

Presentation format

Oral ■

Diversity patterns and long-term changes in the benthic macroalgal vegetation of the northern Adriatic Sea

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The northern Adriatic Sea is a shallow, semi-enclosed basin characterized by oceanographic features considerably different from the rest of the Mediterranean. The northern Adriatic was recolonized by marine biota in the last 20,000 years, after its emersion at the time of the Last Glacial Maximum. Despite of such recent hydrogeological origin, it hosts a relatively diverse seaweed flora consisting of approximately 500 species (with the highest diversity recorded for the Lagoon of Venice, over 310 species). Literature information and surveys carried out in the last two decades allow to highlight some changes in the composition of its seaweed vegetation. The most evident change is a remarkable loss of fucoid brown algae, which have decreased in distribution and abundance throughout the basin in the last 50-60 years. *Fucus virsoides*, the only endemic Mediterranean species of *Fucus*, has suffered the most dramatic decline and is now relegated to a few sites in the Lagoon of Venice, Slovenia and northern Croatia; unfortunately, this species appears now a strong candidate for extinction. Concurrently, a substantial increase in the number of introduced species took place in the last few decades, particularly in the Lagoon of Venice; many alien species are now well-established and some (*Caulerpa cylindracea*, *Gracilaria vermiculophylla*, *Agardhiella subulata*, *Hypnea cervicornis*, *Sargassum muticum*) have become locally very abundant. At the same time, recent surveys discovered a previously unappreciated diversity in some habitats, namely the offshore reefs scattered in the northernmost part of the basin (Tegnue and Trezze). At least 173 species have been reported from these biogenic concretions and molecular investigations are now unraveling a great diversity in the number of encrusting coralline algae. We suggest that future investigations on the northern Adriatic seaweed vegetation should focus on detailed assessments of species diversity in poorly-studied areas and continued monitoring of ecologically important/floristically interesting species.