

***A Middle Eocene pine cone and twigs from
northwestern British Columbia and its bearing on evolution
within the genus Pinus***

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A pinaceous cone with associated leaves and twigs has been found in a small lens of chert in the Driftwood Creek Beds near Smithers, B.C. Studies of freshwater fishes and insects in the surrounding sediments from the Ootsa Lake Group indicate a Middle Eocene age for these remains. The fossil was studied using a modified cellulose acetate peel technique. The cone specimen represents the apical portion, 3 cm long x 2.7 cm in diameter. Externally it has knobby cone scales and a prominent umbo lacking a spine. The pith of the cone axis is parenchymatous and tapers near the apex. The vascular cylinder is composed mostly of secondary xylem lacking growth increments and containing up to 70

resin canals in a ring. Extraxylary tissues are of 16-20 resin canals that dilate to four times their size as they enter the scales. A trace of the cone-scale complex arises as a single unit with a circular outline in transverse section as in cones of *Pinus* and some fossil species of *Pityostrobus*. The ovuliferous scale traces are accompanied by an abaxially directed resin canal system. There are two seeds per scale with well-developed integuments but little internal tissue preservation. Anatomy and morphology of the leaves and wood combined with cone characters allow close comparisons to the genus *Pinus*, sub-genus *Pinus* of the family Pinaceae.