

OBSERVATIONS OF ELEPHANT WEEVIL (*ORTHORHINUS CYLINDRIROSTRIS*) IN THE LANGHORNE CREEK WINE REGION

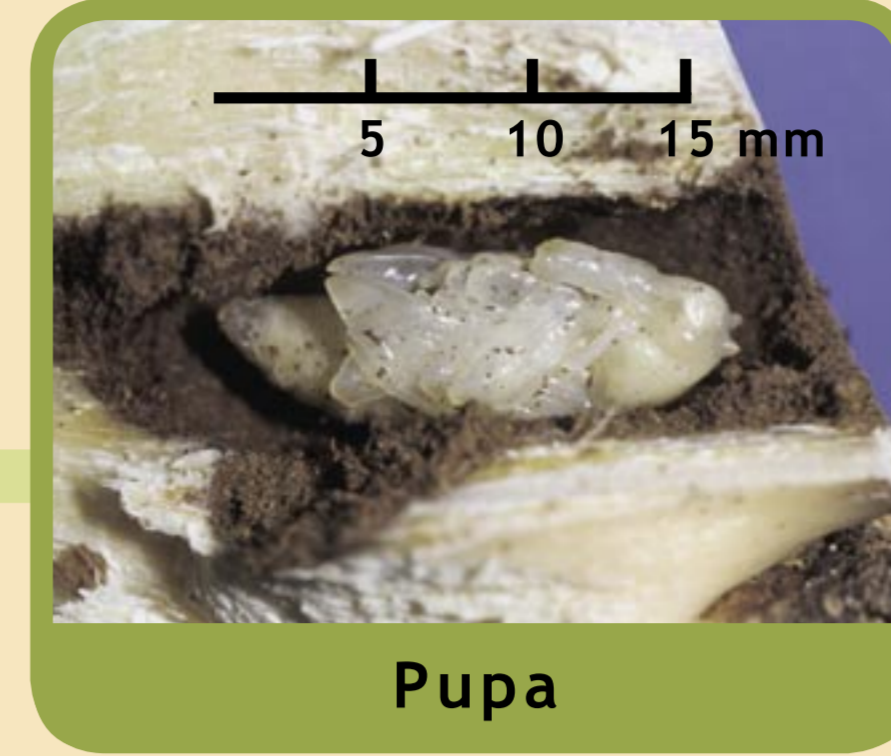
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INCIDENCE AND LIFE CYCLE

Elephant Weevils are native to Australia. Recorded in Queensland, NSW, Victoria, Tasmania and South Australia. Part of the Coleopteran family of insects (Beetles).



Larva (grub)



Pupa



Developing Pupa

Increase in activity in Langhorne Creek wine region noted over the last 5 years. Greater incidence in vineyards nearer to the Bremer and Angas River systems through Langhorne Creek.



Curled Defense Position

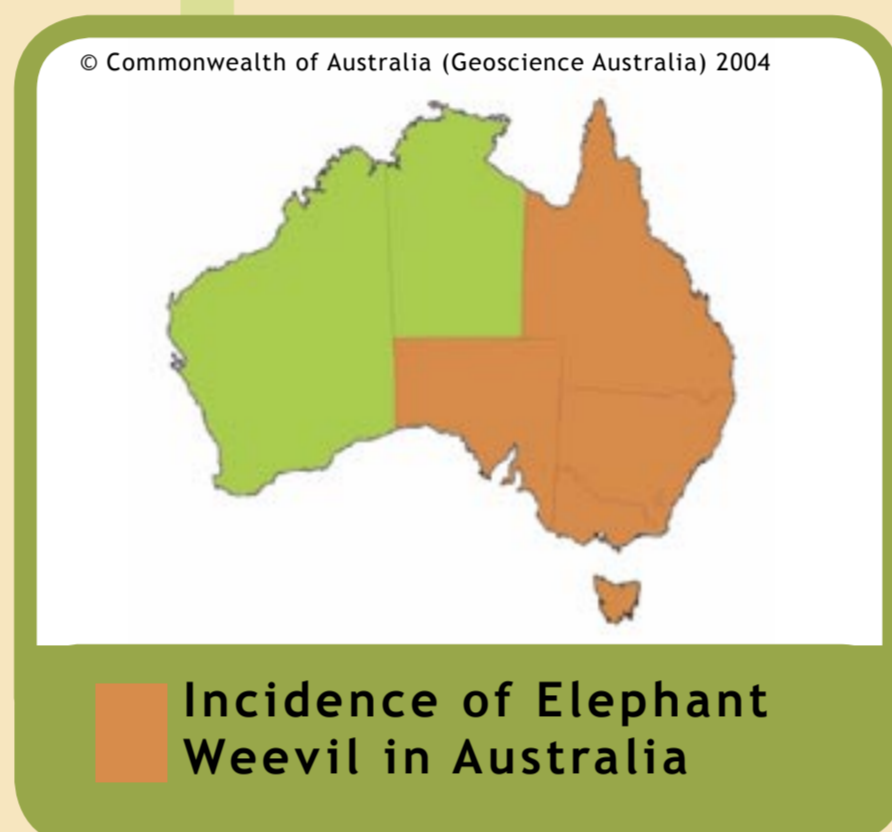


Adult – wings out



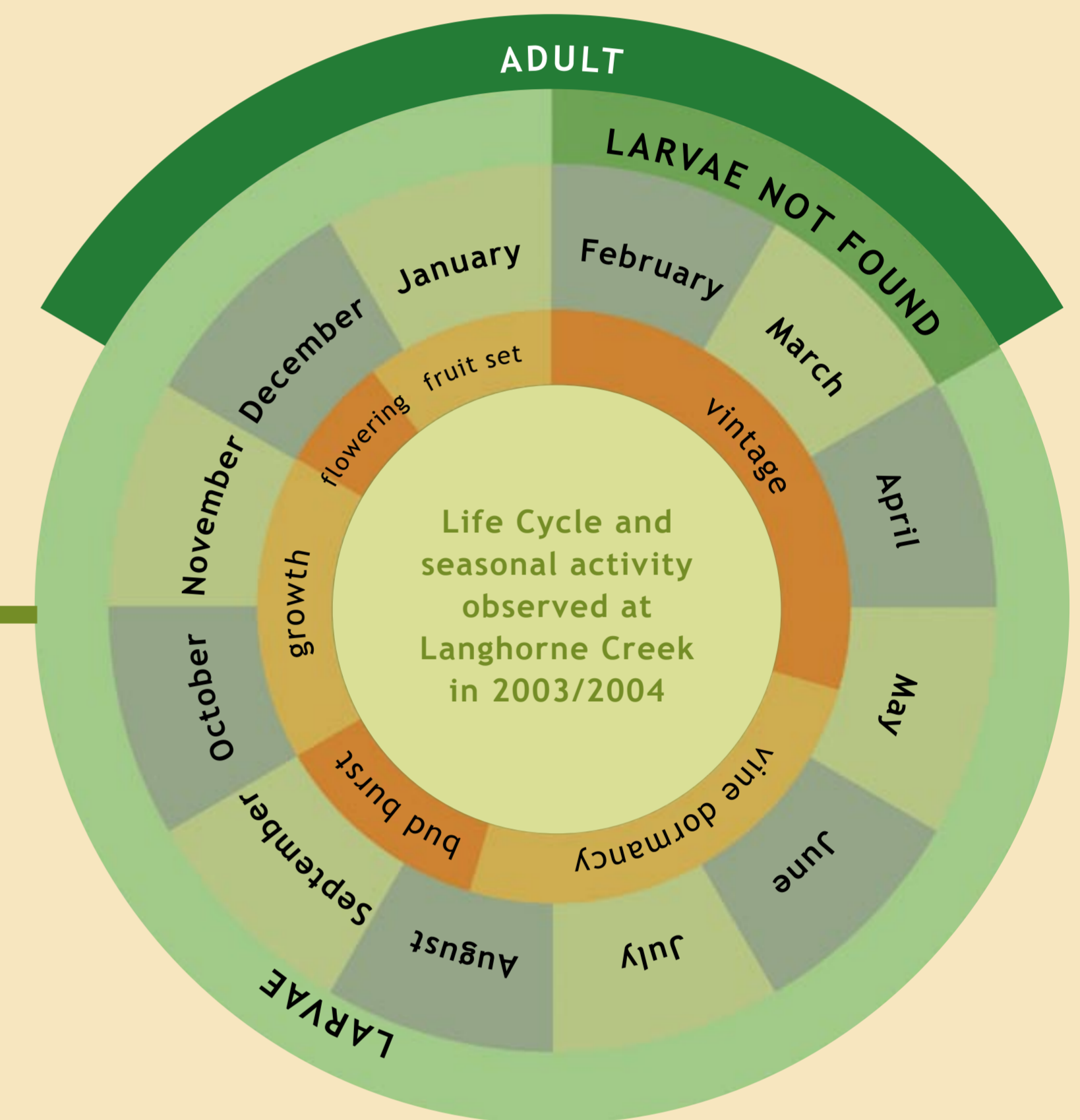
Adult Weevil

Adults range from 8-20mm in length, are robust, brown/grey in colour, with long snout and proportionately long fore limbs. Excellent climbers, with strong membranous wings for flight.



Larvae bore through heart wood of host plants which include grape vines, citrus, Eucalypts, and other natives.

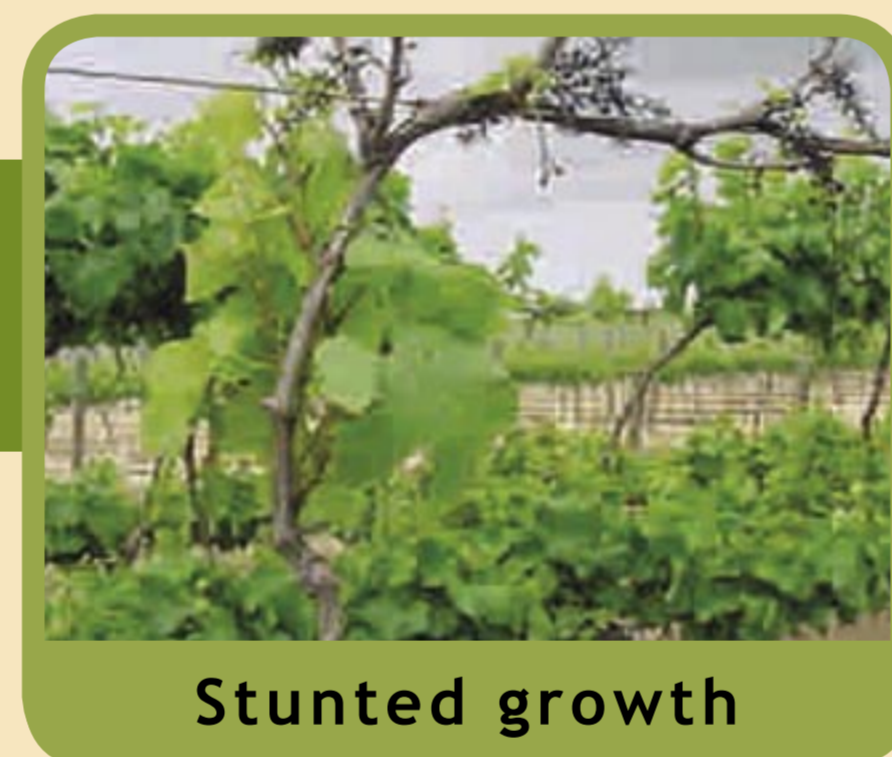
Life cycle of approximately 12 months with most of this time representing the larval stage. Pupation is relatively rapid: 1-3 weeks.



INDICATORS OF ELEPHANT WEEVIL ACTIVITY IN GRAPE VINES

DAMAGE CAUSED BY ELEPHANT WEEVIL IN GRAPE VINES

- Low numbers not a threat, but increase in numbers seen at Langhorne Creek over the last 5 years has been costly to some growers.
- Larva bore through canes destroying the heart wood.
- Vine arms or entire vine can die.
- Adults are less damaging but have been known to chew buds and can ring bark young canes.
- Not variety selective.
- Estimated 15% loss in production for growers severely affected.
- Stressed or weak vines may be entry point to vineyards.
- Several larvae can be found in a single vine cordon.
- Increase in water shoot growth



Stunted growth

Reduced growth on upper cordon. Becomes evident 3-7 weeks into the growing season



Weakened structure

Vine wood (cordon) snaps easily when twisted. Tunnels evident in broken wood.



Emergence holes

5-6 mm diameter emergence holes in wood.

CONTROL MEASURES

- sprays have had limited testing and are generally not suitable for use during the adult phase of the insect (vines are not dormant).
- Most effective control used at Langhorne Creek is that of cutting out and burning affected wood or vines.
- Retraining or re-planting is costly to the grower.
- Monitor, keep vines healthy, remove affected wood (and burn), avoid planting too close to competitive native boundary trees.

WASP – POTENTIAL NATURAL PREDATOR

- A Parasitoid wasp has been found which may be a natural control agent of the Elephant Weevil.
- The wasp found is of the Family Braconidae and is large enough to be a parasitising beneficial insect, which could use the Elephant Weevil larva to feed its young.
- The wasps were found in abundance at a time when Elephant Weevil larva or egg laying were presumed to occur.
- Some evidence of attraction to Elephant Weevil frass (possible chemical cue).
- Some samples of what appeared to be parasitised Elephant Weevils at pupation stage found in canes (cocooned with 2mm exit holes).
- Further research needed.