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New insights into Central European environmental changes during the last 2500 years by multi-proxy analysis of the undisturbed Beerberg peatland, Thuringia, Germany

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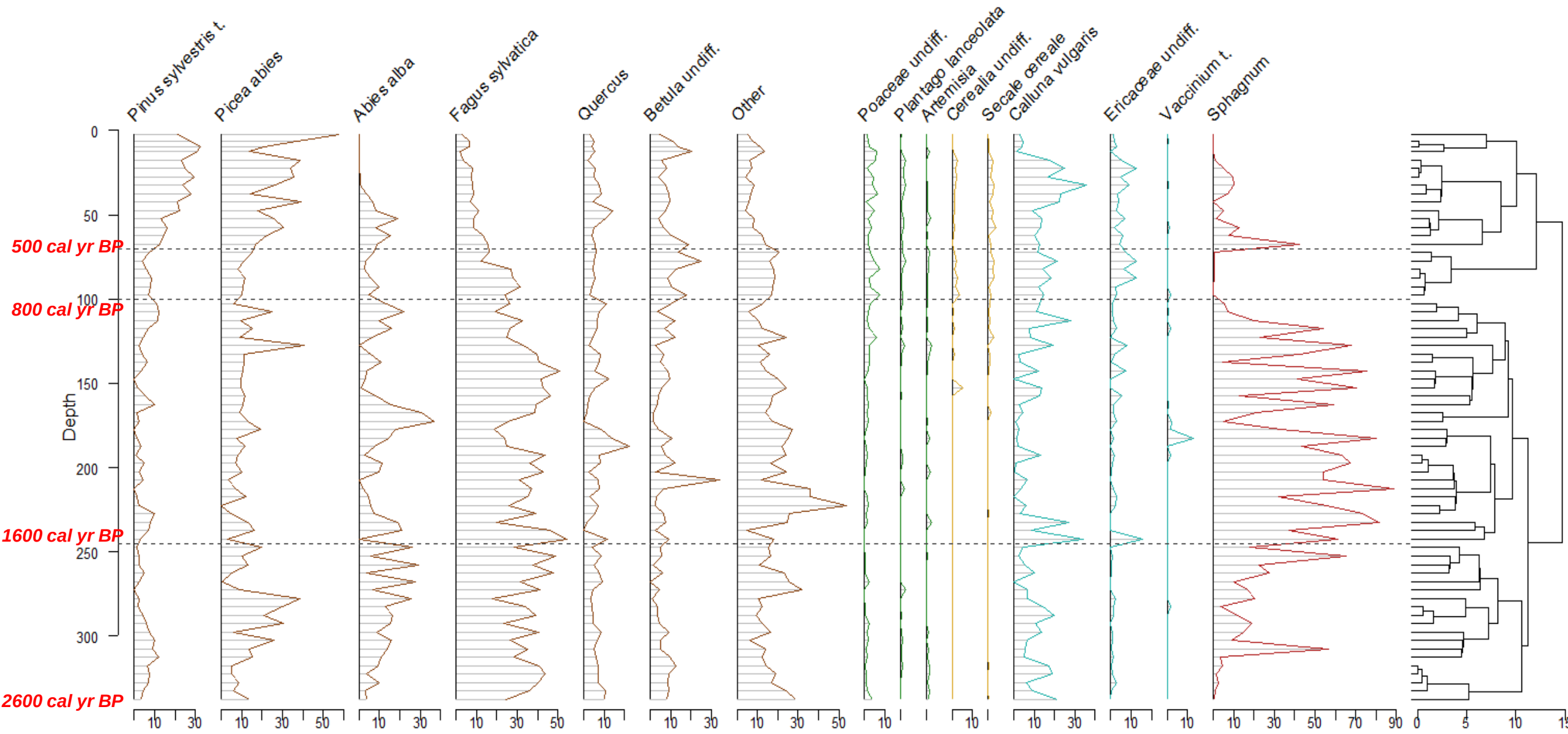
Beerberg peatland

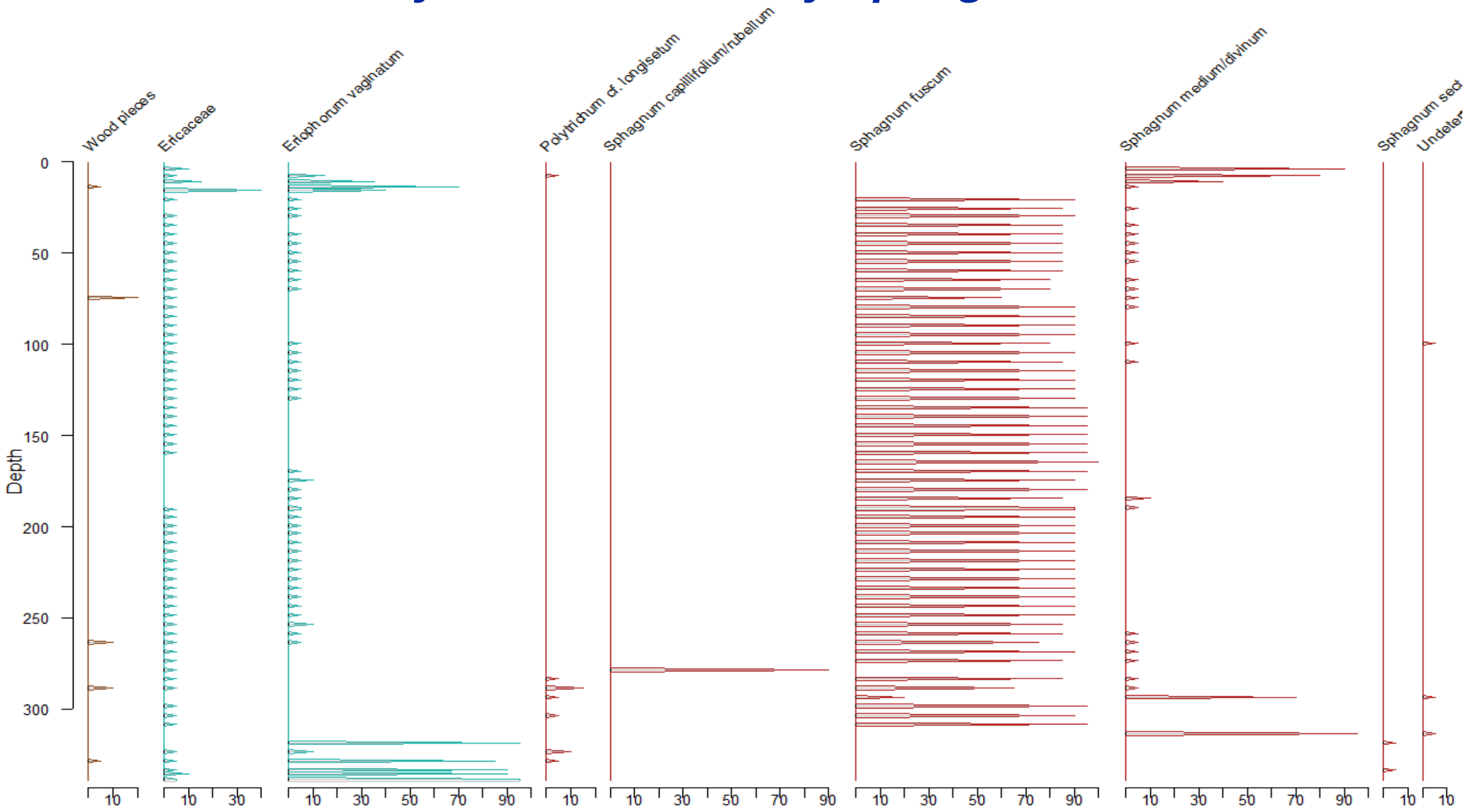
- One of the best-preserved raised bogs in the Thuringian forest
- 12.5 hectares, thickness of up to 4 meters (our core is 3.4 m)
- ^{14}C dating indicates core covers about 2600 years

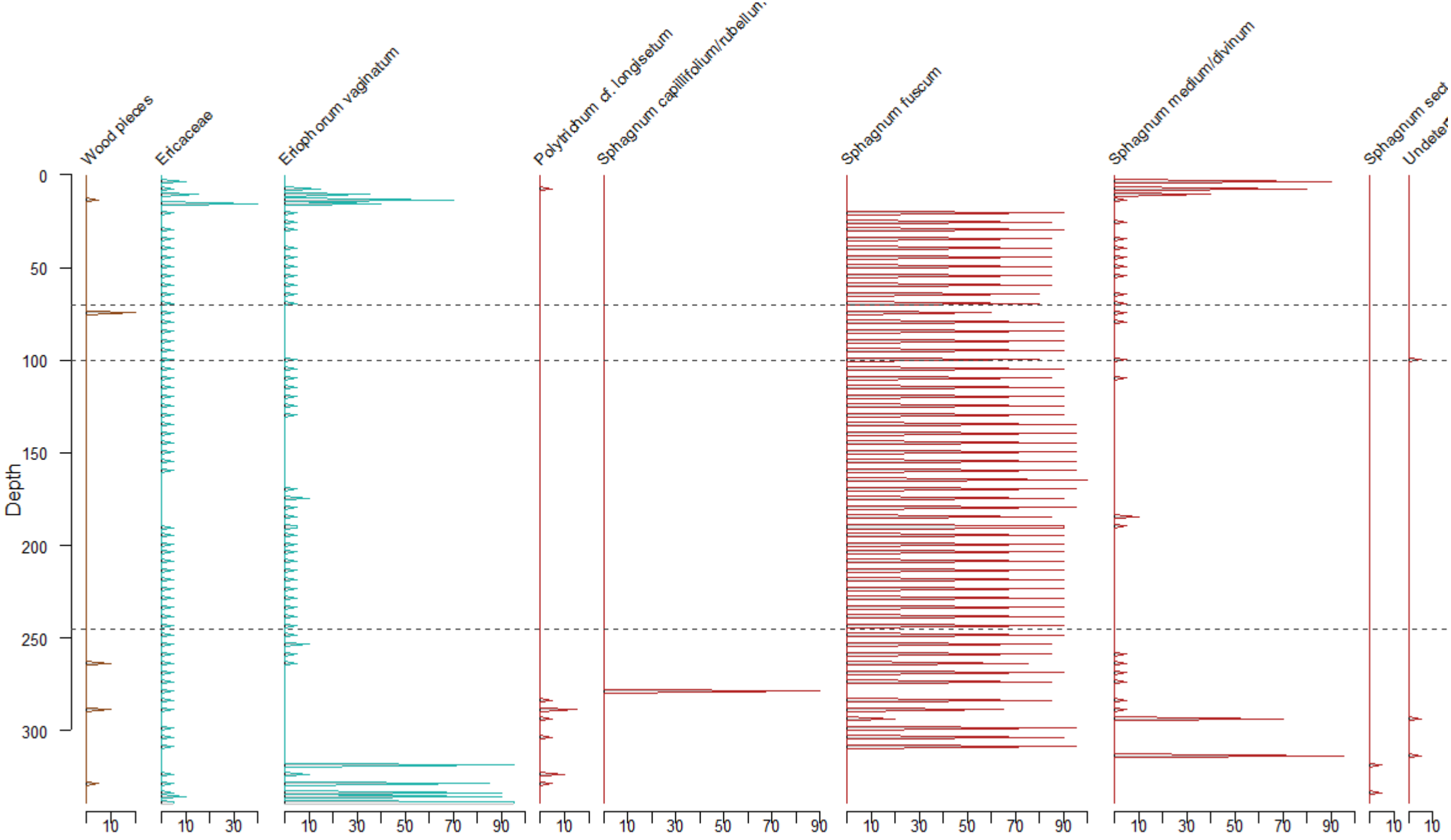
Photo: Guido Wiesenberg

Pollen data and cluster analysis indicate four vegetation zones

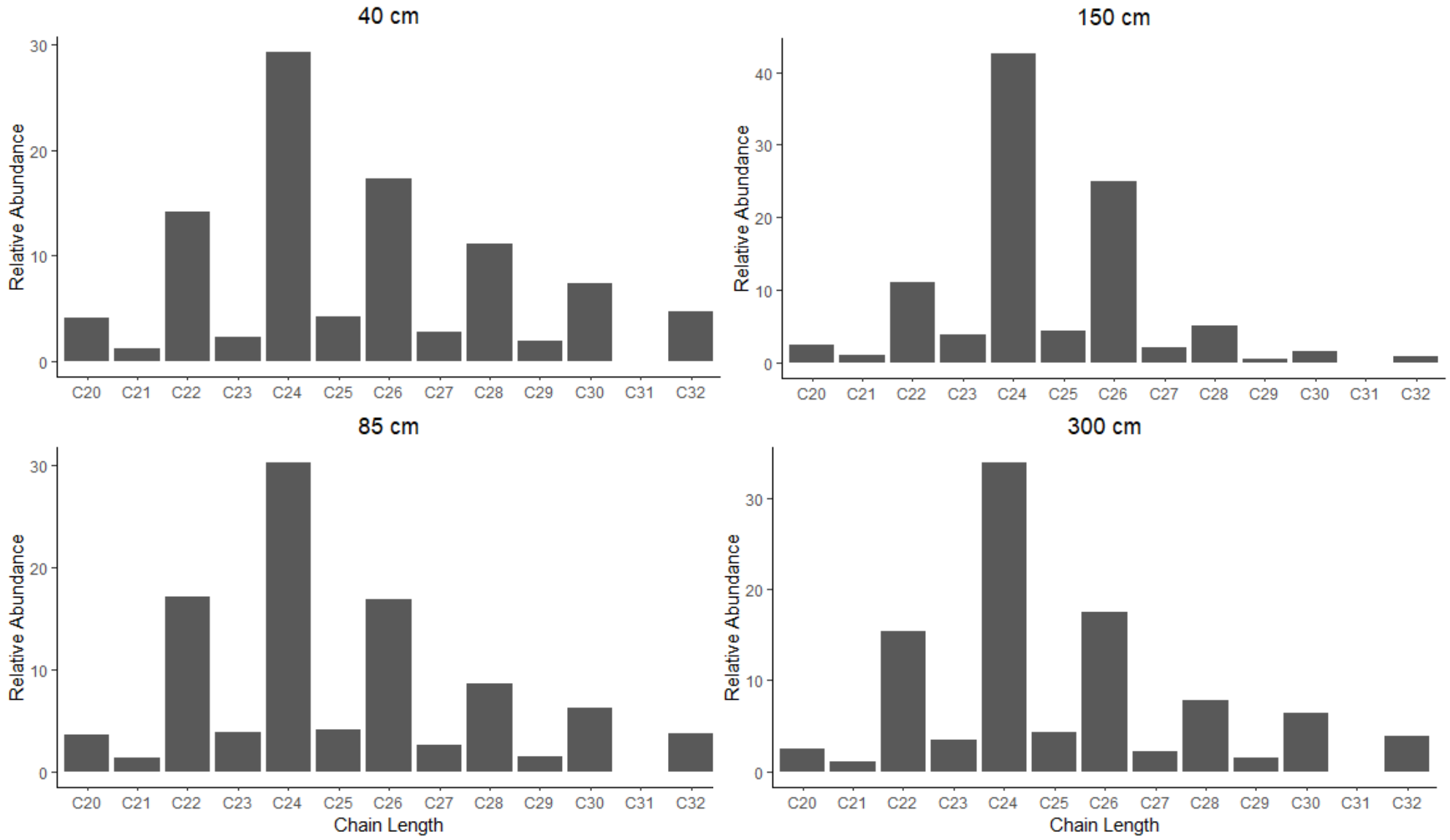


Macrofossil analysis dominated by *Sphagnum* mosses

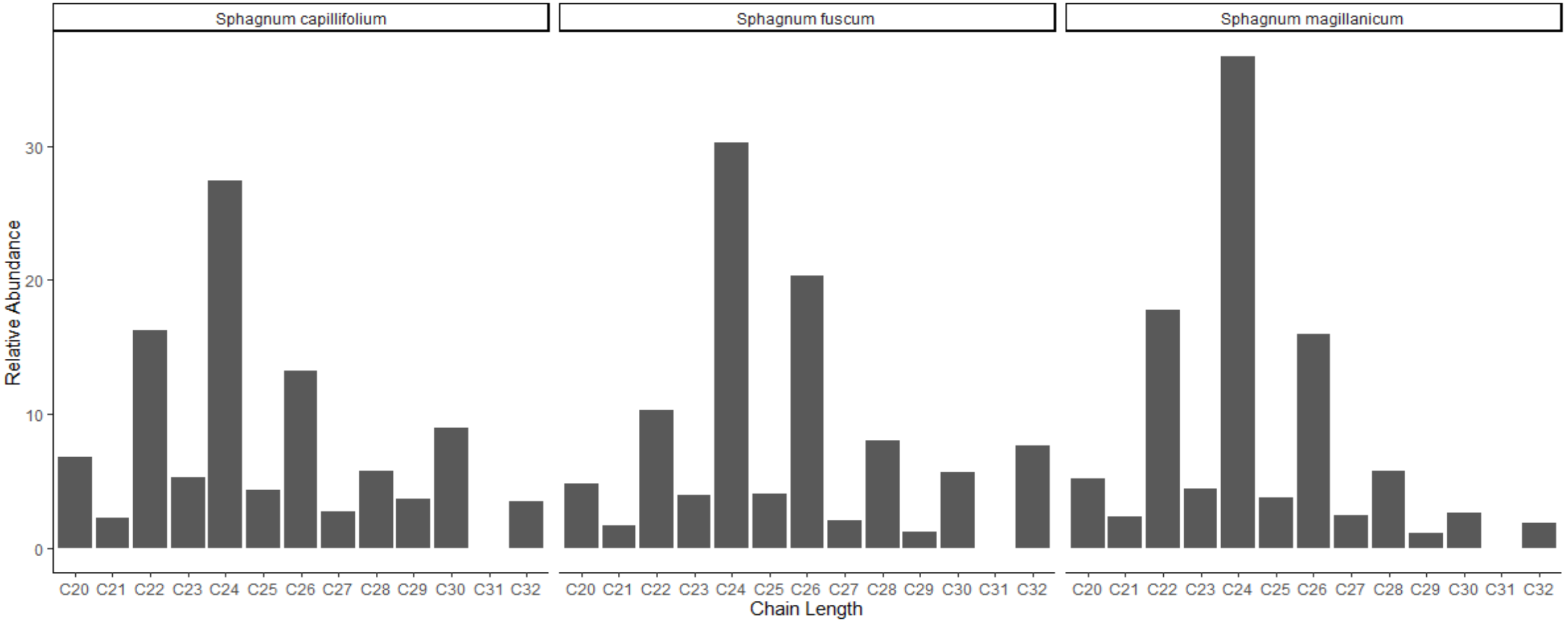



Wood pieces
Ericaceae
Eriophorum vaginatum
Polytrichum cf. longisetum
Sphagnum capillifolium/rubellum
Sphagnum fuscum
Sphagnum medium/divinum
Sphagnum sect
Undeter
Depth
0
50
100
150
200
250
300
10
30
50
70
90

Fatty acid signature is consistent throughout the core



Core fatty acid signature matches *Sphagnum* species



Conclusions and outlook

- Use of multiple proxies provides insight into regional vs local vegetation dynamics
- Preliminary biomarker results are somewhat inconclusive, but correspond well with macrofossil data
- Further analysis: n-alkanes and n-alcohols