



On the taxonomy of *Apistobranchnus* species (Polychaeta: Apistobranchnidae) from the Antarctic

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Abstract

The first report of *Apistobranchnus* Levinsen, 1883 (Family Apistobranchnidae) in Antarctica was presented by Hartman (1967). Two species were later described: *Apistobranchnus glaciera* Hartman, 1978 and *Apistobranchnus gudrunae* Hartmann-Schröder & Rosenfeldt, 1988, which differed from *A. glaciera* mainly by having compound setae. Subsequently, ecological studies in Antarctica have identified both of these species. On the status of Antarctic *Apistobranchnus*, we concluded that there is up to now, only one valid species, *A. glaciera*. The character ‘compound-setae’ referred for *A. gudrunae* is in fact simple limbate ones eventually splintered as described for *A. glaciera*. Other characters, also previously considered as diagnostics for *A. gudrunae*, did not differ in both species as shown by the observation of several specimens of different sizes and type material of *A. glaciera* and *A. gudrunae*. All the reports on the densities of Antarctic apistobranchnids, including ours, show that they have higher values in finer sediments of 20 and 40 m depth. The need of additional work, including the rearing of specimens in the laboratory and plankton analysis, is emphasized.

Key words: Antarctica, Polychaeta, benthos, soft-bottom, macrofauna, *Apistobranchnus*, Admiralty Bay

Introduction

Polychaetes are one of the dominant macrofaunal taxon of the Antarctic soft-bottom benthos, both in richness and abundance (Gallardo & Castillo 1969; Gallardo *et al.* 1977; Lowry 1975; Richardson & Hedgpeth 1977; Gambi *et al.* 1997; Mühlenhardt-Siegel 1988, 1989; San Martín *et al.* 2000). In Admiralty Bay the dominant taxa found in macrobenthic assemblages are Polychaeta, Bivalvia and Amphipoda (Jazdzewski *et al.* 1986; Arnaud *et al.* 1986; Wägele & Brito 1990; Sicinski & Janowska 1993), with the polychaetes representing as much as 42% of the total macrofaunal abundance in the nearshore zone of Martel Inlet (Bromberg *et al.* 2000).

Apistobranchnus Levinsen, 1883 has been found to be one of the most abundant polychaete genera in shallow soft sediments of Admiralty Bay (Sicinski 1986; Bromberg *et al.* 2000, Sicinski 2000, Petti *et al.* 2006) and in Arthur Harbor (Anvers Island, Palmer Archipelago) (Lowry 1975). Nevertheless, there are still some doubts concerning the taxonomy of *Apistobranchnus* species from the Antarctic.

The first report of apistobranchnids in Antarctica was by Hartman (1967) from the Antarctic Peninsula, later described as *Apistobranchnus glaciera* Hartman, 1978. Richardson and Hedgpeth (1977) identified specimens sampled from the same area as *Apistobranchnus typicus* (Webster & Benedict, 1887), a North American species. *Apistobranchnus gudrunae* Hartmann-Schröder and Rosenfeldt, 1988 was described from Admiralty Bay, and differed from *A. glaciera*, mainly due to the presence of compound setae and the lack of notopodia on setigers 1 and 8. Benthic ecologists have identified *Apistobranchnus* specimens at the genus level (Lowry