



Osmundea sanctarum sp. nov. (Ceramiiales, Rhodophyta) from the southwestern Atlantic Ocean

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Abstract

An ongoing phycological survey in the Laje de Santos Marine State Park (LSMSP) of São Paulo in southeastern Brazil revealed a previously undescribed species of *Osmundea* (Rhodophyta, Rhodomelaceae), which was found in the subtidal zone at a depth of 7 to 20 m. Morphological studies conducted on *Osmundea* specimens collected in the LSMSP revealed characteristics typical of the genus *Osmundea*, including two pericentral cells per each axial segment and tetrasporangia cut off randomly from cortical cells. The phylogenetic position of this species was inferred by analysis of chloroplast-encoded *rbcL* gene sequences from 37 taxa, including one Rhodomelaceae and one Ceramiaceae as outgroups. The Brazilian species of *Osmundea* formed a well-supported clade with the ‘Spectabilis’ group from the coast of Pacific North America, composed of *O. spectabilis*, *O. blinksii*, *O. splendens* and *O. sinicola*. The present species, however, diverged greatly from the ‘Spectabilis’ group representatives (5.4–7.1%), which confirms that it constitutes a different taxonomic entity, herein proposed as the new species *Osmundea sanctarum* M.T. Fujii & Rocha-Jorge. This is the first report of a member of *Osmundea* related to the ‘Spectabilis’ group in the South Atlantic Ocean.

Key words: Laje de Santos, *Laurencia* complex, phylogeny

Introduction

The genus *Osmundea* Stackhouse (1809: 56, 79–80), which had been treated as a *nomen rejiciendum* and as an earlier facultative synonym of *Laurencia* J.V. Lamouroux (1813: 130) (Papenfuss 1947), was resurrected to accommodate members of *Laurencia sensu lato* that demonstrated morphological characteristics not shared by other members of the *Laurencia* complex, such as the production of filament-type rather than trichoblast-type spermatangial branches and the production of tetrasporangia from random cortical cells rather than particular pericentral cells. Furthermore, *Osmundea* is distinguished from *Laurencia sensu stricto* because it possesses two rather than four pericentral cells in each vegetative axial segment (Nam *et al.* 1994).

Currently, the *Laurencia* complex includes six genera: *Laurencia*, *Osmundea*, *Chondrophyucus* (Tokida & Y. Saito in Saito 1967: 72) Garbary & J.T. Harper (1998: 194), *Palisada* K.W. Nam (2007: 53), *Yuzurua* (K.W. Nam 1999: 467) Martin-Lescanne (2010: 59) (Martin-Lescanne *et al.* 2010) and the most recently established