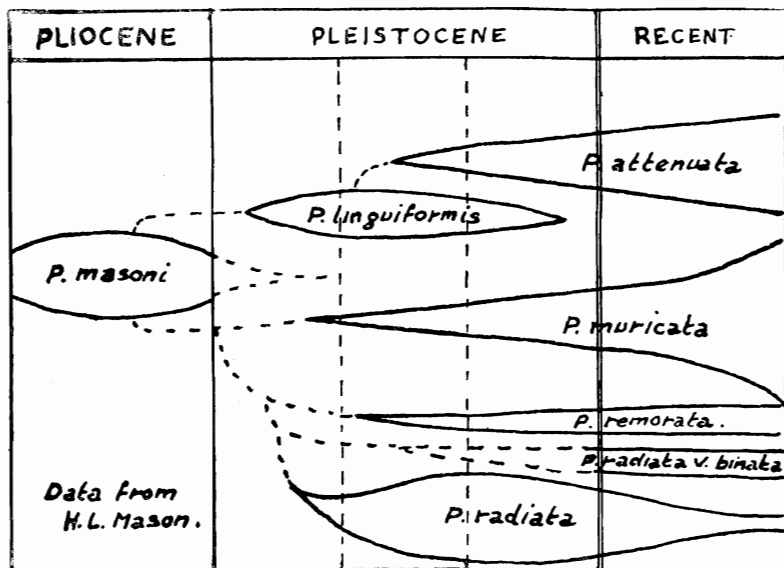


NOTES.

NOTE ON PINUS RADIATA RELATIONSHIPS.

In a recent publication Cain* has given an interesting account of the phylogeny and relationships of the Californian closed-cone pines, *Pinus attenuata*, *P. muricata*, *P. remorata*, *P. radiata* and *P. radiata* var. *binata*. From studies of these species and from paleobotanical investigations he has reconstructed the phylogeny of the group from Pliocene through Pleistocene to recent times. Permission has kindly been granted by the author and publishers to reproduce a diagram showing this relationship. It is of particular interest to New Zealanders because of the position of two of our important exotic species, *P. radiata* and *P. muricata*. The latter is to-day the most widespread species in the Californian closed-cone pine forests and, the author adds, is morphologically the most variable. *P. radiata* was more abundant and widespread in Pleistocene times than it is to-day, and is now "on its way out." Experience with these two species in New Zealand has shown that *P. radiata* is much the more variable and plastic. This variability must also be marked in its natural habitat, for Californian tree-breeders have attempted to explain it by postulating that it is of recent hybrid origin, *P. muricata* being one of the parents. This is at variance with Cain's summing up. Whatever the truth the variation of *P. radiata* is of a complicated nature.

A. L. POOLE.



A diagram combining information concerning the paleontology, phylogeny and present condition of the closed-cone pines of the Californian coastal region. This graphic representation was drawn on the basis of various published descriptions by H. L. Mason.

* "Foundations of Plant Geography," by Stanley A. Cain. Harper and Brothers, New York and London. 1944.