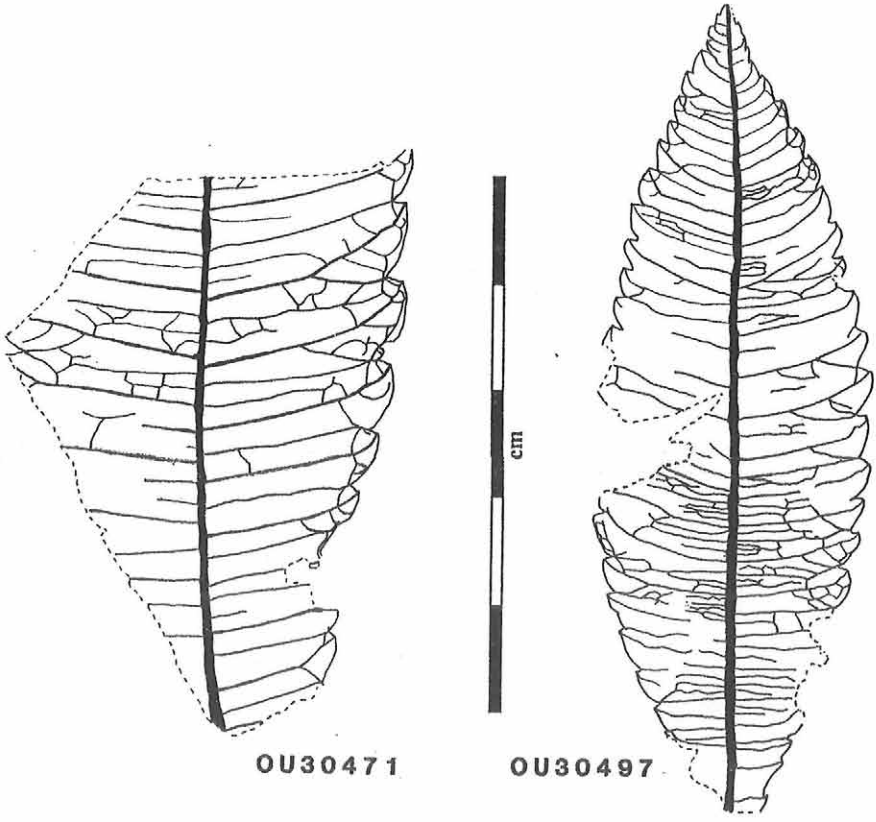
A fossil Banksia from New Zealand

by Mike Pole, Dept of Geology, University of Otago.

In early 1986 Mr G. Mason of the Dept. of Anthropology, University of Otago, made a collection of plant macrofossils from locality J38/f58, near Kakahu, in South Canterbury, which was subsequently passed to me for examination.



Banksieaeformis sp.

The flora is dominated by angiosperm leaves but includes some coniferous remains, probably **Dacrycarpus**, and ferns. Among the various angiosperm remains which have not yet been identified, two specimens, OU30471 and OU30497, (see figure) are referable to the tribe Banksieae of the family Proteaceae. The important characters of leaf architecture on which this identification is based are the non-entire margin coupled with the numerous lateral veins of several orders, the largest of which terminate at the tooth apex or sinus base. The specimens are presently assigned to **Banksieaeformis** Hill and Christophel, an organ genus for leaves without cuticular detail which are otherwise similar to **Banksia**, **Dryandra**, and another fossil, **Banksieaephyllum**.

The fossils have important implications for understanding the evolution of the subfamily and for the whole New Zealand flora. In their review of fossil leaves of the Banksiae, Hill and Christophel (1988) noted that the oldest specimens came from the Australian Early Eocene. The New Zealand specimens illustrated here come from the Palaeocene (Teurian, see Raine 1988) and are thus around five million years older than the Australian material. The fossils strengthen my belief in the existence of a once more cosmopolitan Australasian flora which included angiosperms such as **Casuarina** (Campbell and Holden 1984), **Eucalyptus** (Mildenhall 1980, Pole 1989), Leguminosae with large fruits (Pole et al in press) and conifers such as **Decussocarpus** (Pole in prep.).

A detailed description of the Kakahu flora is in preparation.

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Botanical Society of Otago

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