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LARIX – AN OVERLOOKED TAXON IN BOREAL VEGETATION HISTORY OF NORTHERN SCANDINAVIA. A REVIEW WITH PERSPECTIVE ON INCONGRUENCIES BETWEEN MEGAFOSSIL AND POLLEN RECORDS

LARIX – EINE VERNACHLÄSSIGTE TAXA IN DER GESCHICHTE DER BOREALEN VEGETATION IN NORDSKANDINAVIEN. EINE BEWERTUNG UNTER BERÜCKSICHTIGUNG VON UNSTIMMIGKEITEN ZWISCHEN MEGAFOSSILIEN UND POLLENANALYSEN

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SUMMARY

Vegetation history of northern Fennoscandia has for more than a century revolved around pollen analysis. A major problem and shortcoming with this approach is the interpretation of very small pollen counts or the total absence of pollen at certain positions in the stratigraphies. This complication has been emphatically highlighted with some recent examples from the treeline ecotone in the Scandes. In particular, a major discrepancy between pollen analytical inferences and robust megafossil records is exemplified for the postglacial history of *Betula pubescens* ssp. *czerepanovii*, *Picea abies* and *Pinus sylvestris* at high elevations in the Scandes. The main focus of the present study is on *Larix*, a taxon currently not native to Fennoscandia and, until quite recently, without indications from pollen records to have ever grown spontaneously in this region. However, recent investigations in the current treeline ecotone have disclosed megafossil remains of *Larix sibirica* (cones and wood) along the entire Swedish Scandes during the time span 9635 to 7320 cal. yr BP. The time when *Larix* disappears from the record coincides with the initial phase of the emergence of the subalpine birch forest belt. Presumably, increasing climatic maritimity, in combination with enhanced competition from denser birch stands, caused the extirpation of *Larix* from the Scandes. Human exploitation may have contributed in this respect.

Keywords: *Larix sibirica*, Holocene vegetation history, megafossils, pollen analysis, treeline, Scandes

ZUSAMMENFASSUNG

Die Vegetationsgeschichte in Fennoskandinavien wurde seit über 100 Jahren über Pollenanalysen abgeleitet. Ein Hauptproblem dabei ist die Interpretation sehr kleiner Pollenzahlen