



New records of fishes for Trindade-Martin Vaz oceanic insular complex, Brazil

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Abstract

Thirty-two new records for shore fishes were made at the Trindade-Martin Vaz oceanic insular complex, located 1,160 km off the Brazilian coast. These records are related to an increase in sampling effort and to temporal variation in population size. Newly found but very abundant species hypothetically exemplify temporal variations in population size. The Vitória-Trindade submarine chain also may function as a series of stepping-stones facilitating transport of typically coastal species. The new records reveal a lack of knowledge of the fish fauna of this unique location. Studies aimed at the exploration of shallow areas, deep reefs and seamounts of the Vitória-Trindade chain, aided by ichthyoplanktonic surveys, are essential to a better understanding of the fish community and the processes of colonization in this oceanic locality.

Key words: South Atlantic; distribution; biogeography; Brazil

Introduction

The colonization and maintenance of marine populations at remote islands are important and much discussed themes (Gad & Schminke 2002), but these areas still remain poorly explored (Forges *et al.* 2000). Processes of colonization of oceanic islands can involve dispersal aided by submarine mounts acting as stepping-stones (Edwards 1993; Moore *et al.* 2004), whereas the maintenance of species at islands and seamounts is usually attributed to oceanic processes stimulating larval retention (Mullineaux & Mills 1997). Even so, community composition at isolated oceanic islands reportedly experiences large spatial and temporal variations (Stobberup *et al.* 2002). Even though there often is a large ratio of endemics at remote islands (that may reach over 30% - Forges *et al.* 2000), little is known about the actual distribution of these species considering that they may also occur in 'nearby' unexplored seamounts (Edwards 1993).

Trindade Island (20°31' S, 29°19' W) and Martin Vaz Archipelago (20°30' S, 28°51' W), located about 1,160 km off the coast of Brazil, are the only emerged components of an sunken submerged volcanic chain composed by eight mountains disposed perpendicularly to the coast of the state of Espírito Santo, southeastern Brazil. The mountains of the Vitória-Trindade chain reach between 10 and 110 meters below the water surface and are separated by about 250 km from each other (Figure 1).

Several biogeographic studies have included ichthyofaunal data from Trindade (e.g., Floeter & Gasparini 2000; Floeter *et al.* 2001; Joyeux *et al.* 2001; Floeter *et al.* 2008), and outlined similarities and contrasts with the Brazilian coastal ichthyofauna. However, in contrast to the other Brazilian and Atlantic Central oceanic islands (St. Paul's Rocks, Fernando de Noronha, Atol das Rocas, St. Helena and Ascension – Lubbock 1980; Lubbock & Edwards 1981; Edwards & Lubbock 1983; Edwards & Glass 1987a, b; Rosa & Moura 1997; Soto 2001; Feitoza *et al.* 2003; Sampaio *et al.* 2006), baseline data for Trindade-Martin Vaz ichthyofauna remains poor. Only one recent ichthyological expedition was conducted, which identified 97 species, including six