about 1mm in diameter, almost circular. There are only 10 septa in six groups: one ventral, one dorsal and four pairs of lateral septa fused along their inner margins. A short columella is present and connects to the six groups of septa by well developed radii. Living colonies have small polyps, retracted during the day. All colonies were small and incrusting. They appeared and photographed bright blue-violet underwater. A very distinctive species in its environment.

Previous records

This species has been previously recorded and photographed but not identified (Blue *Porites*) near Masirah Island (Paulay & Meyer, 1999).

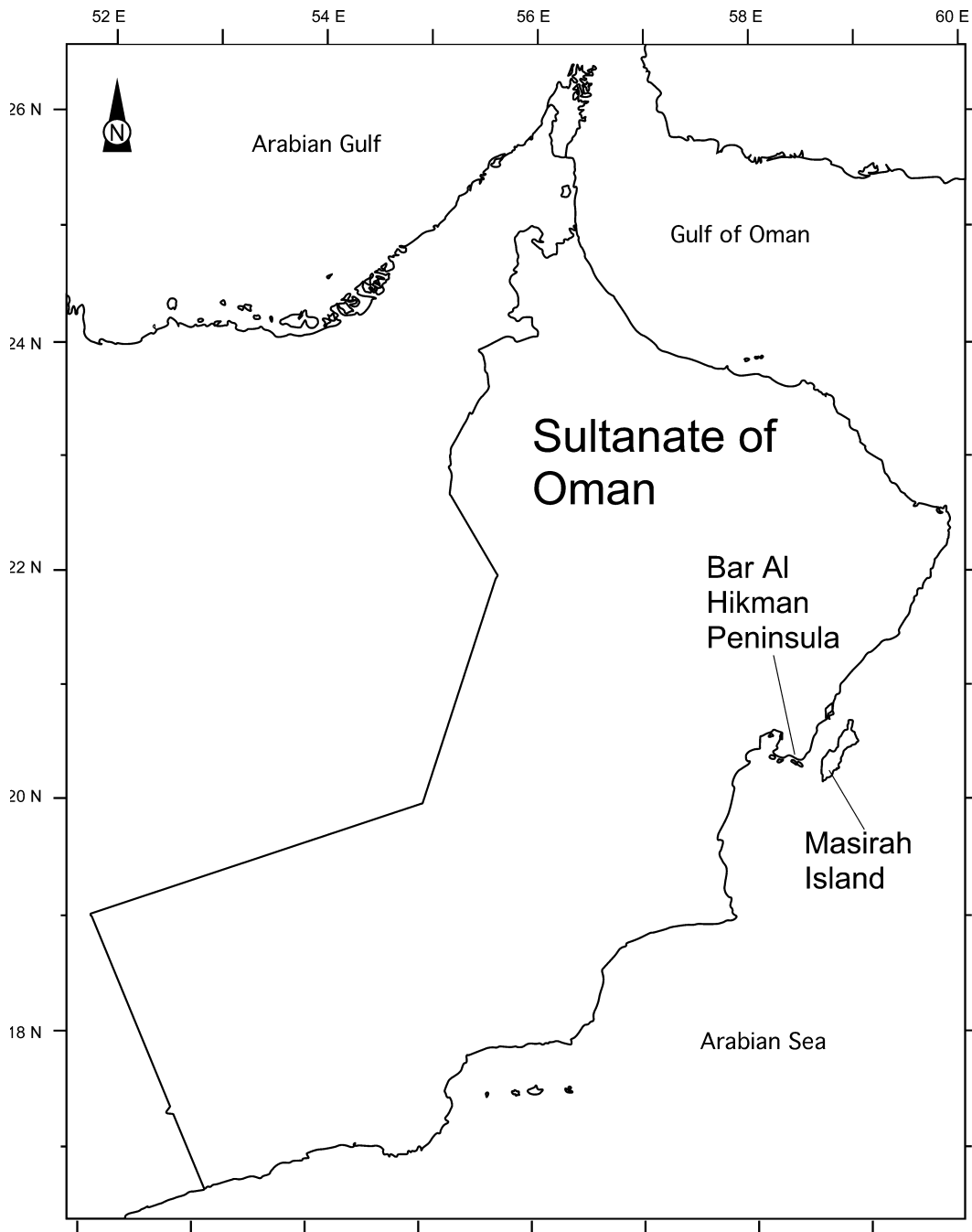


FIGURE 1. Map of the Sultanate of Oman with the location of the Bar Al-Hikman Peninsula.

Description

Colonies are encrusting and small: rarely more than 7 cm across. Corallites are nearly circular in outline and small (slightly less than 1.0 mm in diameter on average). The wall is

relatively thin and consists of complex anastomosing and irregular denticles. Calices are superficial. There are 10 septa in six groups: one dorsal, one ventral and two pairs of lateral septa on either side of the axis of symmetry. The two lateral septa of the ventral triplet characteristic of *Porites* are absent. The six groups of septa connect to a short pillar-like columella by six well developed radii slightly below the upper margin of the septa. A columella is present and there are no distinct pali but irregular, poorly defined granulated denticles are present on the margin of the septa. The coenosteum between corallites is coarse and porous.

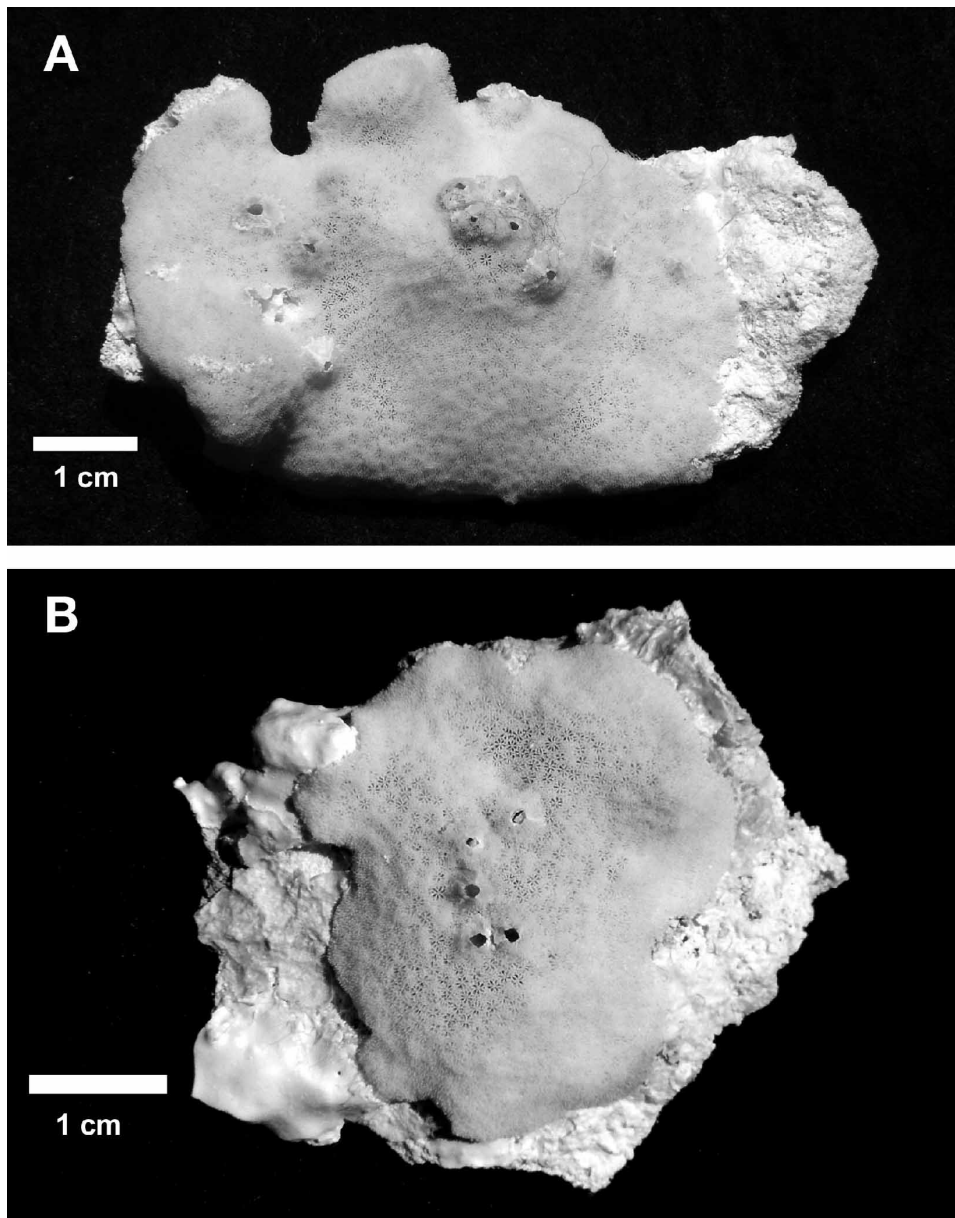


FIGURE 2. *Porites decasepta* spec. nov. A: Holotype, (SQU05080); B: Paratype (IG30418).

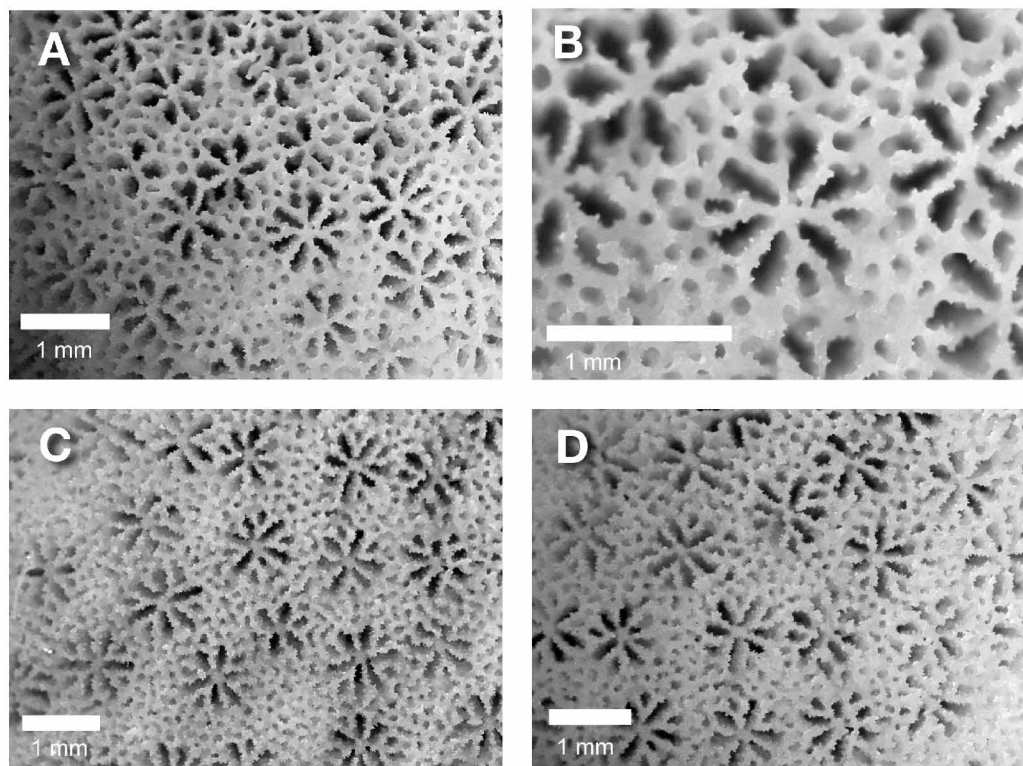


FIGURE 3. *Porites decasepta* spec. nov. Details of the corallites. A,B: Holotype (SQU05080); C: Paratype (IG30418); D: other colony (SQU05091).

Living colonies have small polyps normally retracted during the day. All observed colonies appeared bright blue-violet, contrasting with all specimens of other species of *Porites* present. The coral also photographed blue-violet under artificial light.

Etymology

The specific epithet *decasepta* “with 10 divisions” was chosen to illustrate the characteristic septal pattern of this species.

Habitat and distribution

All colonies were found attached to hard substrates: often fragments of dead foliaceous *Montipora*, between 3 and 7 m in depth in the “spur and groove” fore reef of the large reef complex extending south of the Bar Al-Hikman Peninsula (20°20.3' N, 58°23.1'E) and Masirah Island (20°20.6' N, 58°38.0 E). Despite extensive surveys this species was not observed in the Gulf of Oman and appears restricted to the Arabian Sea. Where present, *Porites decasepta* appeared quite common and easily identifiable underwater by its apparent bright blue color.

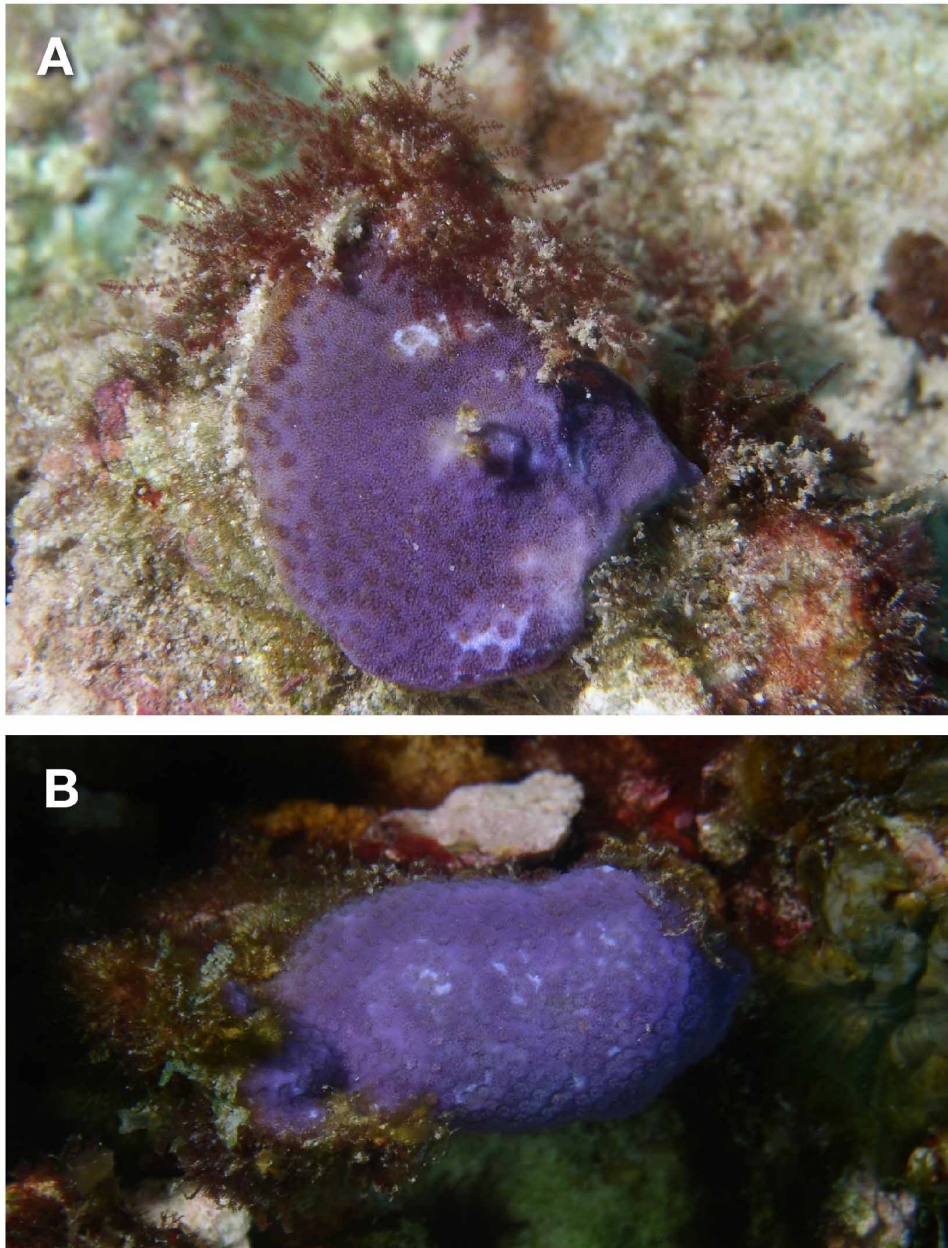


FIGURE 4. *Porites decasepta* spec. nov.: A, B: Underwater photographs of live colonies. Note the bright blue-violet color.

Discussion

Porites decasepta spec. nov. differs from all other species of *Porites* by its unusual septal arrangement. Although this septal pattern differs from that of most other *Porites* species by the lack of a ventral triplet, the new species is retained in the genus *Porites* because several

other species of *Porites* have lost partially, or totally, the fusion pattern characteristic of the genus (Veron, 2002) although none has the characteristic 10 septa of the present group of specimens. *Porites desilveri* Veron 2002 has only four to eight developed septa (Veron, 2000) whereas *Porites profundus* Rehberg, 1892 and *Porites heronensis* Veron 1985 have 12 septa but highly underdeveloped fusion pattern (Rehberg, 1892; Veron, 1985). The size of the calices fall within the range published for other species of *Porites* (0.6–2.0 mm).

At various point in the taxonomic history of *Porites*, three taxa have been considered as separate genera, synonyms of *Porites* or as subgenera: *Stylaraea* Edwards and Haime 1851, *Napopora* Quelsch, 1886 and *Synaraea* Verrill, 1864. More recently, *Poritipora* Veron 2002 was added to this small series of poritid genera with small calices and small polyps. *Napopora* was established by Quelsch (1886) and only used once by subsequent authors (Nemenzo, 1976) for a small group of species with coenosteal ridges between corallites. The genus *Synaraea* was created by Verrill (1864) for species with small corallites and large areas of granular inter calicial coenosteum. Most authors since have considered *Synaraea* as a subgenus of *Porites*. With the progressive addition of new species with morphological characteristics intermediary to *Porites*, *Synaraea* and *Napopora*, and a large intra-specific variability the general opinion, promoted by Veron (2000, 2002), has been to consider only a single genus: *Porites*. The two monospecific genera *Stylaraea* Edwards and Haime and *Poritipora* Veron are on the other hand sufficiently distinct to keep them separate from *Porites*. *Stylaraea* has 12 un-fused septa and a well developed columella whereas *Poritipora* has two cycles of 12 septa each and no columella. In *Porites decasepta* spec. nov., the fusion pattern, although with only 10 septa, is similar to that of *Porites* and does not warrant at this stage the erection of a new genus. Future genetic analysis will certainly help elucidating the complex relationships in poritids.

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