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THE ROOT SYSTEM OF BIGTOOTH MAPLE

Earl M. Christensen¹

Root systems of several common Utah mountain brush species have been studied and illustrated (Baker and Korstian 1931, Cline 1960), but the root system of the common bigtooth maple, *Acer saccharum* Marsh. ssp. *grandidentatum* (Nutt. ex T. & G.) Desmarrias, has not been described.

The root system of a 16 year old plant that was 3 feet, 7 inches high is illustrated in Figure 1. The plant was growing at 5100 feet on a north-facing slope in lower Provo Canyon, Utah in a community dominated by Gambel oak (*Quercus gambelii* Nutt.) and bigtooth maple. The excavation of the root system was made along the contour of the slope. The profile illustrated has a width of 2½ feet. Three soil horizons could be distinguished. The A horizon was 9 inches thick and gravelly. The B horizon was 18 inches thick and rocky. The C horizon was composed of hard clay and large rocks.

The root system of bigtooth maple is characterized by having a layer of superficial roots located mostly in the A horizon. A smaller number of roots extend vertically downward into the parent material. The root system of bigtooth maple is somewhat similar to that of Gambel oak, although Gambel oak is a rhizomatous species (Baker and Korstian 1931).

The plant chosen for study had not reproduced vegetatively by layering, a characteristic that is typical of older individuals of bigtooth maple. Layering is an effective type of reproduction in bigtooth maple, and in older plants the root system is extended radially as the lower branches layer in the litter.

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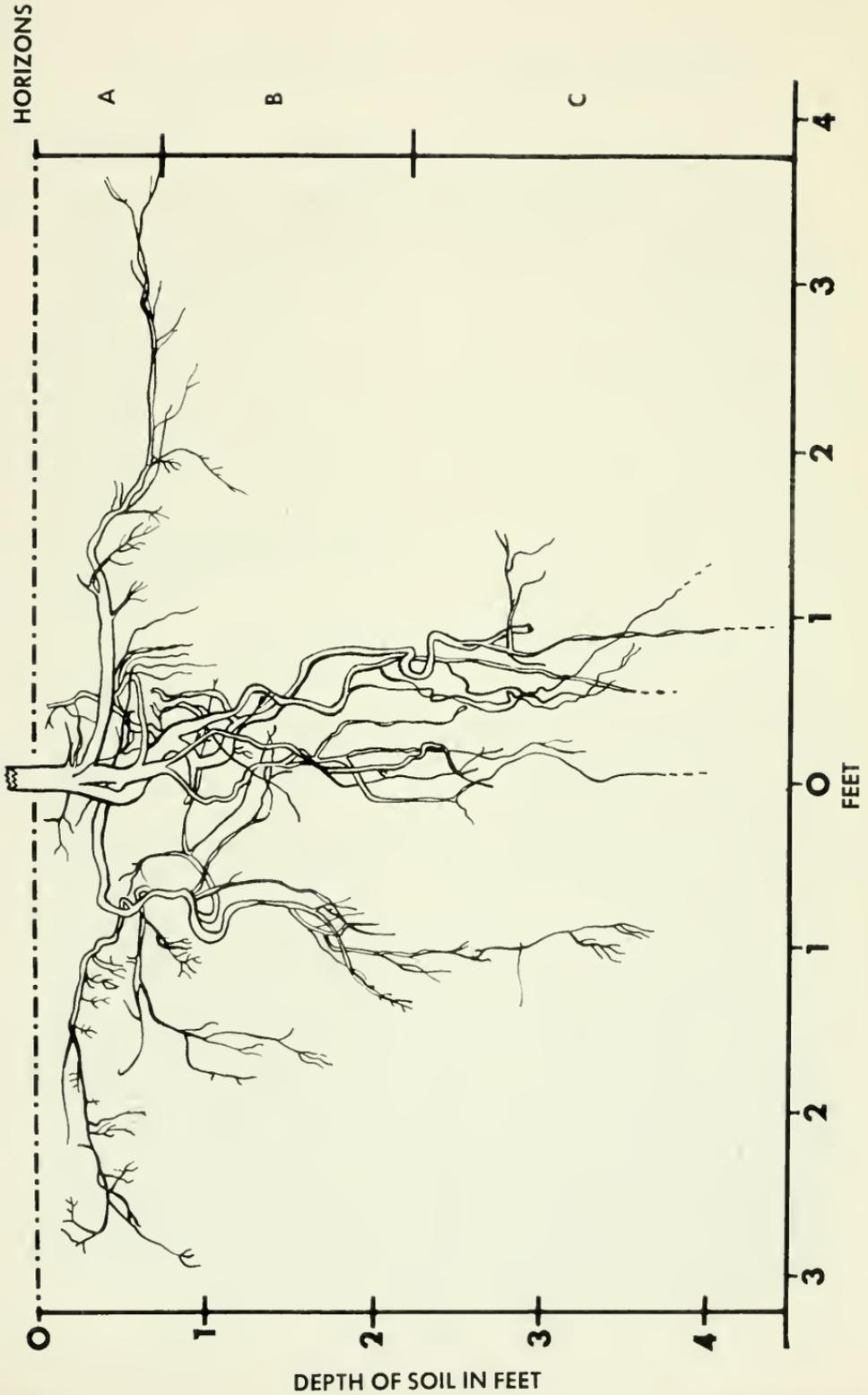


Fig. 1. Root system of bigtooth maple.