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## Major environmental and ecological shifts in late Holocene marine sediments of the NW Adriatic Sea

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Sediments of the NW Adriatic Sea preserve important information about environmental changes during the Holocene and due to recent anthropogenic impact. This study is based on new data of a 3-m-long gravity core taken from 31 m water depth. Large environmental and ecological shifts are indicated by changes in geochemistry (XRF core scanning data, geochemical bulk analyses) and molluscan composition, particularly in the uppermost decimeters.

Sedimentologically, the record can be divided into 4 facies types: (1) laminated silty sediments with some sands, terrestrial plant remains, and scarce mollusc shells (at 175-300 cm sediment depth), (2) bioturbated silty, fine-sandy sediments with terrestrial plant remains, scarce mollusc shells, and calcirhizomes (70-175 cm), (3) strongly bioturbated, clayey silt with increasing abundance in mollusc shells (20-70 cm), and (4) clayey silt with a peak in molluscan shell abundances and diversity, with abundant bivalves (*Corbula gibba*) and gastropods (*Turritellinella tricarinata*, 0-20 cm).

*Corbula gibba* valves were used for  $C^{14}$ -calibrated amino acid racemization (AAR) analyses of valves. The resulting shell ages show a bisection in the record: (1) an uppermost, surface-mixed layer with very young shells (median age = 50 years) and (2) an age-homogeneous composition down to 30 cm sediment depth (median age = 3000 years). This downcore shift in age distributions probably indicates that the 20<sup>th</sup> century shells of *Corbula gibba* are not mixed beyond 10 cm. This pattern implies decreasing bioturbation and increasing sedimentation in the study area in the 20<sup>th</sup> century.