

# Winter-spring aspect of coccolithophore species diversity in the open waters of the central Adriatic Sea

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This study presents preliminary results of coccolithophore diversities gained from a winter-spring cruise in 2015-2016 along a transect in the central Adriatic Sea. Coccolithophores in this area were relatively diverse, and a total of 84 morphotypes (58 species) were identified using the scanning electron microscope (SEM). *Emiliana huxleyi*, the most abundant and the most frequently occurring species, and was present in all samples.

During the study period, 10 species occurred in both heterococcolith (HET) and holococcolith (HOL) phases. Among these, four species appeared in a combination HET/HOL phase: *Acanthoica quattrosolina*, *Syracosphaera pulchra*, *Syracosphaera molischii*, and *Syracosphaera histrica* (only in spring). Species in the HET phase were dominant in both seasons, while a greater incidence

of the HOL phase was recorded during the spring. We noticed that in the spring, the HOL phase of *Coronosphaera mediterranea* and *S. histrica* dominated over their HET phase.

The euphotic layer in early spring showed a higher diversity in comparison to deeper layers (below 50m), while the winter period was not characterized by any regular diversity pattern through its vertical profile. With regard to spatial distribution, diversity decreased toward the northeast (from station 20 to station 24) in both seasons. The average number of species recorded per sample was slightly higher in the spring, and consequently, a higher Shannon diversity index ( $H' = 1.99$ ) was recorded in the spring in comparison to the winter period ( $H' = 1.70$ ). The dominant genus, *Syracosphaera*, was represented by 20 species.