

FLORA

FLOODED GUM (*Eucalyptus rudis*) is widespread in southwest WA along watercourses. Because its timber has scant commercial value it has been little studied, and so not much is known about its ecology. The overall impression gained from a cursory look at roadside trees near Dardanup or Kojonup is that the species is heavily infested with insects. In spring the crowns are sparse, most leaves are brown, and there are many dead branches and branchlets.

This damage is caused by a species of leafminer closely allied to jarrah leafminer. After October, the larvae fall to the ground and pupate. The crown then sheds the brown leaves, reshoots and looks at its best until the following spring, when the cycle repeats.

Examination of flooded gum specimens collected as early as 1834 and held in major herbaria indicates that this leafminer was first recorded in Metropolitan Perth in 1897. It then dramatically increased in incidence. A change in disturbance (? fire) regime from the disappearance of Aboriginal land management practices around the 1860s to extensive European settlement in the 1890s (following the goldrush) may be responsible.

A study of damage to foliage by fungi and insects to the 8 native tree species present in the southern jarrah forest (within a 50km radius of Manjimup) showed that flooded gum was, after jarrah, the species most affected, with an average of 23% of leaf area destroyed. It also had the lowest proportion of leaves alive after one year (47%).

Foliage of flooded gum had the highest levels of N and P and the second highest level of K of all 8 eucalypt species. Whether leaf chemistry is associated with

"DIEBACK" IN FLOODED GUM

by Ian Abbott

high damage levels has not been conclusively determined.

Landholders interested in the flooded gums on their properties (or elsewhere) should look for the following:

- ▷ Are there any trees apparently resistant to leafminer attack? The best time to check this is in October. "Resistant" trees should have crowns which are green, dense, large, with few dead branches.
- ▷ Does any particular type of fire intensity/season of burning appear to influence the browning of flooded gum crowns?
- ▷ Does any land management practice appear to influence browning of crowns? Possible factors include grazing by stock, camping by stock and fertiliser application.

- ▷ Is regeneration present; if so, is it abundant? Is it as damaged as foliage on mature trees?

At the moment there is no cost-effective method of control known. For a "special" tree – in a garden or driveway, for example – it would be possible to apply a systemic insecticide into the soil around the tree during April or May, but this would have to be repeated each year.

It would be very useful if any reader could contribute relevant observations and suggest factors that could be tested. This might eventually lead to a practical solution.

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Further reading: Abbott et al. (1993) For. Ecol. Manage. 58, 85-110.



Severely attacked flooded gums, Crossman.