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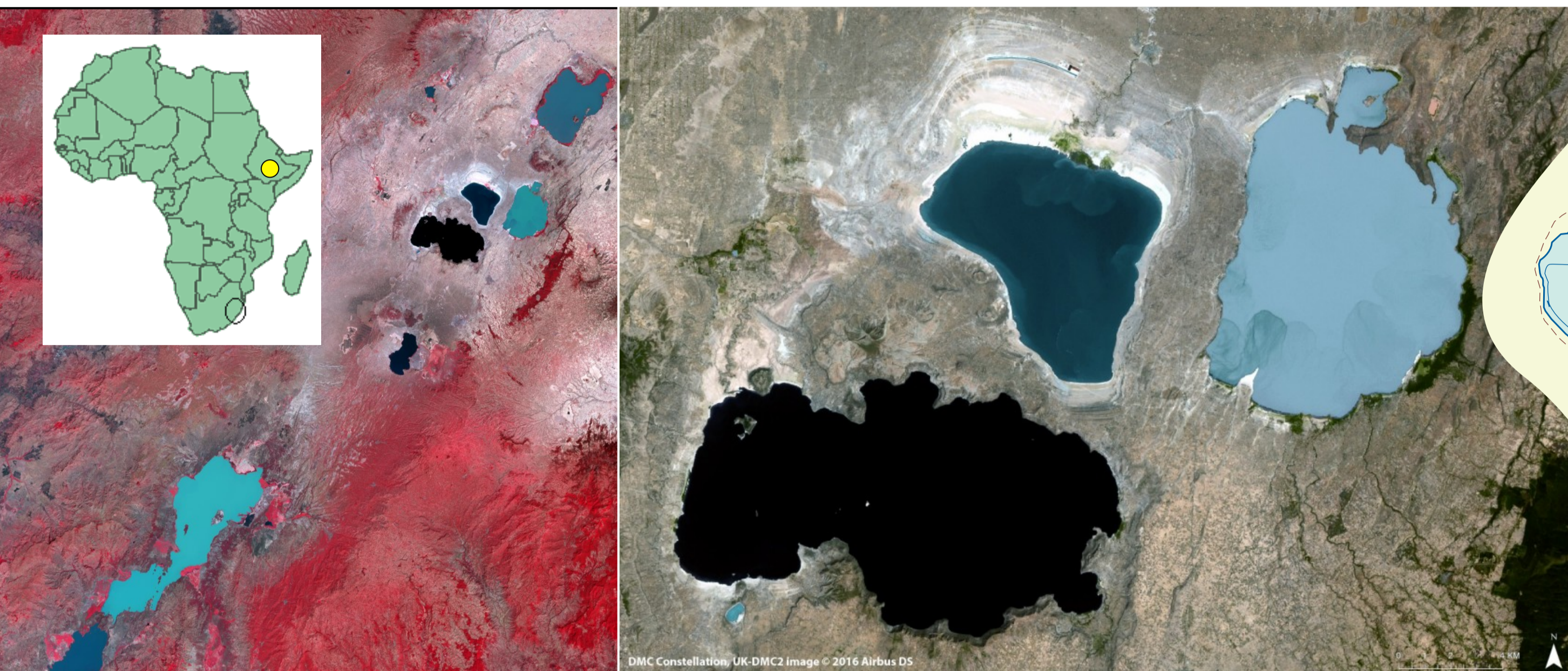
# Changes in diatom assemblages in lake Abiyata (Ethiopia) at the termination of the African Humid Period (5 kyr BP): Potential effect of a salinity threshold

Vincent ROUBEIX<sup>1,2</sup> & Françoise CHALIÉ<sup>1</sup>

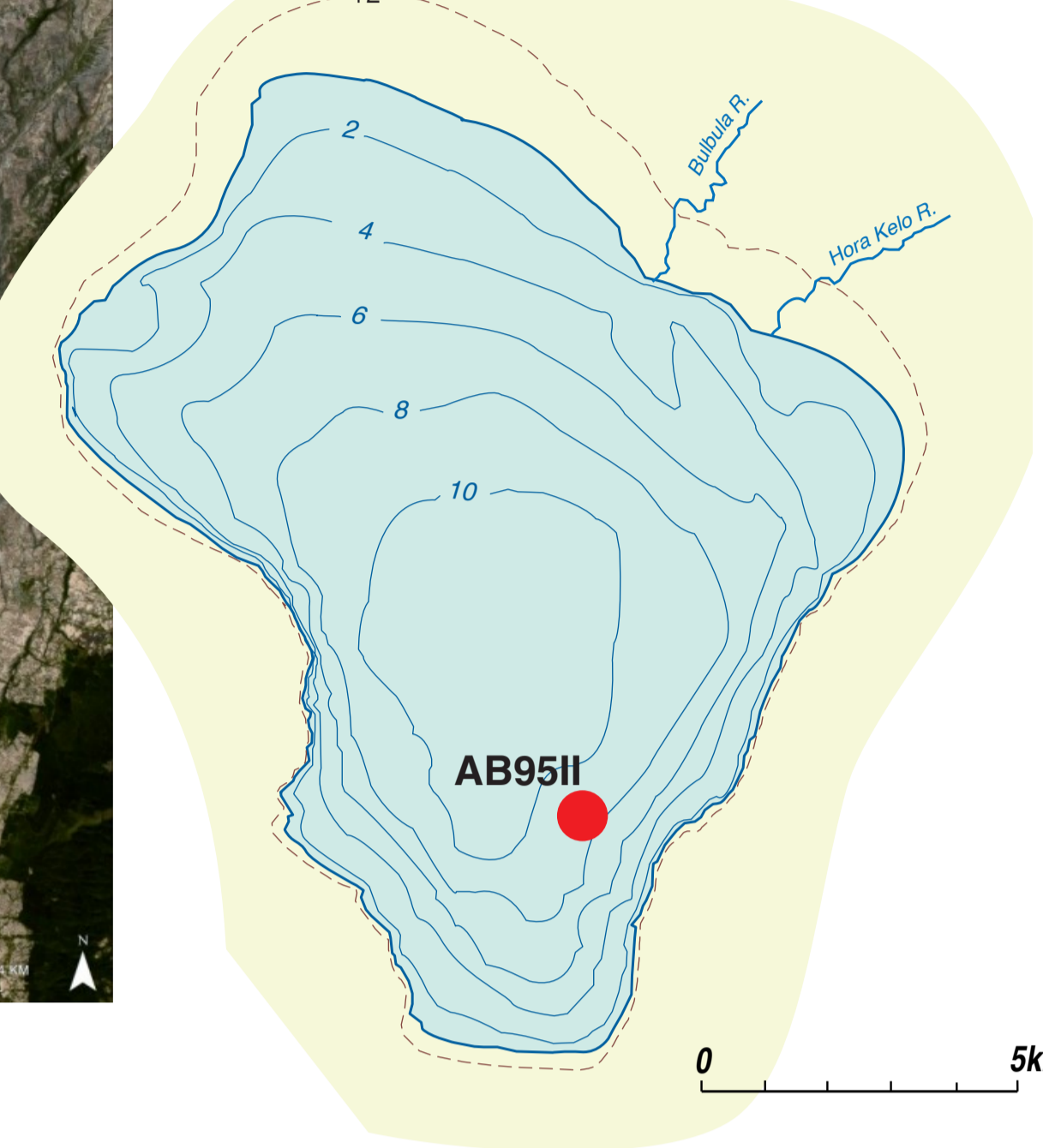
1: CEREGE - UMR7330 CNRS - Aix-Marseille Univ. - Europôle Méditerranéen Arbois - BP 80 - 13545 Aix-en-Provence Cedex 04 (France) - chalie@cerege.fr, 2 - At present : IRSTEA Aix-en-Provence, vincent.roubeix@irstea.fr

## General setting and data used

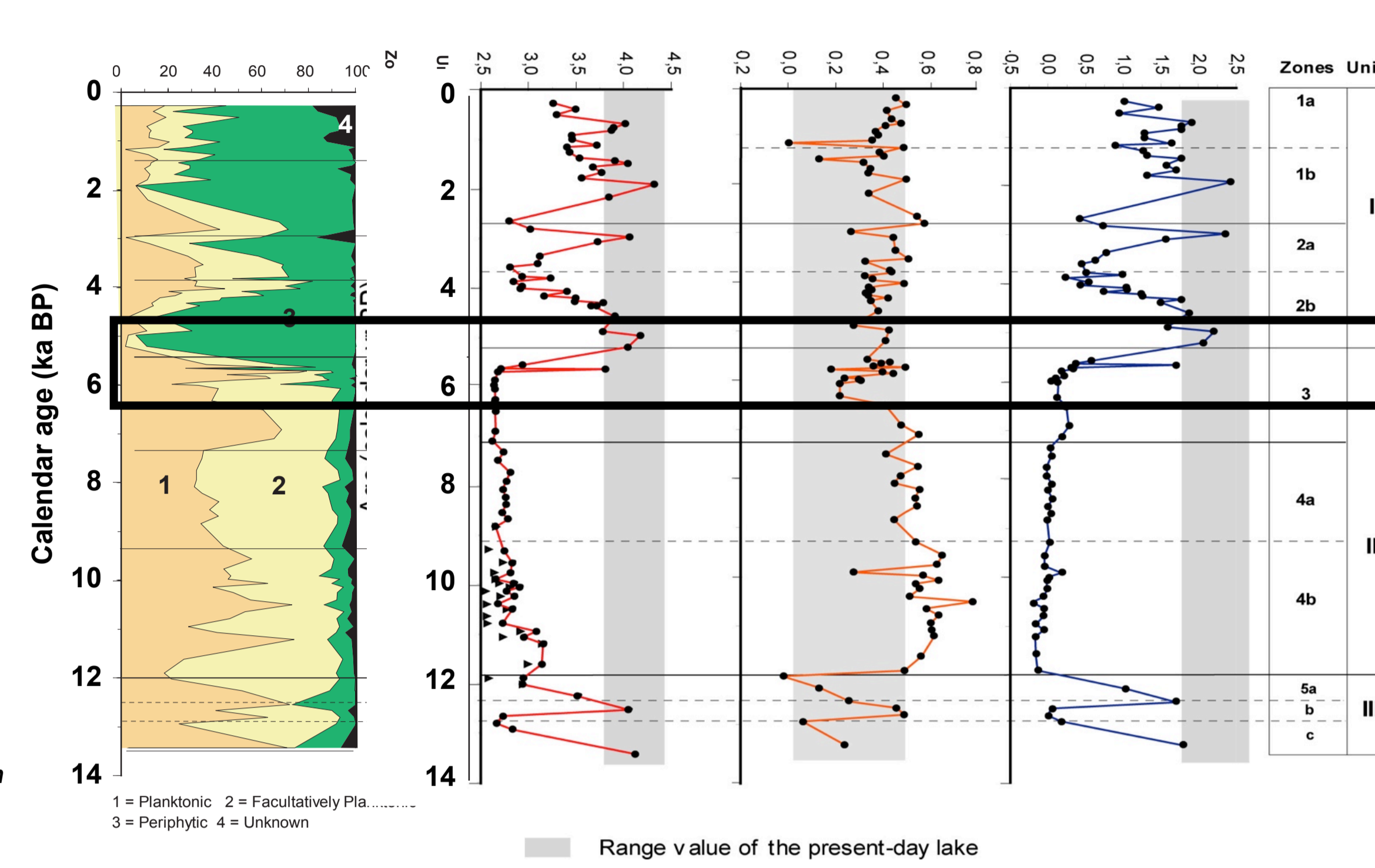
The lake Ziway-Shalla system



Bathymetry, lake Abiyata; location of core AB95II

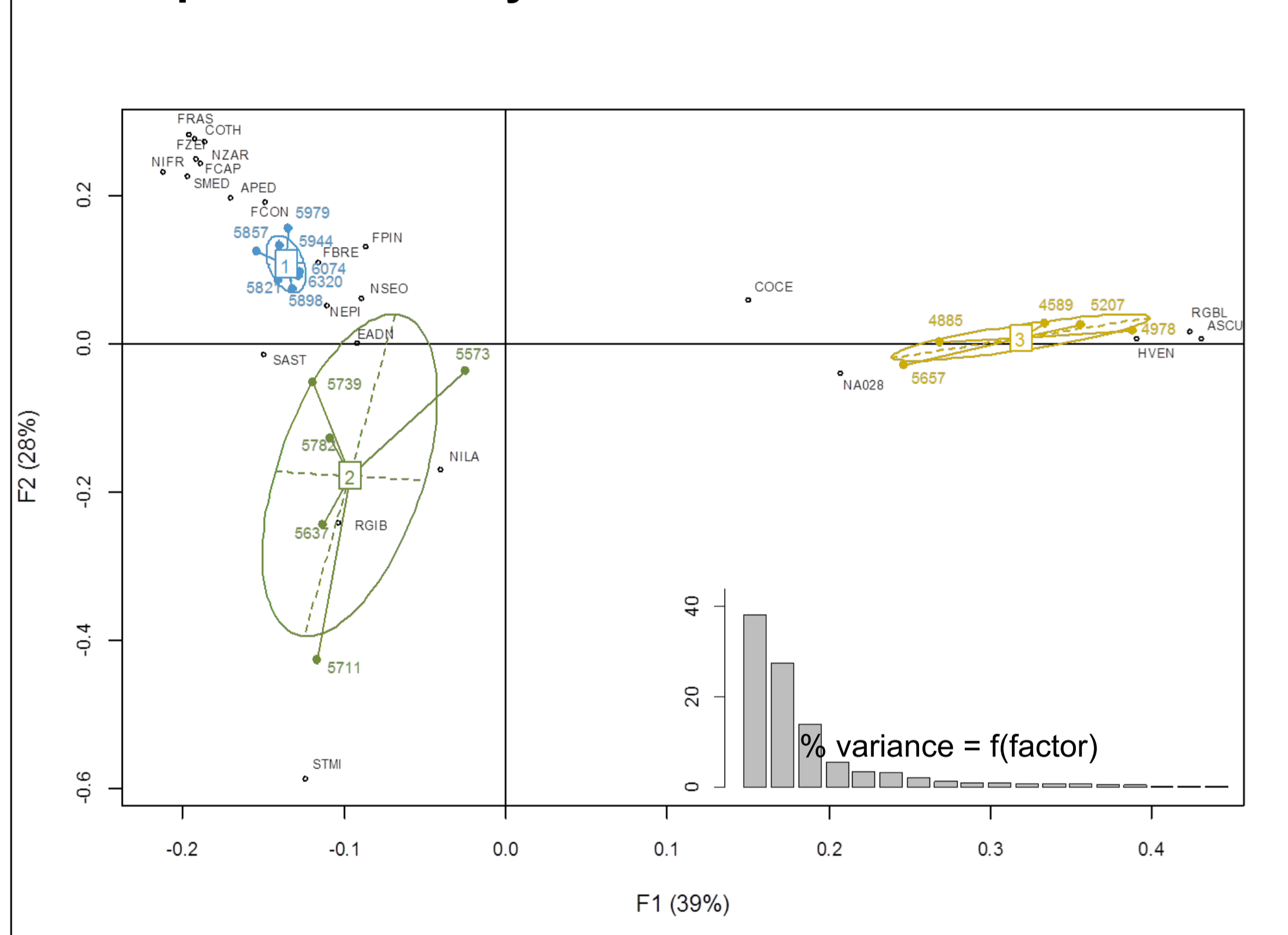


The Holocene diatom sequence OU Paleoreconstruction ?



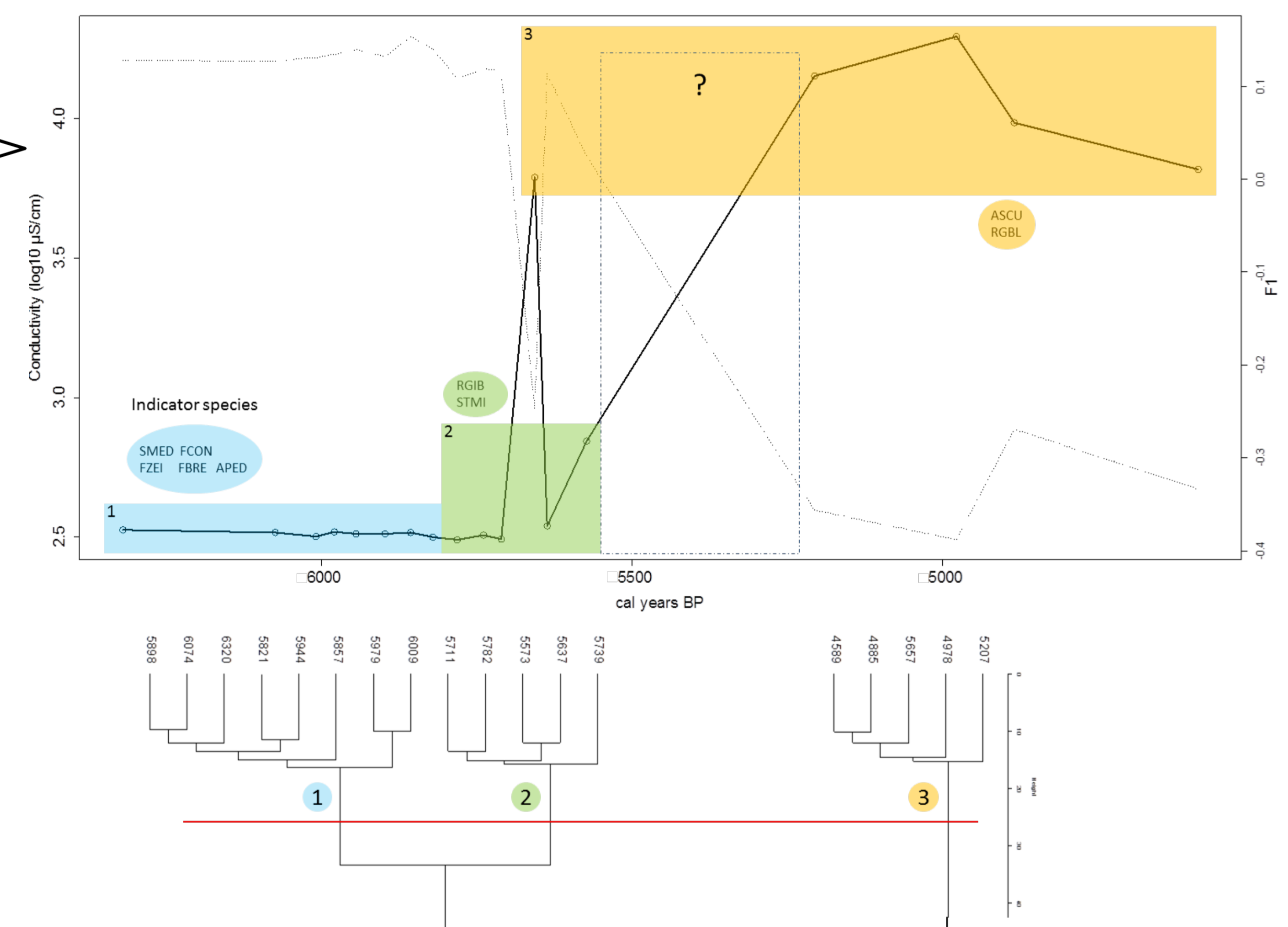
General aim: to investigate a potential salinity threshold on diatom assemblage compositions and thus on diatom-inferred environmental parameters, at the African humid period termination in lake Abiyata.

Correspondence analysis: factors F1 and F2



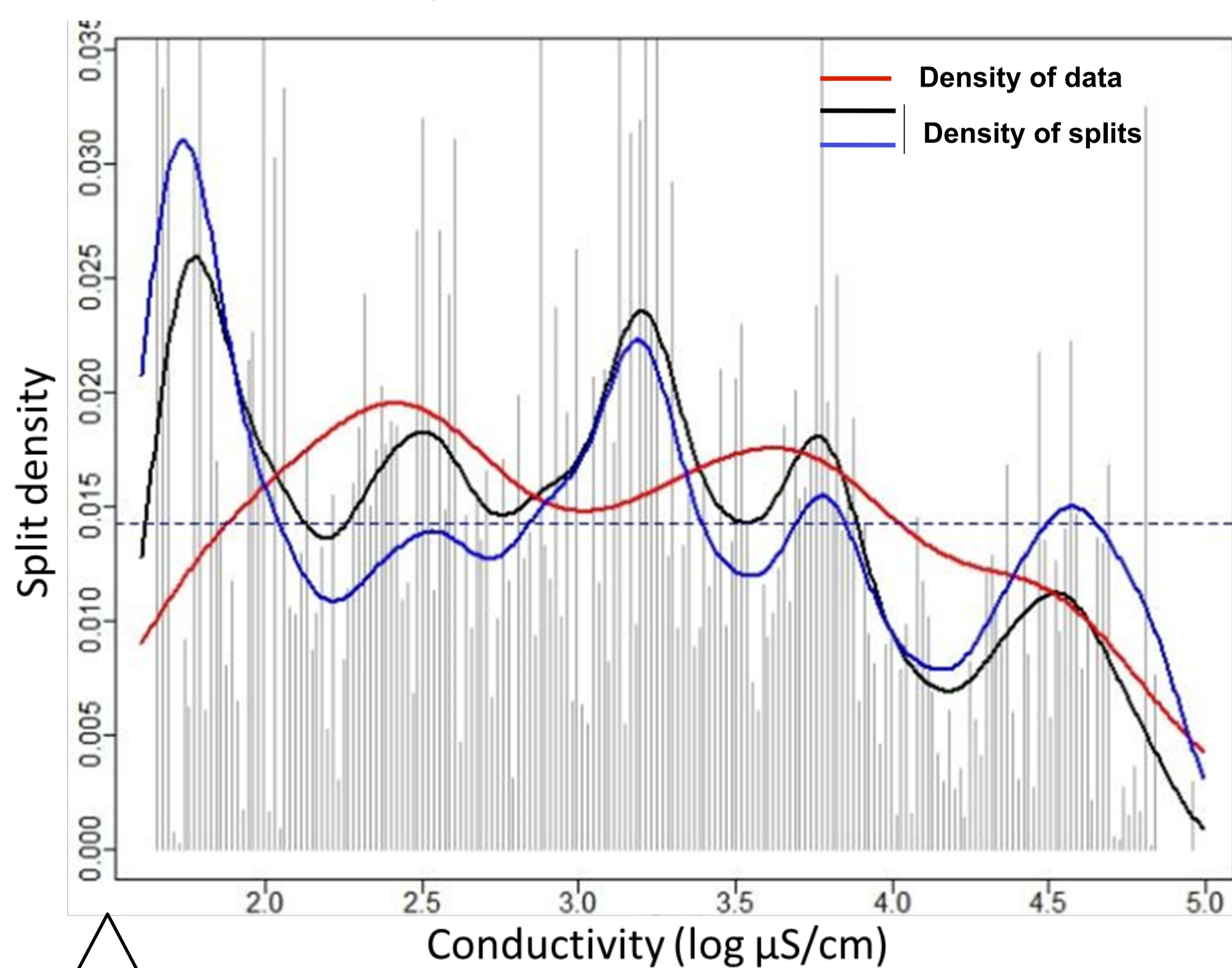
Diatom-inferred conductivity, Factor F1 and hierarchical cluster analysis

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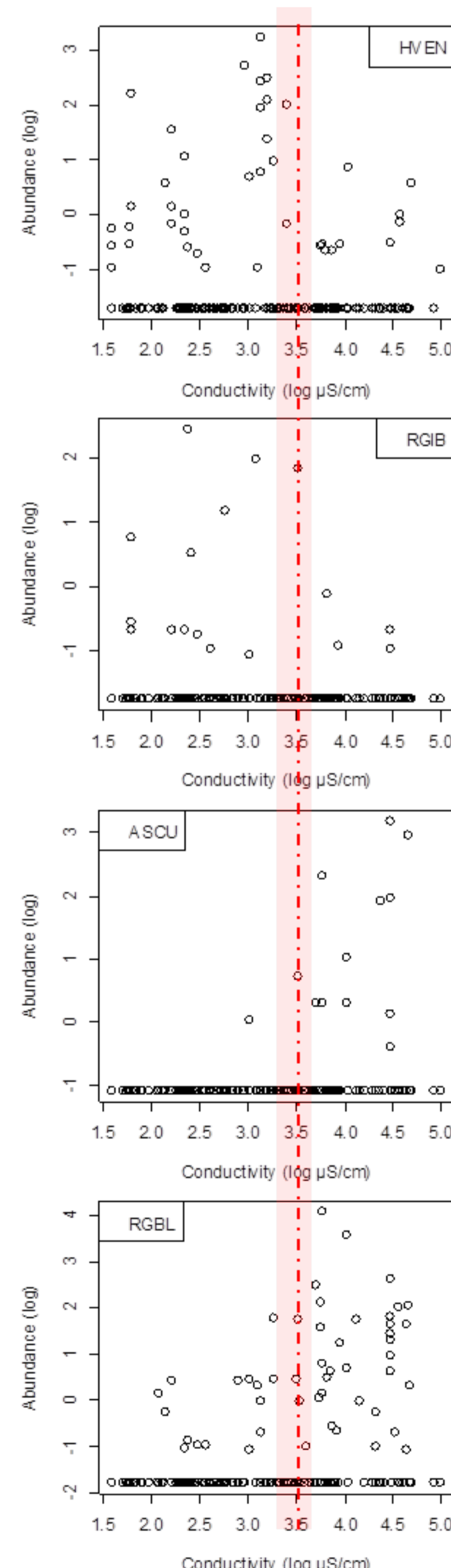


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Gradient forest analysis of the modern African diatom database

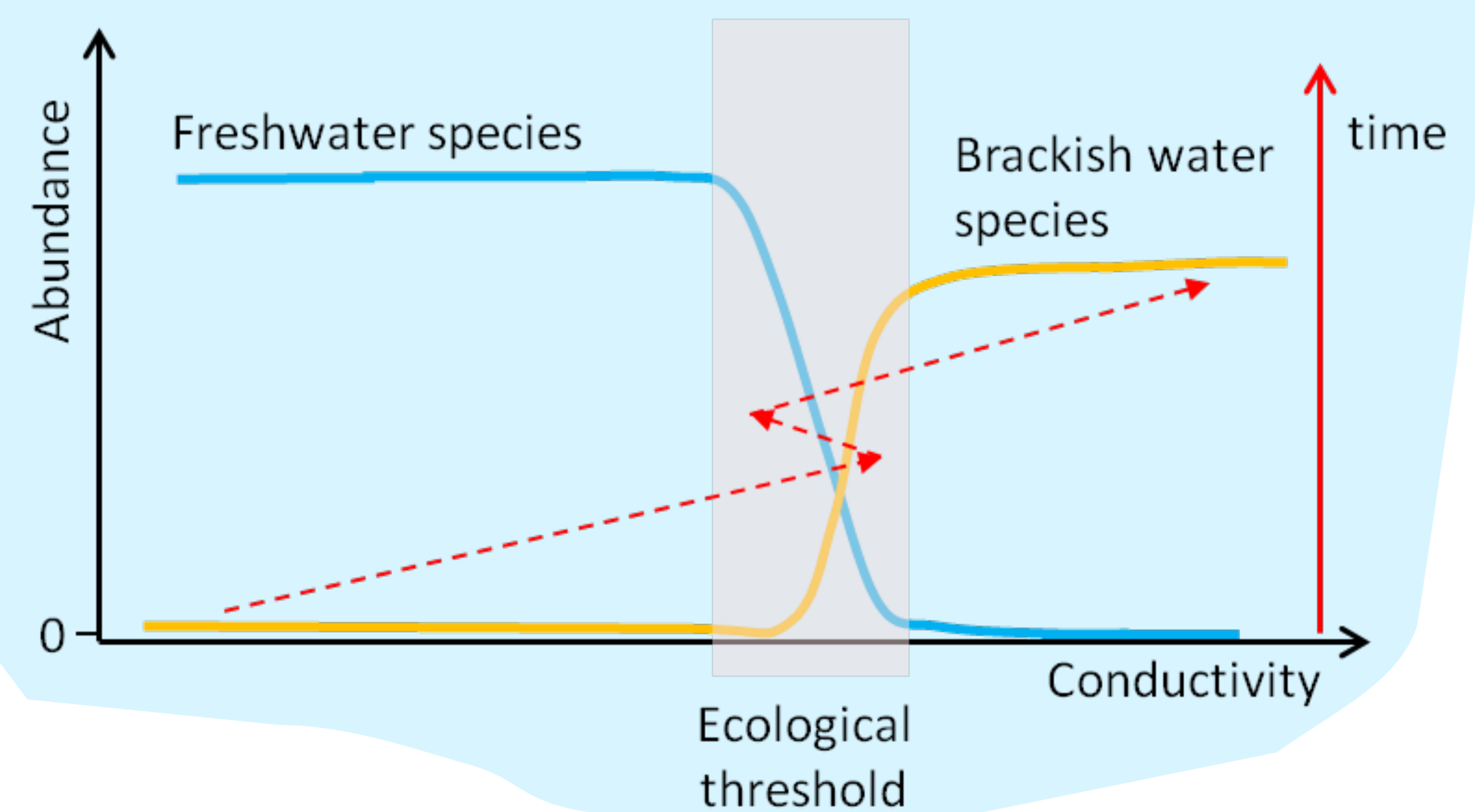


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Conceptual schema: variations of the abundance of freshwater versus brackish water around the ecological salinity threshold

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Distribution of selected species in the modern reference African dataset

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Conclusion: we suggest the existence of a salinity threshold for diatom assemblages between 1500 and 3000  $\mu\text{S}\cdot\text{cm}^{-1}$  water conductivity. This could generate huge variations in diatom communities, for subtle fluctuations of water salinity in this interval. This therefore has a crucial importance in deciphering whether a diatom-inferred past change is abrupt or gradual through time.