

Epicuticular Wax Compositions of Predominant Conifers of Western North America

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The compositions of epicuticular waxes from conifers constituting the predominant species of western North America were determined by GC and GC-MS. The primary components identified include alkanes, fatty acids, fatty alcohols, aldehydes, ketones, phytosterols, triterpenoids and wax esters. Average chain lengths (ACL) for alkanes in Oregon conifers decreased with increasing distance away from the Coastal range which suggests an adaptation by conifers to humid climate conditions. Differences in the chemical compositions make this information useful for chemotaxonomic purposes, for identifying natural organic aerosol input sources to the atmosphere, for comparison with the tracers in smoke emissions from burning of these biomass fuels, and for monitoring in assessment of global climate change.

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