58. BIRD AND MAMMAL POLLINATION IN STRAIGHT-STYLED AND HOOK-STYLED BANKSIAS (PROTEACEAE)

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The genus Banksia contains 58 named species, most of which have straight or slightly curved styles and ca. 15 of which have terminally hooked styles. It has been suggested that "the straight-styled species are probably bird and possibly insect pollinated, while hooked-styled species are pollinated primarily by small mammals" (F.L. Carpenter, Oecologia 1978, 35 : 123-132). Recent studies and a critical review of the literature suggest that this hypothesis does not apply in the case of several Western Australian banksias. Evidence is available that birds and mammals feed indiscriminantly on nectar of straight-styled and hook-styled species. Moreover, it would appear that birds carry larger pollen loads and presumably are more efficient pollinators of most banksias than are mammals.

The floral features of hook-styled banksias appear to be adaptations for more efficient exploitation of both bird and mammal pollen vectors, rather than adaptations for exclusive pollination by mammals. Selection for this increased pollination efficiency may arise from the genetic repercussions of the insular population structure of hook-styled species.