

teeth are represented merely by a rounded crenulation. Principal ribs three, with two minor ones at base, all wavy or undulated, and branching obtusely towards the margin. Petiole slender and apparently very long.

This leaf is that which from imperfect specimens I identified with *P. latior* of Brongniart, but it is quite distinct from that species in venation. It is, however, near in venation to *P. arctica*, Heer, and is probably the same leaf referred by Lesquereux in the paper already cited on Alaska plants to that species. It is also closely allied to *P. melanarioides* of Lesquereux, and to *P. tremulifolia* of Saporta (not of Brongniart). The former is from Point of Rocks, Arkansas. It is also near to one of the varieties of *P. speciosa* of Ward, from Clear Creek, Montana. In short it belongs to a type of poplar leaf rare in the modern world but very common in Tertiary times, and found represented by many specific and varietal forms throughout the Eocene and Miocene periods. In regard to specific distinctions, these leaves are so variable and so near to each other that it is perhaps not easy to determine to what extent the forms distinguished by different names are really distinct; and in giving a name to the present species I do so without any certainty that it may not really be conspecific with some of those above named.

The wide diffusion of leaves of this type in the Kainozoic period gives them comparatively little value as indicators of precise geological age. Their abundance, especially to the exclusion of the more modern types, may, however be held to indicate deposits of older or middle Tertiary age.

*Populus daphnogenoides*? Ward. (Fig. 13.) "Types of Laramie Flora." 'Bul., Am. Geol. Survey,' No. 37, p. 20. Plate vii.



FIG. 13.—*Populus daphnogenoides*.

I refer to this species, with some doubt, a smaller and somewhat narrower leaf than the above, pointed at apex and with margin sharply dentate, but like the preceding, with three principal veins, and rudiments of a basal pair. Ward's leaf is from Seven Mills Creek, Montana, from a formation probably older than that of the Similkameen district.

This leaf, like the former, is not one which can give much idea of precise age. Indeed, the study of the varieties in recent species causes me to agree with Lesquereux that poplar leaves are so variable in the same species and at the same period, and in some cases so similar to leaves of other genera, that little confidence can be placed in specific determinations, based on either venation or marginal characters, except in so far as what may be termed subgeneric types are concerned.