

The climate history of Lake Trasimeno (central Italy) during Late Glacial-Holocene transition revealed from ostracod assemblages

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Miss Ostracod

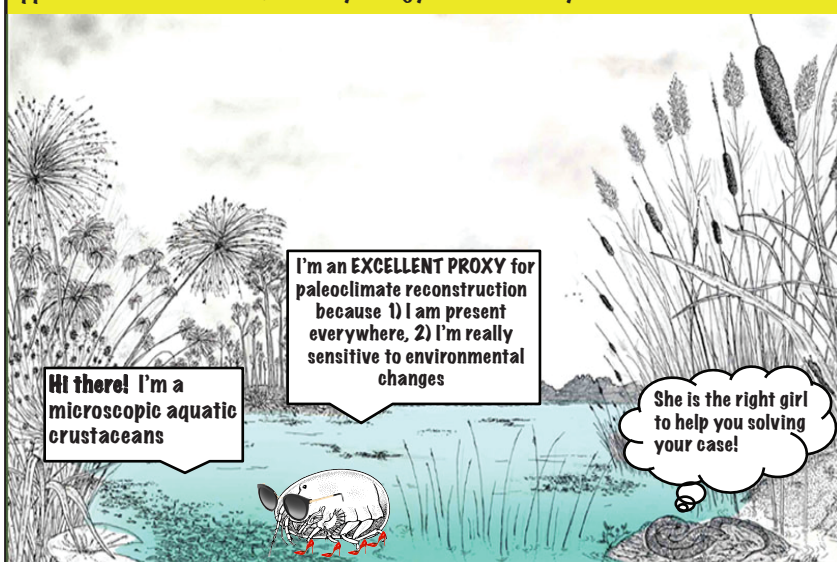
FEATURING

Paleoclimatic studies revealed that understanding past climate changes and their worldwide impact are fundamental for modelling future climate...

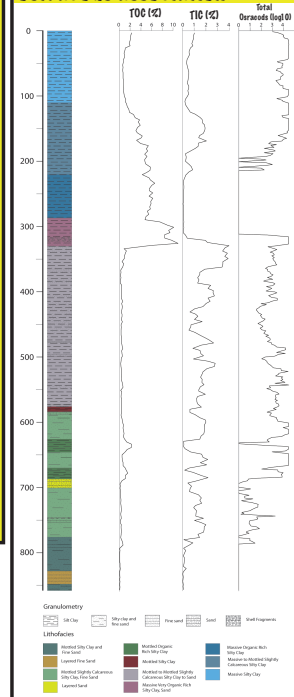


...MEANWHILE in Lake Trasimeno (6m max depth) strong lake level and water salinity variations happened while precipitation regime changed

BREAKING NEWS!! SCIENTISTS ASK FOR HELP TO MISS OSTRACOD TO UNRAVEL THE MYSTERY. An 850 cm long sediment core was analysed using a multidisciplinary approach in order to discover the hydrology of central Italy.



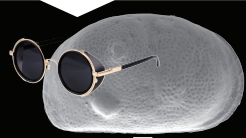
CLUES... Sedimentological data (lithology, TIC and TOC) were compared to changes in ostracods association



Multivariate analyses (Diversity index, Ckuster and PCA) has been used to analysed ostracod community and three main association have been recognized...

WITNESSES

C. TOROSA ASSOCIATION permanent lake, with high lake level and low salinity condition



S. ACULEATA ASSOCIATION very shallow/ephemeral lake

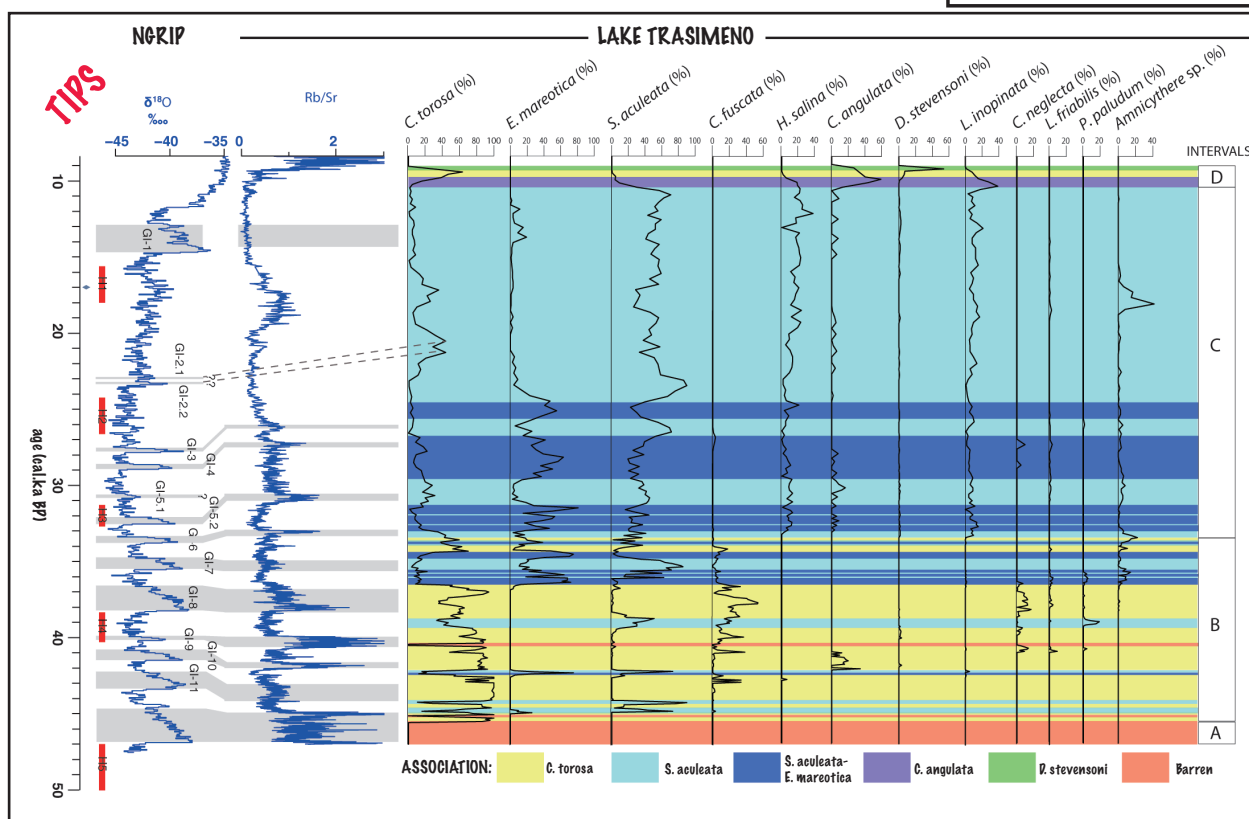


E. MAREOTICA-S. ACULEATA ASSOCIATION ephemeral with high salinity water lake condition



All bars are 100µm

WHAT'S UP???



... EPILOGUE information from Late Pleistocene - Holocene transition have been recovered...

Pre-glacial (ca. 47-33 ka), alternation of humid and dry periods pointed out by extended high stand conditions with low salinity (C. torosa association, high Rb/Sr and TOC values, low TIC) during GI phases and short low stands with more saline waters (S. aculeata and S. aculeata-E. mareotica association, low Rb/Sr and TOC values, high TIC), during Heinrich events.

Glacial (ca. 33-11 ka), more homogeneous with prevalent cold and arid period with shallow and/or ephemeral lake conditions.

The Holocene transition (ca. 11-9 ka), warmer and wet climate condition and restoration of a permanent waterbody with low salinity (C. angulata, C. torosa and D. stevensoni associations)

Thanks Miss Ostracod for helping to solve the enigma! You're the best detective ever!



TO BE CONTINUED ...