Advances in plant conservation biology:

Implications for flora management and restoration

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THE ROLE AND RELEVANCE OF TAXONOMY IN FLORA CONSERVATION

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Taxonomy is concerned with classifying, characterising and naming organisms and consequently has major relevance to practical conservation and to other fields of biology that contribute to conservation research. Our knowledge of relative biodiversity derives from a long history of taxonomic work, and knowledge of the distribution and rarity of plant species is based primarily on specimen collections. Contemporary taxonomic work is substantially directed toward conservation objectives in addition to traditional scientific curiosity. Species, subspecies and varieties that are recognised by taxonomists must be conserved, and if they are rare or threatened, then substantial management costs will be involved, and legal implications may arise. There is therefore a responsibility to ensure that taxa are well-founded and scientifically defensible. Similarly there is a need for good lists or censuses of currently recognised taxa arranged in classifications that indicate relationships to guide conservation workers and researchers. The role of taxonomy is constantly adjusting to demands engendered by scientific and technological advances and changing social trends. Examples include alternative approaches to classifying organisms, integrating the results of molecular studies of plants, developing modern database systems to provide dynamic taxonomic information about plants, improved ways of recording and verifying populations of rare plants, better plant identification tools, conforming to international standards and contributing to global projects and networks. Issues of special concern in Western Australia include coping with a rich biodiversity, a substantial proportion of which is not formally described taxonomically, urgent conservation demands in the face of serious environmental threats which impacts on taxonomic work, a current initiative to improve consistency of plant names nationally, a greater demand for taxonomic and herbarium services by an increasing conservation workforce, and an increasing pace of taxonomic change through research advances.