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Biometry of late Quaternary coccoliths from the Southern Cadiz region

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The Cadiz region lies between the Iberian borderland and Morocco, west of the Strait of Gibraltar and the Western Mediterranean. Core GeoB9064-1 (35°24,91'N 6°50,72'W) is located in the southwest at a depth of 702 m, close to the Al Arraich mud volcano field 30 km off the Moroccan margin, and has a length of 544 cm.

Like most coastal regions, the southern Cadiz region is characterised by a coccolith assemblage dominated by the placoliths *Emiliana huxleyi* and *Gephyrocapsa muelleriae*.

Late Quaternary fluctuations are pronounced in this core, as shown by geochemical (TOC and CaCO₃) and XRF analysis (K, Mg, Fe, etc.), but also in abundances of coccoliths and more particularly *Emiliana huxleyi*. These can be related to upwelling and/or bottom currents.

Colmenero-Hidalgo (2002) has split up *Emiliana huxleyi* in a larger coldwater and smaller warmwater variety based on a 4 µm cut-off value. Colmenero-Hidalgo (2004) identified a deglacial decrease in the larger coldwater variety.

In this study, 100 *Emiliana huxleyi* and 100 *Gephyrocapsa muelleriae* lengths were measured in 30 samples. Comparison of the biometry of *Emiliana huxleyi* and *Gephyrocapsa muelleriae* shows that these both species have similar fluctuations and both become smaller during the Holocene, revealing the splitting of *Emiliana huxleyi* in two morphotypes, to be more complex. A new method to tackle this problem is proposed.