88. SPECIATION IN AUSTRALIAN PLANTS

[1]S.H. James, [2]S.D. Hopper

[1]Department of Botany, University of Western Australia

[2]Western Australian Department of Fisheries and Wildlife

Species are usually discriminated from each other in terms of genetic discontinuities although the relevance of such a procedure is subject to considerable debate. Nevertheless, the origin and fixation of genetic discontinuities within single gene pools is here taken to be the essential process of speciation.

The roles of geographical isolation, adaptive divergence, secondary contact and displacement are considered in relation to several groups of native Australian plants.

Although there are ubiquitous indications of displacement in reproductive attributes between species in contact, it is very difficult to establish whether the exhibited differences are products of prior divergence in allopatry or of reinforcement. For the few groups where more detailed studies on the genetic systems of species are available, explanations of the speciation process in terms of the reinforcement of reproductive isolation leading to the conservation of coadapted gene pools become more attractive.