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## *CANTHARELLUS NOUMEAE* (GEN. NOV., SPEC. NOV.), A NEW SCLERACTINIAN CORAL (FUNGIIDAE) FROM NEW CALEDONIA

by

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A new monospecific genus in the coral family Fungiidae (Scleractinia) is described. Its affinities with two other genera are discussed.

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### INTRODUCTION

A number of attached, solitary corals has been collected during fieldwork carried out by the second author (see also Wijsman-Best, 1972) near the capital of New Caledonia, Nouméa (fig. 1). The specimens could not be identified directly but were seen to be related to corals of the scleractinian family Fungiidae.

Most genera and species in this family are represented by corals which are only attached to the substratum in an early stage of development, the anthocaulus stage. Later they become free-living, entering the anthocyathus stage (Wells, 1966: fig. 2). Only animals in two genera of the Fungiidae were known to remain fixed in adult stage, *Lithophyllon* Rehberg, 1892 and *Podabacia* Milne Edwards & Haime, 1849. In these two genera the corals are colonial. They were not recorded by Woodhead & Weber (1969) in their list of coral genera from New Caledonia.

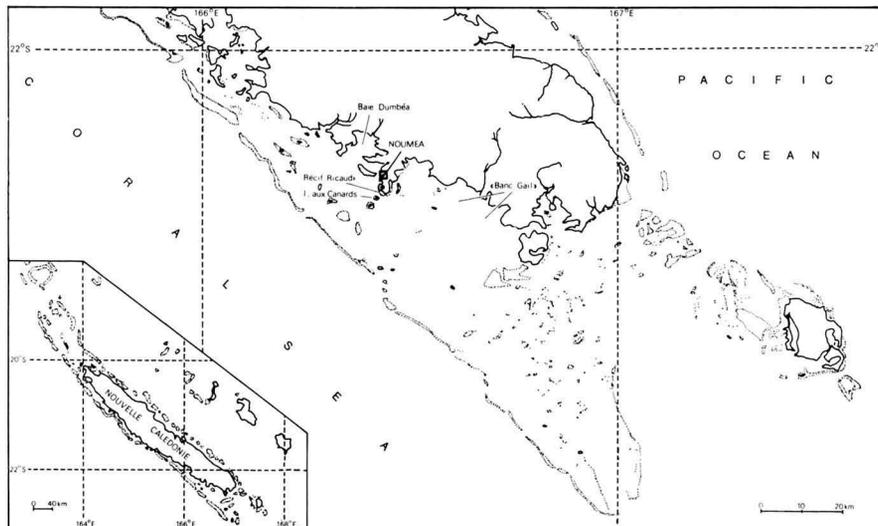


Fig. 1. Map of New Caledonia (left) and the southwestern part of the island (right). Localities where corals have been collected are indicated.

The species described in the present paper is the only solitary one in the Fungiidae of which is known that it does not reach the anthocyathus stage. Therefore it is placed in a newly described genus.

## MATERIAL

All collected specimens are deposited in the coral collection of the Rijksmuseum van Natuurlijke Historie (RMNH) at Leiden. Also a coral donated by ORSTOM (Office de la Recherche Scientifique et Technique Outre Mer), Nouméa has been added to the collection.

Holotype: RMNH 16241, loc.: Nouméa (no further locality data).

Paratypes: RMNH 16264; RMNH 16265 (three specimens), loc.: Baie Dumbéa. RMNH 16266, loc.: Ile aux Canards. RMNH 16267, loc.: Récif Ricaudi. RMNH 16268 (two specimens), loc.: Banc Gail.

## GENUS DESCRIPTION

### *Cantharellus* gen. nov.

Corals are solitary and remain attached in adult stage, becoming cup-shaped. The coral wall is imperforate. Septa and costae are simply and finely ornamented.

Because the shape of the corals is often similar to that of a chanterelle, the genus is named after this group of mushroom-forming fungi.

### SPECIES DESCRIPTION

#### ***Cantharellus noumeae* spec. nov.**

(figs. 2-9)

Characters. — The studied coralla are solitary (monostomatous) and remain attached in adult stage (figs. 3, 5). Their diameter varies between 2.5 and 6.5 cm. The calyx is regularly circular to slightly oval but may become undulating with folds at the periphery (figs. 2, 4). The oral (upper) surface is concave or flat; the aboral side is tapering towards the attachment area (fig. 3).

The septa are densely packed and straight or diverging near the corallum margin. The septa of lower orders are thick and solid, those of higher orders thinner and often fenestrate. The septa are alternating in height. Those of lowest orders, the oldest, are more exsert than those of higher orders. All septa are increasing in height towards the part which normally supports a tentacle, although a protruding tentacular lobe is not distinct. The septal margins are finely dentate (fig. 6) or frayed (fig. 8). The dentations are regularly granular and sharp, but blunt and pillar-shaped in frayed septal margins. Their number varies from 40 to 60 per cm septal margin. The septal sides are densely granulated (fig. 6). The granulations are fine and irregularly dispersed or arranged in rows perpendicular to the septal margin. The synapticulae, which connect the septa laterally, cannot easily be distinguished because of the tight septal arrangement. The length of the central fossa, measured at its bottom, is 1: 7-13 of the corallum length. The columella is formed by a mingled mass of loosely packed and partly fused trabeculae with the tips pointing upwards or being indistinct.

The wall is imperforate in all specimens and is often partly covered by epibionts (figs. 3, 7). A detachment scar is distinct at the aboral side of specimens broken off from the substratum by the collector (fig. 3). All costae are distinct from the attachment area to the corallum margin. The costae are finely ornamented. The costal projections (spines) are granulate and blunt (figs. 7, 9). Their number varies from 30 to 60 per cm costa.

Habitat. — The corals have been found on deep parts of some reefs near sandy lagoons and in muddy environments close to the main coast of New Caledonia. The corals often lived under the influence of fine sediments charged into the sea by rivers. All specimens have been collected at depths between 10 and 35 m.

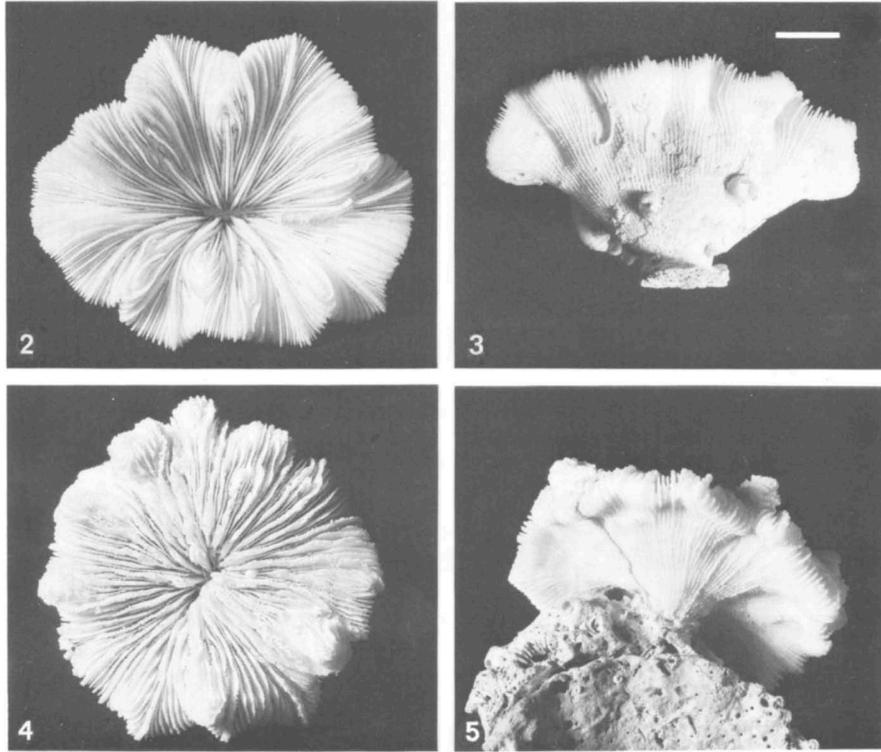


Fig. 2. Upper surface of holotype (RMNH 16241) of *Cantharellus noumeae*. Fig. 3. Under surface of holotype. The coral has been detached from the substratum by the collector. Scale bar for figs. 2-5 represents a length of 1 cm. Fig. 4. Upper surface of a paratype (RMNH 16264) of *Cantharellus noumeae*. Fig. 5. Under surface of coral in fig. 4. The coral is still attached to the substratum.

#### AFFINITIES

The genus probably has affinities with the genera *Cycloseris* Milne Edwards & Haime, 1849 and the earlier mentioned *Lithophyllon*. *Cycloseris* is a genus of solitary, free-living corals. *Cantharellus* often has the same kind of septal and costal ornamentations as *Cycloseris*, fine and granular. The margin of the septa may also be frayed, like in *Lithophyllon*. The spines on the costae are alike in these genera, fine and granular. Some of the characters of the three genera are listed in table 1. *Cantharellus* may be seen as an intermediate form between the two other genera. Like *Cycloseris* it is solitary and like *Lithophyllon* it has lost the possibility to become free-living.

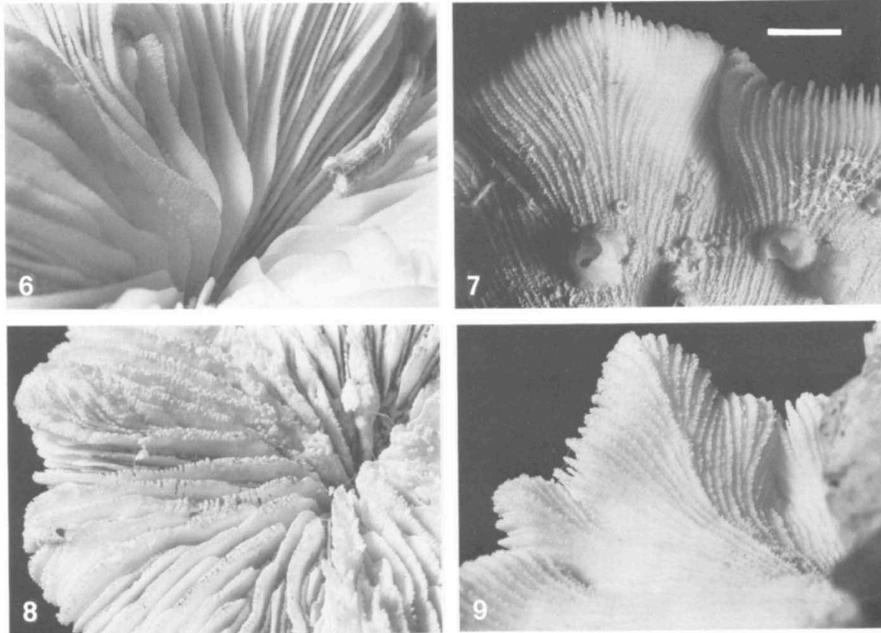


Fig. 6. Close up of septal margins and septal sides of *Cantharellus noumeae* holotype. Fig. 7. *Cantharellus noumeae* holotype. Details of under surface of corallum wall covered by costae and by epibionts. Scale bar for figs. 6-9 represents a length of 5 mm. Fig. 8. Details of septa of coral shown in fig. 4. Septal margins are distinctly frayed. Fig. 9. Close up of costae of coral in fig. 5 (RMNH 16264), showing the shape of costal spines.

With the latter genus and with *Podabacia* it has often a cup-shaped form in common. This growth-form is probably due to the fixed state in which the animals are living, although *Lithophyllon* also can be seen in encrusting habit. If they grow larger, corals of *Lithophyllon* and *Podabacia* lose their cup-shape and become foliaceous. *Cantharellus* has not been found that large.

Characters	<i>Cycloseris</i>	<i>Cantharellus</i>	<i>Lithophyllon</i>
Solitary	+	+	-
Free-living in adult stage	+	-	-
Cup-shaped	-	+	+
Septal margin frayed	-	+/-	+
Septal dentations granular	+	+/-	-
Costal spines granular	+	+	+

Table 1. Characters of three compared genera in the Fungiidae.

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