DISCOVERY OF A NEW PHYTOPHTHORA CINNAMOMI INFECTION NEAR ENEABBA

PHYSIOGRAPHY OF REGION

The affected area lies within the Eridoon System (Beard;1976), which forms part of the coastal plain and which is characterised by a lack of relief and by the presence of numerous small lakes and swamps. The soil profile consists of a bleached surface horizon overlying yellow sand with an increase in clay content at about 1m. Annual rainfall of the area is about 550mm.

LOCATION OF INFECTION

The infection straddles the Woodada access road within a seasonally flooded depression that follows the course of the Eneabba Creek. The Woodada access road branches north off Coolimba Rd. about 5km west of Eneabba.

PATHOGENS

Phytophthora cinnamomi (A2) has been confirmed from two samples taken by Murray Ryall and identified by Ros Hart, and appears to be the likely species growing from a further three that were sampled and tested by Tom Hill. Early results from one further sample suggest that another Phytophthora species may also be present on the site.

IMPACT

The affected area, and surrounding plain, are covered by Banksia menziesii/B. sphaerocarpa scrub heath. Eucalyptus camaldulensis lines the creek itself. The mortality rate among susceptible species is moderate to low at present, but, as is the pattern for similar sites in this region, will increase following inundation of the area each winter. A rating of impact on affected species is given below:

SPECIES	IMPACT	FUNGUS ISOLATED FROM ROOTS
Banksia menziesii	2	*
Banksia sphaerocarpa	2	*
Conospermum triplinervium	2	*
Astroloma sp.	2	
Petrophile drummondii	2	*
Casuarina humilis	3	
Stirlingia latifolia	3	
Calothamnus villosus	3	*
Verticordia prolifera	3	
Thryptomene saxicola	3	

2 = scattered deaths 3 = occasional deaths

SIZE OF INFECTION
The infected area, which follows the meandering, convoluted path of the flood banks that border Eneabba Ck, straddles the Woodada access road at two points. The Woodada access road is unsealed and muddy and is likely to be contaminated. The flood banks extend for up to 50m on either side of the creek line. The downstream portion of the creek, which flows for another 6km west from the Woodada access Rd. before emptying into Lake Logue, must also be contaminated. The upstream extent of the disease is not yet known.

AGE OF INFECTION
The site contains individuals of susceptible species that probably died in the summer of 1988, following their infection in the winter of 1987. The infection is, therefore, at least two years old.

MANAGEMENT IMPLICATIONS
This infection lies more than 150km north of the previously recorded northern limit of Phytophthora cinnamomi activity, in the Moore River National Park. Until now, the lack of outbreaks of the disease, in apparently susceptible communities, north of the Moore River was tentatively assumed to indicate that climatic conditions were too harsh for the fungus in the region. Clearly this hypothesis was wrong, and we must now re-assess the dieback threat to many national parks and reserves in the northern sand plains. It is worth noting that the proposed reserve/national park around Mt. Lesueur lies only 20km south of this new infection.

The infection at Eneabba must be isolated, at least until we know more about the distribution of dieback in the area. The Woodada access road poses a real threat as a source of spread of the disease throughout the region, as it is used not only by Woodada personnel, but also by wildflower pickers. The poor condition and likely contamination of the road surface make its continued use an unacceptable disease risk.

Tom Hill
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