

How has sea level changed through time at Lygra?

Some diatoms species have specific tolerances for salinity and can be used to reconstruct sea-level changes in the recent past. Here we identify the shift from marine diatoms to freshwater diatoms to determine sea level change at Lygra.

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Method

Six samples with depth 650, 654, 656, 660, 668, 680 (cm) from 2018. The diatoms were identified to species or genus using a light microscope. Those not identified were not included in the results. RiojaPlot (Version 0.9-30) was used to plot the bio-stratigraphic data.

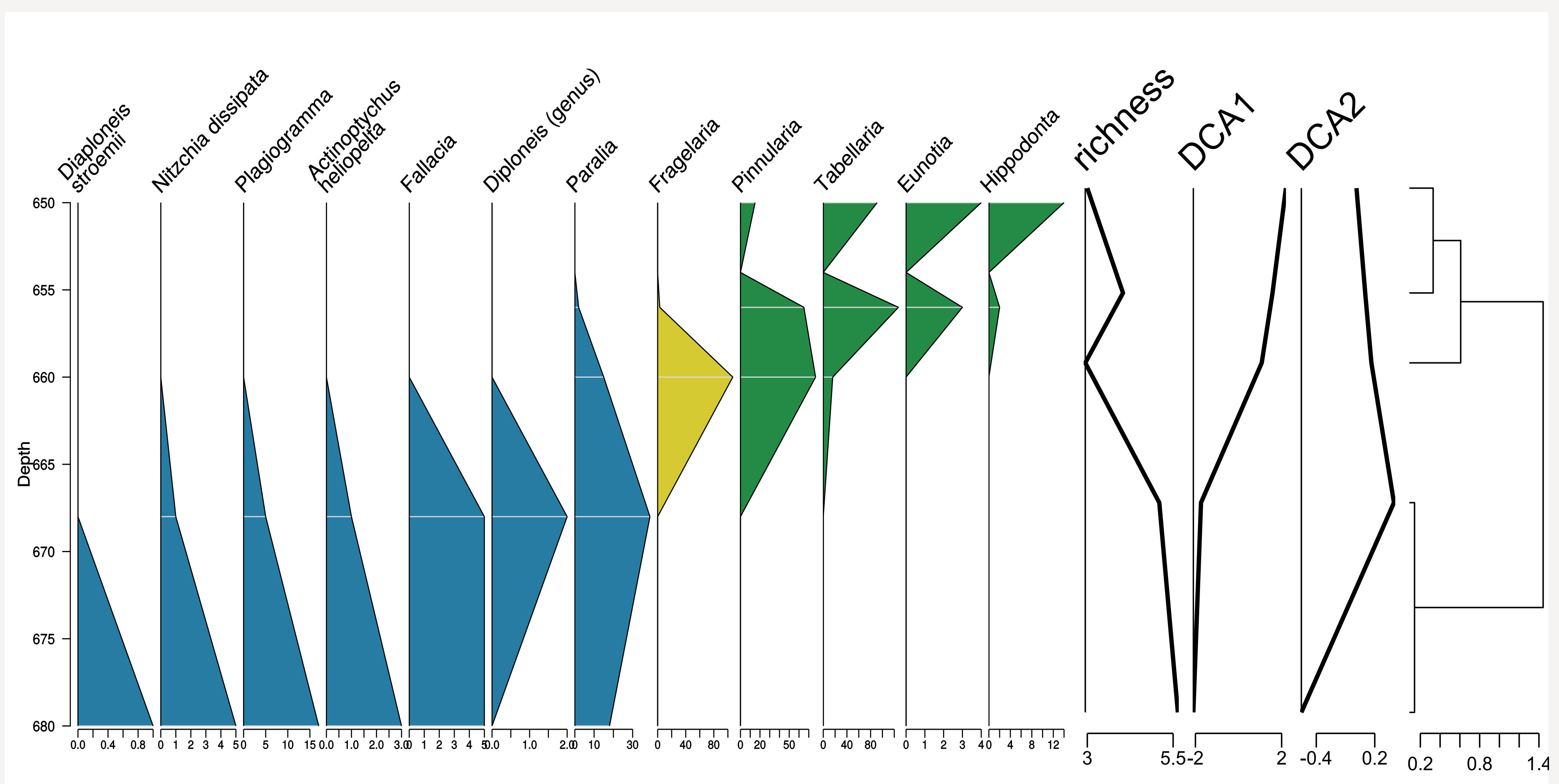
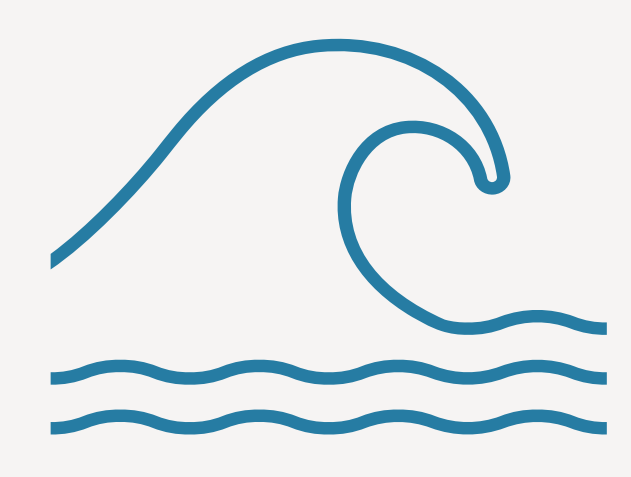
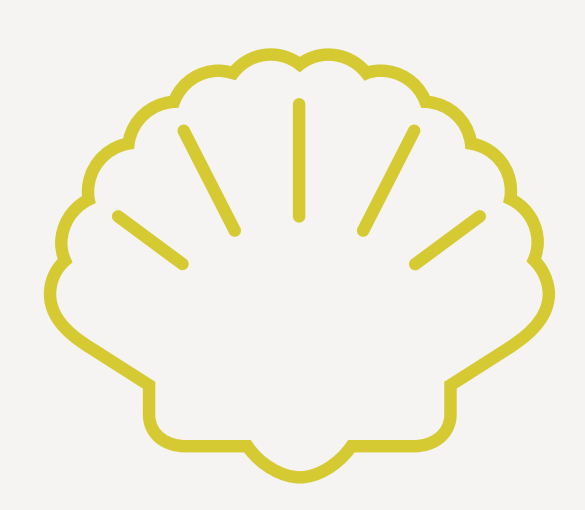


Figure 1. Simplified stratigraphic diatom diagram from Lygra. Different diatom species and their change in abundance (x-axis) in relation to depth (y-axis).

Results



668cm -> 680cm *Paralia spp.*, *Diploneis spp.*, *Fallacia sp.*, *Actinopterychus heliopelta*, *Plagiogramma spp.*, *Nitzschia dissipata*, and *Diaploneis stroemii*



The depth of 660cm is associated with the intermediate species *Fragelaria spp.*



650cm -> 660cm are associated with the freshwater diatoms *Pinnularia spp.*, *Tabellaria spp.*, *Eunotia spp.*, and *Hippodonta spp.*

Conclusion

In the stratigraphic diagram, the DCA indicates a turnover in abundance from marine to freshwater diatoms at depth 660 cm below ground. Abundance of *Fragelaria spp.* indicate isolation from ocean and is comparable to Kaland et al.'s (1984) shore displacement curve from Sotra. With Lygra's similar altitude of 15-17 m.a.s.l, we estimate that time of isolation is ~9.7kya BP

REFERENCES
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