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The genus *Corella* (Ascidiacea, Phlebobranchia, Corellidae) in the Southern Hemisphere with description of a new species

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Abstract

In the Southern Hemisphere the species attributed to *Corella eumyota*, Traustedt, 1882 are likely more varied than previously expected. This ascidian species was described from specimens collected at Valparaiso (Chile). Until now it was considered as a widely distributed species in the southern hemisphere. New collections from Chile and the Antarctic area have allowed to separate two species and re-establish *Corella antarctica* Sluiter, 1905 as a valid species (Alurralde 2013). A morphological re-examination of many specimens from the MNHN collections and especially recent surveys as CEAMARC and REVOLTA confirms that Antarctic specimens from the Antarctic Peninsula and Terre Adélie obviously differ from sub-Antarctic material more varied than previously estimated. On the other hand, *C. eumyota* invasive in Europe (Lambert 2004) has been shown to be the same as specimens from Chile, New Zealand and other sub-Antarctic regions. The present morphological study compares *Corella* from different regions and describes a new species *Corella brewinae* n. sp. that is found living mixed with *C. eumyota* populations.

Key words: Ascidiaceans, Corellidae, Antarctic, Sub-Antarctic, new species

Introduction

The genus *Corella* was created by Hancock (1870) for *Ascidia parallelogramma* Müller, 1776. This world wide distributed genus is essentially characterized by the digestive tract and gonads located in the right body side, the branchial sac flat with longitudinal vessels and spiral stigmata. *Corella eumyota* Traustedt, 1882 was considered until now as the only species of the genus present in the southern hemisphere. Alurralde et al. (2013) compared samples of *Corella* from Chile, the location of the type species, to more southern ones and re-established the species *Corella antarctica* Sluiter, 2005 for specimens from the Antarctic Peninsula. We confirm this reinstatement after examination of ascidians from the French Antarctic Expedition labelled *C. antarctica* by Sluiter 1905 and stored in the MNHN collections. These can be considered as types. Ancient synonymies have to be revised and more particularly those of Herdman (1910), Hartmeyer (1911), Kott (1969), Van Name (1945), Monniot & Monniot (1983) and later Ramos-Esplá et al. (2005), Primo & Vazquez (2007), Monniot & al. (2011). The large body size and a similar external outline allied to a very similar design of the musculature led to confusion and too little attention was given to the gonads and their ducts. The discovery of an invasive *Corella* in Europe similar to New Zealand samples (Lambert 2004) has renewed the study of this genus. Many citations of *Corella* from very distant southern locations have incited us to carefully re-examine numerous specimens either recently collected or present among the MNHN collections. Portobello shore (New Zealand) populations yielded unexpectedly clusters of ascidians containing *Ascidiella aspersa* (Müller, 1776) and two different *Corella* species: *C. eumyota* and an undescribed species *C. brewinae* n. sp. This led to re-examine collections from other sub-antarctic areas like the Amsterdam Islands where the new species is also present and abundant as is *C. eumyota* too. A compared description of these two species is given here.

As both *Corella* species cohabit in the same shore habitat *C. brewinae* while not yet recorded in Europe could also be imported in Europe or in other places in the northern hemisphere like *C. eumyota* was. To help future identifications a short illustrated description is given for both north east Atlantic species *C. parallelogramma* and *C. borealis*.