

*Encotyllabe* cf. *spari* Yamaguti, 1934 (Monogenea), parasites of *Orthopristis ruber* (Cuvier, 1830) from the Brazilian Coast off Rio de Janeiro

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## Abstract

The Haemulidae (Osteichthyes) are marine fish species distributed in the Atlantic, Indian and Pacific Oceans, but may also occur in estuaries. In the Atlantic, species of *Orthopristis* Girard, 1858, so-called "grunts" due to their ability to produce sounds when in danger, are found in areas with a stony bottom, sandy beaches, bays and estuarine areas, and are distributed between the Caribbean off Honduras to the coast of southern Brazil. During a survey of the monogeneans of *Orthopristis ruber* (Cuvier, 1830) off Rio de Janeiro, Brazil, specimens of *Encotyllabe* cf. *spari* Yamaguti, 1934 were collected from the gills and new ultrastructural and genetic data are provided. Our specimens exhibit small differences compared with Yamaguti's original description and, consequently, we have referred to them as *E. cf. spari*. The worms were fixed and preserved in 70% ethyl alcohol, cleared in Berlese mouting medium and alternatively stained in Gomori's Trichrome or Mayer's paracarmine. The illustrations were made with the aid of a drawing apparatus. For scanning electron microscopy (SEM), specimens were postfixed in a solution of 1% osmium tetroxide and 0.8% potassium ferrocyanide, dehydrated through ethanol series, critical-point dried and sputter coated with gold. The samples were examined using a JEOL JSM-6390. The DNA extraction was performed using the phenol-chloroform method and the partial regions of 28S and 18S rDNA were amplified by PCR using specific primers. To examine the phylogenetic relationships, the nucleotide sequences were analysed using the CLUSTAL W algorithm of the MEGA 7.0 package. Maximum likelihood (ML) phylogenetic trees were inferred using the generalised time-reversible (GTR) and gamma distribution with invariant sites (G + I) for the analysis of 18S rDNA and Kimura2 (K2) with invariant site (I) for partial 28S rDNA. The ultrastructure of *Encotyllabe* cf. *spari* showed a smooth body folded laterally, with a distal peduncle and oval haptor. The anterior suckers are bordered anteriorly by crenulate lobes and ventral mouth, located between suckers, bears several digitiform projections. Haptor is bordered by small marginal membrane. Large anchors with free tips are bordered by small hooks. Vaginal pore, mid-ventral, well posterior to mouth. The new sequences of the partial 18S and 28S of *E. cf. spari* show the position of the species within the Capsalidae, together with species of *Benedenia* and *Capsala* with a high statistical support (99%). This work provided the description *Encotyllabe* cf. *spari* with new ultrastructural data, new partial and phylogenetic analysis of 18S and 28S rDNA sequences.

This study was supported financially by the Conselho Nacional de Desenvolvimento Científico e Tecnológico, Coordenação de Aperfeiçoamento de Pessoal de Ensino Superior.