Progress Report STP 2016-001 (FY 2014-2015)

Vegetation responses to Noongar land management practices in old and young landscapes

Plant Science and Herbarium

Project Core Team

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Project Team	granted
Program Leader	granted
Directorate	granted

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This project aims to improve our understanding of the nexus between Noongar culture and contemporary floristic distributions, ultimately informing our understanding of South-west Australian Floristic Region (SWAFR) and connection of Noongar people with country. Through collaborative research with southern coastal Noongar Elders and archaeologists, the project explores how specific cultural activities may have influenced biodiversity within the SWAFR through a series of investigations examining vegetation patterns and processes. Specific areas of focus include testing for patterns in Noongar plant resource concentration at cultural nodes and botanical differentiation between nodes of varying historic cultural use; phylogeographical investigation of culturally important taxa in the genus *Platysace*; investigations of resource concentration effects of edible*Platysace* tuber harvest; and an analysis of Noongar land use patterns in relation to landscape age and propensity to disturbance.

The phylogeographical work is testing the hypothesis that humans are a historical vector influencing the distribution of the staple Noongar food species, *P. deflexa* and *P. trachymeniodes*. To date, a total of 793 individuals of *P. deflexa*,*P. trachymenioides*, *P. effusa*, *P. maxwellii*, *P. compressa* and *P. juncea* have been sampled at 109 sites located in inland areas southwest of a line from Northampton to the Cape Arid National Park. DNA extraction from leaf matter is almost complete, and analysis has commenced of three noncoding chloroplast DNA regions, comprising trnS-trnG52S, trnV-ndhc and psbD-trnT. DNA extraction, polymerase chain reaction and sequencing has been carried out on approximately half of the selected sampled individuals, with planning underway to complete the remaining samples in July 2017.