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NONGENICULATE CORALLINE ALGAE (CORALLINALES, RHODOPHYTA) IN NE ATLANTIC: INSIGHTS FROM MOLECULAR DATA

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Nongeniculate coralline algae are an outstanding group of marine benthic calcareous algae with a worldwide distribution from the poles to the tropics, and from the intertidal to 250 m. Key components of some marine communities, they display an ability to successfully colonize unsuitable habitats by building biogenic habitats (e.g. maërl beds). Their high plasticity leads to morphological convergences among phylogenetically distant taxa. As a result, the early 20th century experienced an inflation of described species, but later studies found that the taxonomic classification should be based on more accurate morpho-anatomical features. Lately, the advent of new molecular tools has revealed that the current taxonomic scheme is still unstable and problematic, and exposed the presence of cryptic species. In the particular case of maërl beds, two maërl-forming species are commonly cited for NE Atlantic: *Phymatolithon calcareum* and *Lithothamnion corallioides*. Recent studies have uncovered the occurrence of a new species (*Mesophyllum rhodoliformis*) in NW Iberian Peninsula (Galicia), suggesting that European maërl beds could be more biodiverse than previously thought. If their taxonomic status is still open to debate, the genetic diversity and structure of maërl beds is totally obscure. In this scenario, we recently started a research project aimed to investigate the population genetics of maërl beds in NE Atlantic with a focus on Galicia and French Brittany (two regions where maërl beds are particularly important habitats). As a first step, we have assessed the use of DNA barcodes to discriminate between the various species of maërl-forming algae. Additionally,

we have investigated the feasibility of developing high-resolution molecular markers (microsatellites) using new, high-throughput sequencing approaches. Early results from these research efforts are presented here. Financial support: Spain's Ministerio de Ciencia e Innovación (CTM2010-18787) and Xunta de Galicia (10MMA103003PR). VP acknowledges financial support from the British Phycological Society.

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A MOLECULAR REVISION OF GENUS CORALLINA (CORALLINALES, RHODOPHYTA) IN THE ATLANTIC IBERIAN PENINSULA

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Geniculate coralline algae (Corallinales, Rhodophyta) are characterized by erect fronds composed of successive uncalcified joints (genicula) separated by calcified segments (intergenicula). Three genera are known to occur in the Atlantic Iberian Peninsula: *Corallina* and *Jania* (members of the subfamily Corallinoideae), and *Amphiroa* (a member of the subfamily Lithophylloideae). In the genus *Corallina*, two species have been recorded for the Atlantic Iberian Peninsula: *C. officinalis* and *C. elongata*, the latter under two distinct morphologies known for Galicia. In addition, *C. caespitosa* was recently described as a new member of *Corallina* in the European Atlantic, using material collected in Britain and Ireland. The taxonomical distinction among the three species of *Corallina* described for the European Atlantic is still based on anatomical (e.g. branching pattern) and reproductive characters, although, their delimitation has received consistent support from molecular analyses. The recent description of *C. caespitosa* for the relatively close Britain and Ireland together with the fact that few studies have focused on the genus *Corallina* in the Atlantic Iberian Peninsula have compelled us to revise the species diversity of this genus in the region. We performed a wide sampling of its peninsular range from the Bay of Biscay to the Strait of Gibraltar. Using DNA