THE INFLUENCE OF SOIL FROM A TOPOGRAPHIC GRADIENT IN THE FITZGERALD RIVER NATIONAL PARK ON MORTALITY OF *BANKSIA BAXTERI* FOLLOWING INFECTION BY *PHYTOPHTHORA CINNAMONI*

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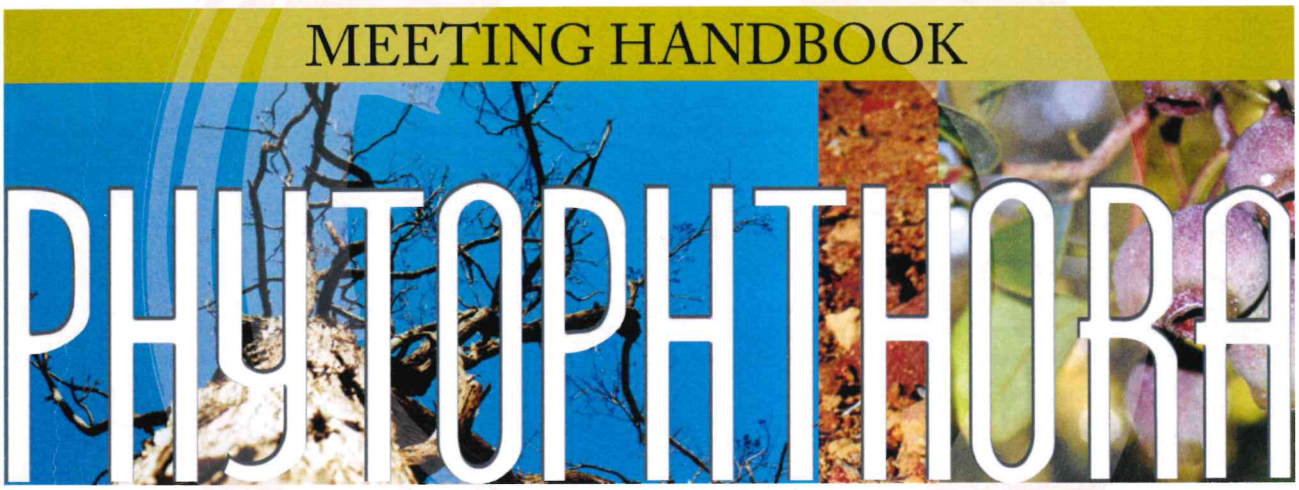
The Fitzgerald River National Park is an international biome in which *Phytophthora cinnamomi* is destroying *Banksia baxteri-Lambertia* scrub-heath in a disease centre over 6 km long in the middle of the park. Current assessment of the vulnerability of healthy areas to infestation by *P. cinnamomi* depends on estimating the probable susceptibility of component plants within the vegetation associations, without knowledge of the potential for the pathogen to develop within the major soil types of the park. Intact soil cores were removed from 5 major soil associations of the park (a relatively fertile loam from the floor of the gorges to the more infertile sandy soils of the plains and uplands) and placed in free draining pots. Cores were also taken from a red loam from incised drainage systems and a gravel and sandy soil from the nearby Ravensthorpe Range for comparison. The cores were planted with seedlings of *B. baxteri* and maintained in a shadehouse. Following establishment of the plants, the cores were inoculated in summer with an isolate of *P. cinnamomi* from the only disease centre in the park. The rate of mortality was greatest in the infertile sandy soils and the soils of the Ravensthorpe Range and lowest in the red loam. The rate of mortality for the Perkin Loam from the gorge floor was intermediate between that of the sands and red loam. While the results of pot experiments have limitations in predicting disease development and must be used with caution, the results do identify the soil types most conducive for disease development.

MEETING HANDBOOK



PHYTOPHTHORA

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