

## Two new species of the genus *Ceramium* Roth (Ceramiales, Rhodophyta) from the Venice Lagoon (Italy)

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The cosmopolitan genus *Ceramium* Roth (Ceramiales), with about 213 currently accepted species (and infraspecific) names, is one of the largest groups in the Rhodophyta. This taxon is characterized by cylindrical or slightly compressed thalli, whose axial cells can be incompletely to completely covered by cortical cells, with alternate to pseudo-dichotomous branching, and straight to inrolled apices. It typically occurs in eulittoral or shallow subtidal habitats and its worldwide distribution is often connected with naval traffics. In fact, *Ceramium* thalli are often carried by hull fouling.

The nomenclature and the taxonomy of this genus are still in a state of chaos. Taxonomic problems are, indeed, tied to a high degree of variations in the morphological characters classically used in species recognition: presence of cortical spines, numbers of periaxial cells, developmental patterns of the corticating filaments, branching pattern, and tetrasporangial features. At the same time, the identification of new species is often complicated by their small sizes and epiphytic life style, that make them cryptic.

Culture studies, suggesting a strong influence of the environment on morphology, and the use of molecular tools have questioned the validity of morphological features to discriminate different *Ceramium* species. In particular, as the inventory of *Ceramium* species in some areas, has been only based on morphological observations, more and more authors have started using molecular markers (e.g. *rbcL* gene and *rbcL-rbcS* intergenic spacer, SSU rDNA, ITS2) to determine species diversity.

Here we characterize different isolates, sampled in transitional waters of the Venice Lagoon (Italy), in order to better investigate presence and biodiversity of *Ceramium* in these areas. Through accurate morphological observations and phylogenetic analyses, based on the plastid ribulose-1,5-bisphosphate carboxylase/oxygenase gene (*rbcL*) as molecular marker, we identify two distinct *Ceramium* taxonomic entities, never reported before in this environment according to the available checklists. The validity of the two entities as recognizable species is also discussed.