



## Halojulellaceae a new family of the order Pleosporales

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### Abstract

Halojulellaceae fam. nov. and *Halojullela* gen. nov. are introduced to accommodate *Julella avicenniae*, a marine species in the suborder Pleosporineae, order Pleosporales, Dothideomycetes. Justification for the new family is based on combined gene analysis of the large and small subunits of the nuclear ribosomal RNA genes (LSU, SSU) and two protein coding genes RPB2 and TEF1, as well as morphological characters. Halojulellaceae and *Halojullela* are characterized by immersed to semi-immersed, clypeate ascomata, with short, papillate ostioles, cellular, hyphae-like, pseudoparaphyses, 8-spored, fissitunicate, clavate to cylindrical asci with a well-developed apical apparatus, a moderately long pedicel with a club-like base and hyaline or golden brown, ellipsoidal, muriform ascospores and is typified by *Halojullela avicenniae*. *Halojullela* differs from *Julella*, (type *J. buxi*) in its marine habitat and distinctly differing ascus with the apical apparatus being well-developed and moderately long club-like pedicel. Morphological characters and molecular data show that *H. avicenniae* belongs in the Pleosporales, outside any of the known families, and thus a new family is introduced to accommodate it. *Julella* is maintained as a distinct genus which is presently most likely polyphyletic with saprobic and lichenized elements and needs further study as no molecular data is presently available for any species.

**Key words:** Dothideomycetes, LSU rDNA, SSU rDNA, RPB2, taxonomy, TEF-1-alpha

### Introduction

The genus *Julella* has been variously referred to Pleosporaceae (Luttrell 1963), Arthopyreniaceae (Barr 1987) and later to Thelenellaceae, *incertae sedis* (Purvis *et al.* 1992; Cannon and Kirk 2007) and has 46 epithets listed in Index Fungorum (<http://www.indexfungorum.org/Names/Names.asp>, Accession Date -02 January 2013). The genus comprised wood inhabiting and lichenized elements and this has caused much confusion. Hyde (1992) also transferred a wood inhabiting mangrove species of *Pleospora* to *Julella* (as *J. avicenniae* (Borse) K.D. Hyde) and referred the genus to the Pleosporales, but not to any family.

The type of *Julella* is *J. buxi* Fabre which was collected in Serignan, France on twigs of *Buxus sempervirens* (H. Fabre S F5992; holotype). We have examined this collection which is similar in most aspects to *Julella avicenniae*. The main difference between these two species is that asci in *J. buxi* are 2-spored and lack a well-developed apical apparatus, while asci of *J. avicenniae* are 8-spored and having an unusual, distinct, apical apparatus. In the genus, molecular data is only available for *J. avicenniae* and show the taxon to form a monophyletic clade in the Pleosporales with high support (Schoch *et al.* 2009; Suetrong *et*