

INTRODUCTION TO THE 13TH IBA INTERNATIONAL CONFERENCE

CHILEAN BRYOZOLOGY

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The study of Bryozoans from Chilean waters started in the 19th century. Two main stages can be recognised on the emphasis of the studies carried out along the 180 years of history. The first one has an almost exclusive emphasis on systematic and taxonomy, while the second, and more recent one, has an emphasis on biogeography, ecology and functional biology. Those two phases are not clear-cut; they do overlap and interact along time.

The years of systematic and taxonomy: The earlier studies were carried out by non-Chilean bryozoologists, mainly Europeans ones, and dealt mainly with marine bryozoans. Such studies include those by Quoy & Gaimard (1824), d'Orbigny (1841-1847), Busk (1854, 1884, 1886), Ridley (1881), Jullien (1888), Waters (1888, 1904, 1905), Calvet (1904a, b, 1909), Kluge (1914), Marcus (1921), Borg (1926, 1944) Hastings (1943), Androsova (1968, 1972), Wiebach (1974), López-Gappa (1978, 1982, 1986), Moyano & Gordon (1980), Hayward & Taylor (1984), Hayward & Thorpe (1987, 1988a, b, c, d, 1989a, b, 1990), López-Gappa & Lichtschein (1988, 1990), Hayward (1988, 1995) and Hayward & Ryland (1990).

Contributions from Chile to the knowledge of bryozoans started with an illustration of a lunulitiform fossil from the Atacama desert (Philippi 1887), which was followed by a 60 years gap without new records or studies. Several Antarctic species were illustrated and described by Mann (1948) from samples collected during the first Chilean Antarctic Expedition. Between 1965 and 1968 Moyano produced a series of papers on littoral bryozoans from Central Chile and others on Antarctic bryozoans collected by Chilean Antarctic Expeditions. In 1969 Viviani's doctoral thesis described 67 ectoprocts and 17 entoprocts of the southeastern Pacific coasts along Chile. Unfortunately most of this large work remains still unpublished (but see Viviani 1969 and Moyano 1991).

From taxonomy to biogeography: In 1972 Moyano reported part of the almost unknown bryozoans from Easter Island, and in 1982 he characterised the Magellanic Bryozoan fauna, including an analysis of the faunistic and zoogeographical affinities with the Antarctic. This author also added new faunal data from Juan Fernández archipelago and Easter Island in a general comprehensive work on the bryozoans of the Pacific basin including both polar areas (Moyano 1983). Finally, Moyano, in 1991, reviewed the whole Chilean waters bryozoan fauna from a systematic and zoogeographical point of view.

From biogeography to ecology, functional biology and back to systematics: Overlapping with the interests on large scale bryozoa distribution patterns new topics at local scale and species level started to be addressed, such as homosyndrome (Moyano 1967); polymorphism related to environmental stability (Moyano 1975); chromosomes (Cea & Moyano 1977); epibiosis on animal and algal substrates (Moyano 1989 and Muñoz & Moyano 1988); phylogeny of Ledythoporidae (Moyano 1985) and predation (Manríquez & Cancino 1991).

In the last two decades of the 20th century two new topics started to be explored, namely the ecophysiology of the bryozoa-algal interaction (Cancino *et al.* 1987; Cancino *et al.* 1991; Molina, *et al.* 1991; Muñoz *et al.* 1991; Manríquez & Cancino 1996;) and the ecophysiology of the bryozoans and its larvae (Muñoz & Cancino 1989; Muñoz *et al.* 1990; Orellana & Cancino 1991; Ramírez & Cancino 1991; Cancino *et al.* 1992; Cancino *et al.* 1994; Orellana *et al.* 1996; Ruiz *et al.* 1996; Cancino & Gallardo 2000 and Cancino *et al.* 2002). Larval release patterns and larval energetics has been one of the most explored topics in this years. Interactions among species have also been investigated, results remain mostly unpublished (Muñoz 1991).

Simultaneously a series of investigations have been carried out anew in subantarctic and Antarctic areas, such as the Antarctic peninsula, Scotia arc archipelagos, South Atlantic and Cap Horn area which have yielded a lot of new information (Moyano 1996a, 1997a, 1997b, 1999, 2000a, 2000b, 2000c, Moyano & Cancino 2002; Cancino *et al.*, this volumen). Among them stand up the proposition of the new cribrimorphan family Polliciporidae, of several new species and genera hitherto unknown in the area.

The bryozoans present in the vastness of the Pacific area between Arica, Easter island and Cape Horn are also been addressed anew. Preliminary studies resulting from recent Chilean Navy's CIMAR Expeditions to oceanic Chilean archipelagos lying on the Nazca plate, have yielded new records of the Indo-Pacific bryozoa fauna reaching Desventuradas islands. This means new families, genera and species for Chile and the science and the unexpected zoogeographical relationships between the eastern and western central Pacific. (Moyano 1973, 1983, 1985 a, 2002 a).

The ecophysiological studies carried out in Chile in the last two decades have used mainly the hitherto regarded as a cosmopolitan species *Celleporella hyalina* and its larvae. These studies have produced a series of joint Chilean-British publications (see above references), which started with the work by Cancino for his doctoral thesis in Wales (Hughes & Cancino, 1985; Cancino 1983, 1986; Cancino & Hughes 1987, 1988) and the more recently one by Manríquez (2000). At this Conference we will be hearing the results of the last British-Chilean joint research project carried out on this species (see Hughes *et al.*, and Navarrete *et al.*, this volume). The results of molecular genetics and inter-population breeding experiments are demanding from taxonomist to tell species apart but with the new challenge of knowing that they are dealing with a set of cryptic species. Therefore we are back to taxonomy, where all started for Chilean bryozoology.

Phylactolaemata: Bryozoans from Chilean freshwaters are almost unknown, the only existent studies are those of Calvet (1904) and Wiebach (1974) on the Phylactolaemata from the Magellan zone. Recently Orellana (1999) has undertaken the study of this group, based in which Wood (2001) reported a new species for Chile. The study of this group remains mainly on the phase of systematic, although the study by Orellana has started to explore into the ecology.

Paleontology: Most of Chilean geological studies have dealt with economy and not with paleontology, therefore studies on Chilean fossil bryozoa are scarce, little known or inexistent. Corvalán (1965) in a review of Chilean Geology indicates for instance, the presence of Fenestellid bryozoans in the Juan de Morales formation (Upper Carboniferous) in northern Chile. In Concepción area stand up the Quiriquina Formation (Upper Cretaceous) and Tubul (Pliocene). Quiriquina formation with its richest molluscan fauna has been comprehensively studied (Stinnesbeck 1986). Its cyclostome bryozoans have been shown once through a poster presentation in the national annual geology meeting.

Such is the stage of the knowledge of bryozoans in Chile at the time we welcome the international bryozoologists attending the 13th IBA Conference in Concepción, Chile. A total of 83 contributions, 65 talks and 23 posters, will be presented in this Conference, covering almost all the disciplines of the contemporaneous biological science applied to bryozoans. As part of the Conference a group of Bryozoologists from many nationalities will visit most of Chile. Samples collected as part of these trips are likely to produce new advances to Chilean bryozoology.

As a way of leaving a lasting testimony of this unique event for Chilean bryozoology we are glad to publish this presentation and all the abstracts of talks and posters as vol 74 of the Boletín de la Sociedad de Biología de Concepción

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