

## THE JARRAH LEAF MINER

by D. R. Moore

All officers will, I think, have noted the serious defoliation that takes place at times in the jarrahs along the coastal strip and also the flooded gum (*Euc. rudis*) in various parts.

Possibly officers are not generally aware that this defoliation is due principally to the larvae of a moth *Tinea* Sp. According to a leaflet from the Department of Agriculture of Western Australia, which was prepared by L. J. Newman F.E.S. and J. Clark F.L.S., this insect has been observed to attack Tuart (*Euc. Gomphocephala*), gimlet (*Euc. salubris*), Boongul (*Euc. transcontinentalis*) in addition to the two aforementioned species.

Attacks of this pest have been noted from as long ago as 1914 but a severe attack in 1920 in the King's Park, Perth, and Claremont area attracted considerable attention.

### Distribution

The distribution of this pest based on reports received up to about 1925 is as follows. Outbreaks were mostly confined to the jarrah growing on the coastal strip and it was noted that they occurred mainly in proximity to the ports of Fremantle, Albany, Bunbury and Busselton. From these centres it has spread inland in all directions but appears to stop at the foothills.

From Albany it has travelled some miles up the Kalgan and King River areas and westward as far as Torbay. Between Torbay and westward to Busselton the country is free from this moth. With the exception of some of the land in the Albany area which is ironstone and granite, the area infested is of a sandy nature. Up to that time there was no evidence of any penetration of the insect into the prime jarrah belt, but mild outbreaks were noted at Merredin and Westonia in gimlet and Boongul.

More recently from my own observations during 1957 and 1958 I have noted quite severe attacks in country east of Boyup Brook mostly in the flooded gum (*Euc. rudis*) along the gullies but also amongst some of the adjoining jarrah.

Forester Kelly has reported attacks on jarrah in the country just west of Kirup.

### Method of Attack

The moth responsible has proved to be an unnamed and unrecorded species belonging to the Microlepidoptera of the Genus *Tinea*. It lays its eggs under the leaf surface and after hatching in May the larvae feed within the leaf until September. When the larvae reach maturity they drop to the ground and bury themselves in the soil where they pupate.

The moths are single brooded otherwise the attacks would have more serious effects.

### Effect on the Attacked Tree

The larvae eats away the internal substance of the leaves which die in whole or part depending on the intensity of the attack. By September or October the leaves are brown and give the effect of having been scorched by fire. It was earlier considered that the attacks would not have a very serious effect on the vitality of the trees, but later observation has shown

that repeated attacks will seriously weaken and will eventually result in the death of the trees. The swamp gum (*Euc. rudis*) seems to suffer more than the jarrah and no doubt many officers will have observed the drastic effect on this species along roads in the Dardanup - Bunbury area where many trees have succumbed and the species would appear to be doomed to final extinction.

### Control

The prospects of controlling the attacks of this insect are not promising owing to the method of feeding employed by it. As the larvae feeds within the leaf surface it cannot be dealt with by the ordinary contact or poison sprays but an effective systemic spray may eventually be discovered.

However, it seems doubtful whether it would be economical to treat extensive areas, even if this type of spray proved effective. Up to 1925 the entomologists attached to the Department of Agriculture had failed to breed out or locate any effective internal or predacious parasite but probably this subject has not been pursued very diligently in the interim.

It has been suggested that ground fires, by destroying the hibernating larvae, have been responsible for checking the spread of this pest into the main jarrah belt.

If this were so it would surely provide another very strong argument in favour of the controlled burning of the forest.

In view of the possible very serious effect on our forest, officers are urged to observe any outbreaks of this pest and to forward details of the extent of such attack to Mr. Perry at 121 Todd Avenue, Como.

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