TOWARDS AN UNDERSTANDING OF VARIATION WITHIN THE MULGA COMPLEX (ACACIA ANEURA AND RELATIVES) USING NUCLEAR DNA TECHNIQUES

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The Acacia aneura or mulga complex is a widespread group of shrubs and trees that is dominant in much of arid zone Australia. The group is taxonomically difficult, due to a complex mix of hybridisation among species, geographic variation within species and sympatric variation within *A. aneura*. Mulga is highly variable in a wide range of vegetative and reproductive characters and it is not unusual to find five or six distinct forms growing side by side.

Current investigations of the complex utilizing field collections, molecular and cytological techniques have help to determine the mechanisms responsible for the variation in the complex which include: hybridisation, polyploidy, polyembrony and apomixis. Diploid, triploid, tetraploid and pentaploid plants have been identified and the cytological and morphological variation is being maintained by asexual seed production. Gene flow among morphotypes within populations and distinctness of morphotypes from different localities will also be addressed. These results will have far reaching repercussions for mulga taxonomy and utilization.