A New Bryozoan Genus from the Weddell Sea, Antarctica

J. J. López Gappa


Received 18 October 1985; accepted 3 April 1986

Summary. Brettiopsis gen.nov. is erected within the family Scrupariidae. Its affinities with the genera Brettia, Leiosalpinx, Brettieilla, Bugulella and Scruparia are briefly discussed. Its type species, Brettia triplex Hastings, is redescribed on the basis of new material collected in the southern part of the Weddell Sea by the RV Polarsirkel. Bivalved brood chambers, previously unknown in this species, are described and illustrated.

Introduction

The bryozoan collection gathered by the research vessel Polarsirkel in the Weddell Sea during the summer of 1980, contained new material of the rare antarctic cheilostome Brettia triplex. This species was originally described by Hastings (1943), who provisionally assigned it to Brettia Dyster, though she pointed out that the possession of avicularia might ultimately exclude it from that genus. This is the only known description of the species in the literature and it was based on fragmentary material collected by the “Terra Nova” Expedition off Oates Land, Antarctica.

Ryland and Hayward (1977) questioned the systematic status of Brettia, pointing out that no further material of the type species, B. pellucida Dyster, has ever been collected and that the only available specimen, deposited at the British Museum, is unrecognizable.

Hayward and Cook (1979) erected the genus Leiosalpinx, to include Alysidium inornata Goldstein 1882 (= Catenaria attenuata Busk 1884), transferred to Brettia by Hastings (1943). These authors considered that a re-examination of the species currently assigned to Brettia, a group of unrelated forms whose only common feature seemed to be an erect, uniserial habit, would be convenient.

More recently, Gordon (1984) established the genus Brettieilla within the family Bugulidae, to include a new Brettia-like species from the Kermadec Ridge, distinguished by the absence of spines and the possession of asymmetric oviells.

The characteristics of Brettia triplex justify the introduction of a new genus. Moreover, the study of the Weddell Sea material has provided new information on branching pattern and other poorly known features of the species and has revealed the existence of bivalved brood chambers, which suggest an affinity with the genus Scruparia.

Material

One big colony of B. triplex collected by RV Polarsirkel at station 79, 31.1.1980, 77°08'S – 47°52'W, 250 m. Deposited in the collection of invertebrates of the Museo Argentino de Ciencias Naturales "Bernardino Rivadavia" (MACN), N. 32524. Other typically antarctic bryozoans found together with this species were Notoplites drygalskii, Carbacea curva, Paracellaria wandelli, Cellarinella rossi, C. roydsi, C. nodulata and Trilaminopora trinervis.

Results

Brettiopsis gen.nov.

Colony erect, uniserial, branching, unjointed. Each zooid buds generally one distal as well as one or, more rarely, two distal lateral zooids, producing an alternate or opposed branching pattern. No spines. Avicularia replacing the branches. Bivalved brood chambers present.

Type Species: Brettia triplex Hastings 1943

Brettiopsis gen.nov. differs from Brettia Dyster, Leiosalpinx Hayward and Cook and Brettieilla Gordon in the possession of avicularia and bivalved brood chambers, and from Bugulella Verrill (see Maturo and Schopf 1968 and Hayward and Cook 1979) in the type of branching and brood chambers, the position of the avicularia and the absence of spines. According to Harmer (1926), Co-
rynoporella Hincks is probably a junior synonym of Bugulella.

Brettioopsis has been tentatively assigned to the family Scrupariidae. It shares with Scruparia the possession of characteristic bivalved brood chambers (see Hastings 1941), but differs from the latter in the presence of avicularia and the absence of frontal budding.

Brettioopsis tripex (Hastings 1943), Figs. 1 – 7
Brettia tripex Hastings 1943: 476, Fig. 56d

Description. Colony erect, delicate, uniserial, branching. Zooids tubular, expanded distally, transparent, very lightly calcified, budding usually one distal as well as one or, more rarely, two disto-lateral zooids, so as to produce an alternate or sometimes opposed branching pattern.

Younger zooids near the tips of the branches approximately 1 x 0.25 – 0.30 mm, with functional polypide, operculum and a pair of disto-lateral avicularia, budding only one distal zooid (Fig. 2). Opesia occupying about three-fourths of the frontal surface.

Older zooids forming the primary branches of the colony tubular, unusually long, reaching up to 4 mm in length, with strongly chitinized walls. Opesia occupying about one-half of the frontal surface. Although in this material no polypides were observed in axial zooids, the occurrence of brown bodies and well-developed opercula imply their existence in earlier stages of ontogeny. Budding produces, in addition to the median distal zooid, one distal lateral avicularium and one branch, which alternates regularly to the right and to the left of the main axis (Fig. 4). Examples of opposed branching brought about by the budding of three zooids are less frequent (Fig. 1).

Intermediate zooids, in which polypides may or may not be present, occur mainly in the secondary branches and produce usually only one lateral branch.

A small segment separated by a deep constriction is present in the proximal part of each zooid.

Avicularia erect, about 0.10 x 0.13 mm, rigidly attached, replacing one or both branches, with rounded mandibles and rostra directed outwards (Figs. 2 – 4 and 7).