



Ascidians of the genus *Aplidium* collected on shallow hard-bottom reefs of coastal Georgia (Atlantic coast of N America, U.S.A.)

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Abstract

Four shallow-water species of colonial ascidians of the genus *Aplidium* are identified in the collections made by divers off the coast of Georgia, U.S.A. One of the specimens, *Aplidium ruzickai* n. sp., is characterized by a combination of high numbers of rows of stigmata and stomach folds and is described as a new species.

Key words: Ascidiacea, *Aplidium*, Atlantic, Georgia

Introduction

The Carolinian biogeographic province of North America represents an area extending from Cape Hatteras, NC to Cape Canaveral, FL, U.S.A. (cf. Gosner 1971). Approximately 30% of the seafloor in this area is composed of hard-bottom areas of lithified limestone or sandstone embedded with fossilized scallop shells or other organisms (Harding and Henry 1994, Garrison *et al.* 2008). Reefs in this region that occur off the coast of Georgia, including those located within Gray's Reef National Marine Sanctuary (GRNMS) 32 km offshore, are characterized by hard-bottom ridges and ledges of moderate relief [1 to 2 m above the seafloor] that vary in depth from 13–30 m and are separated by sandy plateaus or valleys (Hunt 1974). Surveys conducted within the 58 km² area of GRNMS indicate that the hard-bottom ridges and ledges comprise <1% of the total area but have the highest biodiversity and house the majority of the biomass of both sessile invertebrates and ichthyofauna (Kendall *et al.* 2005).

Benthic invertebrates inhabiting ledge systems in the Carolinian biogeographic province, especially those off Georgia, have received little attention. Except for a recently published survey of sponges (Freeman *et al.* 2007), most of our knowledge regarding diversity of benthic invertebrates in this general area is contained within two large scale investigations carried out more than 25 years ago (SCWMRD 1982a, b). These studies used dredge and trawl collections to provide a description of benthic and nektonic organisms at a limited number of reef sites throughout this biogeographic province, including one site within GRNMS.

The current communication provides a description of ascidians in the genus *Aplidium* collected at several hard-bottom sites off the coast of Georgia, U.S.A.. Specifically, ascidians described in this study were from collections carried out at the GRNMS Monitoring Site (31°23.815' N, 80°53.461' W) as well as three other nearby sites: J Reef (31°36.056' N, 80°47.431' W), R-2 Tower Live-bottom (31°24.305' N, 80°34.010' W), and Anchor Ledge (31°37.688' N, 80°34.662' W). These sites range in depth from 14 to 30 m and are separated geographically by no more than 40 km. Water temperatures on these reefs can approach 30° C during summer (peak in August/September) and decline to nearly 10° C in winter (minimum in January/February) (Gleason