



The Australian Plague Locust

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Plague Development

Most locust plagues originate in the Channel country of south west Queensland and adjacent areas of South Australia, New South Wales and the Northern Territory (figure 1). Large locust populations develop following rainfall in this area.

Given suitable conditions the Autumn swarms may migrate 200 to 500 km into the State's pastoral and adjacent agricultural areas. On arrival they lay eggs which produce the spring outbreak.



Figure 1: Locust migration.

The State has had major plagues in 1844, 1871, 1934, 1947, 1955, 1976, 1979, 1992, 1993, 1997 and 2000.

Minor plagues have occurred in 1950, 1969, 1972, 1973, 1974, 1977, 1984.

Identification

The adult of the Australian Plague Locust is relatively easy to identify by the characteristic black spot on the tip of the hind wing (photo 1). Nymphs (hoppers) are more difficult to identify. If a large mass (band) of hoppers is found it is likely to be the plague locust.

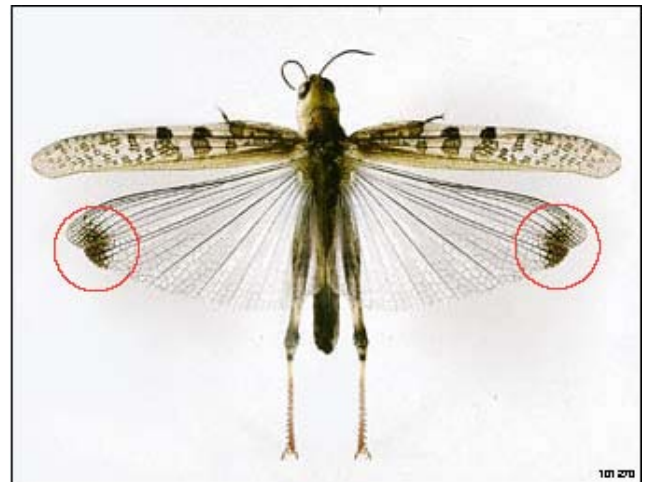


Photo 1: Adult locust. The distinguishing feature is the black spot on the tip of the hind wing (Courtesy QDPI).

Eggs

The adults become sexually mature within two weeks of developing wings. The female selects suitable laying sites (photo 2) by test drilling. These sites are



generally the hardest and barest ground available e.g. roadsides, tracks, fence lines, dry land flats, sparse pasture paddocks etc.

Eggs are laid in pods (see photo 3) usually at a depth of 20 to 50 mm. Each pod contains 30 to 50 pale yellow banana-shaped eggs, 5 to 6 mm long. Each female can lay up to four pods before dying.

Eggs develop according to temperature and moisture.



Usually eggs laid in autumn are dormant over winter and hatch in the spring as soil temperature increases. However, eggs laid in summer under ideal conditions, may hatch within 14 to 16 days.

Nymphs

After hatching, nymphs (hoppers) grow through five growth stages. Wing buds become progressively more notable through each stage.

The nymphs move away from egg beds and often concentrate into dense marching bands (photo 4) which vary in size from a few square metres to several hectares.

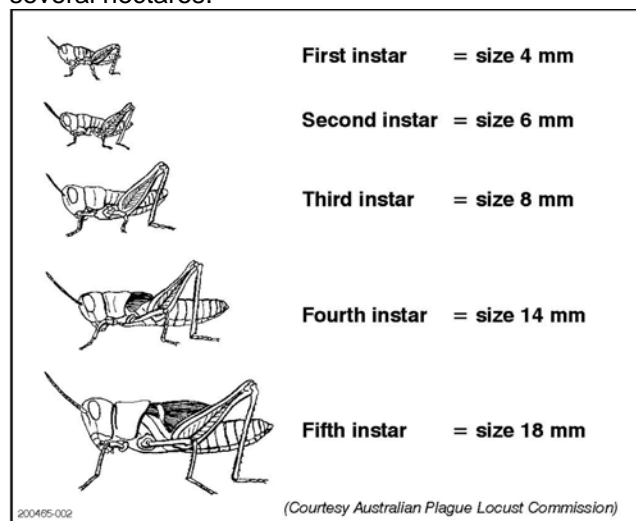


Figure 2: Hopper growth stages.

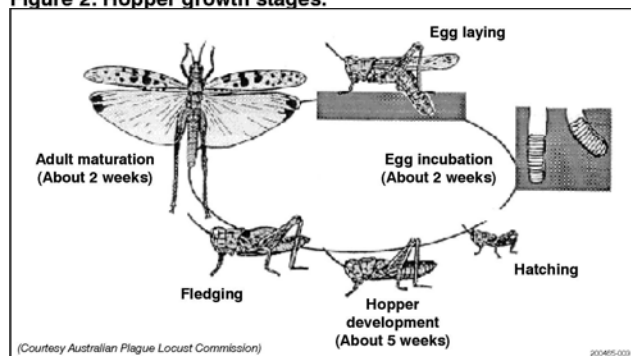


Figure 3: Life cycle.

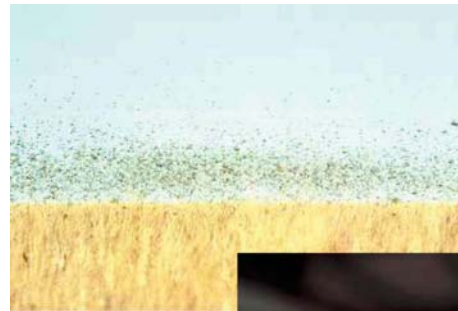


Photo 5: (above) Swarming adults.



Photo 6: (right) An adult locust.

Images courtesy Australian Plague Locust Commission

By merging bands may increase to several kilometres with a distinct front. Old hoppers can travel up to 500 m in a day.

Hoppers complete their development in 4-6 weeks.

Adults

After the final moult, a young adult emerges with fully developed wings. Milling flights increase over the band until the majority of hoppers have fledged. The adults concentrate into groups called swarms which make low drifting flights up to 50 m high and can cover 10 to 20 km per day. Flight behaviour depends on the age of the adult, wind speed and temperature. Long distance migration will occur at night if green feed has been available to enable fat accumulation.



Control

Landowners are encouraged to undertake their own control measures. The cultivation of egg beds particularly in the agricultural areas will destroy the eggs, while the control of hoppers and adults can be achieved by using various insecticide formulations. Advice on these can be obtained from local chemical resellers.

The Australian Plague Locust Commission (APLC) undertakes surveillance, threat assessment, forecasting and control measures when locust populations in outbreak areas have the potential to cross into other states.

Local Government may also undertake spraying operations (eg roadsides) within their own area. Where large scale problems are expected, PIRSA may undertake large scale control in the pastoral and adjacent agricultural areas.

Effective suppression of locusts can only be achieved by landowner, local government and PIRSA cooperation together with on-going APLC activities.

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