



**Description of *Halichoeres rubrovirens*, a new species of wrasse (Labridae: Perciformes) from the Trindade and Martin Vaz Island group, southeastern Brazil, with a preliminary mtDNA molecular phylogeny of New World *Halichoeres***

LUIZ A. ROCHA<sup>1</sup>, HUDSON T. PINHEIRO<sup>2</sup> & JOÃO LUIZ GASPARINI<sup>2</sup>

<sup>1</sup>Marine Science Institute, University of Texas at Austin, 750 Channel View Drive, Port Aransas, TX 78373-5015, USA.

E-mail: rocha@mail.utexas.edu

<sup>2</sup>Departamento de Oceanografia e Ecologia, Universidade Federal do Espírito Santo, 29041-970, Vitória, ES, Brazil. E-mail: htpinheiro@gmail.com; gaspa.vix@terra.com.br

**Abstract**

Here we describe *Halichoeres rubrovirens*, **sp. n.**, endemic to Trindade and Martin Vaz Islands, off southeastern Brazil. The new species has unique color pattern, morphology and genetics. It can be easily distinguished from its Atlantic congeners by its color pattern consisting of a green body with two broad dotted reddish stripes. A preliminary mtDNA phylogeny indicates that *H. rubrovirens* closest relative is in the tropical Eastern Pacific. Hence, we hypothesize that *H. rubrovirens* once had a wide distribution in the western Atlantic but currently consists of a relict species restricted to Trindade and Martin Vaz islands. Little is known about its biology and ecology, but juveniles seem to school with and mimic *Thalassoma noronhanum*, which they resemble in color.

**Key words:** western Atlantic, taxonomy, endemism, reef fish, oceanic islands.

**Introduction**

The genus *Halichoeres* is a rich polyphyletic assemblage of cigar-shaped wrasses (Barber & Bellwood 2005; Westneat & Alfaro 2005). The New World *Halichoeres* (tropical Atlantic and Eastern Pacific species) comprise a monophyletic clade, with the exception of *H. maculipinna* and *H. penrosei*, which are closer to *Thalassoma* than to any other *Halichoeres* (Barber & Bellwood 2005). This group is sometimes referred to as *Iridio* (Kuitert 2002), however, a formal taxonomic revision of the tribe Julidini is necessary to rearrange the generic classification, especially because this “*Iridio*” group may contain species of other genera of wrasses (Westneat & Alfaro 2005). Thus, until such revision is done we will continue to utilize the name *Halichoeres* for the New World wrasses.

There are a total of 15 *Halichoeres* in the Atlantic, and even though they are large, colorful and relatively common fish, six species were described or revalidated within the last 10 years. Four of these recently described species are cryptic forms distributed along the Brazilian coast, very similar to their Caribbean sister taxa. Their identity was established with the help of DNA analyses (Luiz Jr *et al.* 2009; Rocha 2004; Rocha & Rosa 2001). The remaining two recently described species have restricted ranges in the western Caribbean and western Gulf of Mexico, and are very distinct both morphologically and genetically (Randall & Lobel 2003; Weaver & Rocha 2007).

During recent field trips to the Trindade and Martin Vaz Island group off southeastern Brazil, one of us (HTP) observed and collected several specimens of an unknown wrasse. Here we describe this wrasse as the 16th Atlantic *Halichoeres*. We also present an mtDNA based molecular phylogeny of New World *Halichoeres* to help elucidate the evolutionary history of the new species.