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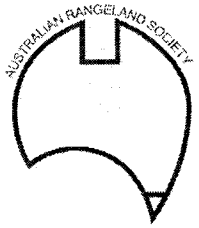

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DETERMINATION OF AGES OF COHORTS OF THE ARID WOODLAND TREES MYOPORUM PLATYCARPUM AND ALECTRYON OLEIFOLIUS.

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ABSTRACT

The overstorey species of arid woodlands are considered to be long lived and have been shown to be subject to infrequent regeneration events. An understanding of age structure is needed to interpret their conservation status following the impact of 150 years of settlement. A study has been undertaken to determine the age of current cohorts of the arid woodland trees *Myoporum platycarpum* and *Alectryon oleifolius* in southeastern Australia. Evidence included: analysis of data from sites where known regeneration events were reliably reported or observed; analysis of growth rings from cut and polished sections; analysis of stem diameter histograms in relation to long term rainfall records and C14 analysis of the central wood of the largest (oldest?) extant cohorts. Analysis of data from a known regeneration event at Moskeg in western NSW enabled confirmation of reliable ring dating *Myoporum platycarpum*. It was assumed with confidence that trees in the 7-18cm dbh range derived from the 1973-75 high rainfall event. Two cohorts of 40-50cm dbh and 55+cm dbh were separated not only on size but on signs of senescence, both having originated well before a 1917-18 fire which killed most trees on the site. Analysis of rainfall records suggests that these cohorts originated following high rainfall events in the 1850s and 1880s. Accurate ring counts were not possible for *Alectryon oleifolius* but circumstantial evidence indicated that the 20-24cm cohort derive from the 1880s event. Radiocarbon dating of inner wood of the largest (60cm+) cohort confirmed these to be at least 350 years old. This dating has enabled age/size models to be produced for both species.