

FOREST PEST SPECIES PROFILE



November 2007

Gonipterus scutellatus Gyllenhal, 1833

Other scientific names:

Order and Family: Coleoptera: Curculionidae

Common names: eucalyptus weevil; eucalyptus snout beetle

Gonipterus scutellatus is a leaf-feeding beetle that is a major defoliator of eucalypts. It is indigenous to Australia but occurs in many countries throughout the world where eucalypts are grown. Infestations of this beetle are known to cause serious damage. This pest is a major threat worldwide as it continues to spread, both within continents where it currently occurs and to previously uninfested continents.



Adult *Gonipterus scutellatus* (Photo: PaDIL (Pests and Diseases Image Library) - www.padil.gov.au)

DISTRIBUTION

Native: Australia

Introduced:

Africa: Kenya, Lesotho, Madagascar, Malawi, Mauritius (1940), Mozambique, South Africa (1916), St. Helena, Swaziland, Uganda, Zimbabwe

Asia and the Pacific: New Zealand, People's Republic of China

Europe: France (1977), Italy (1975), Portugal (1990s), Spain (1991)

Latin America and the Caribbean: Argentina, Brazil, Chile, Uruguay

North America: USA (1990s)

IDENTIFICATION

Approximately 12–14 mm in length, adult eucalypt weevils vary in colour from grey to reddish-brown with a light, transverse band on the back and are covered by small pale brown hairs (Phillips, 1992). It is very similar to the Australian gum tree weevil, *Gonipterus gibberus*.

Larvae are approximately 10–14 mm long, yellowish-green in colour with black spots and a black stripe running along each side of the body (Phillips, 1992; EPPO, 2005). They often have a characteristic long thread of faecal material coiled up behind them.

Eggs are laid in greyish or blackish-brown coloured capsules on both surfaces of the leaves (Phillips, 1992). These capsules are approximately 3mm in length, 2mm high and 1.5mm in width and contain 3-16 pale yellow eggs arranged in vertical layers.

HOSTS

Eucalyptus spp. – *E. camaldulensis*, *E. cornuta*, *E. globulus* ssp. *globulus*, *E. grandis*, *E. kirtoniana*, *E. longifolia*, *E. maidenii* ssp. *globulus*, *E. obliqua*, *E. propinqua*, *E. punctata*, *E. robusta*, *E. smithii*, *E. tereticornis*, *E. urnigera* and *E. viminalis*.

Differences in susceptibility exist among eucalypt species (Rivera and Carbone, 2000). In Mauritius, *E. robusta*, *E. tereticornis* and *E. kirtoniana* are the most susceptible eucalypt species while in Kenya, *E. globulus* ssp. *globulus*, *E. maidenii* ssp. *globulus*, *E. robusta* and *E. smithii* are the most commonly attacked and *E. saligna* and *E. citriodora* are known to be practically immune. In Madagascar, the most susceptible species were *E. cornuta*, *E. viminalis*, *E. punctata*, *E. globulus* ssp. *globulus*, *E. urnigera* and *E. camaldulensis*; in Spain, *E. globulus* ssp. *globulus* and *E. obliqua* were most commonly attacked; and in Italy, *G. scutellatus* showed a clear preference for the leaves of *E. globulus* ssp. *globulus* and did not attack *E. cinerea*, *E. gunnii*, *E. polyanthemos*, *E. stuartiana* and *E. rostrata*. Another report from Spain reported that *G. scutellatus* exhibited a clear preference for *E. globulus* ssp. *globulus*, *E. longifolia*, *E. grandis* and *E. propinqua* and completely avoided other species although they noted that less palatable species might be used by the insect if preferred species were absent (Rivera and Carbone, 2000).

BIOLOGY

Females mate several times and lay their eggs in batches covered by a capsule on both surfaces of new leaves. They continue to lay eggs, up to 21–33 capsules, throughout a lifetime of about 91 days (EPPO, 2005). Eggs hatch in 3-4 weeks and the larvae feed on leaves and twigs and then pupate in the soil. Adults also feed on leaves and growing shoots.

There is usually more than one generation per year, with females living for about three months and larval development taking between 30 and 80 days. In some places there are continuous generations.

SYMPTOMS AND DAMAGE

Adults and larvae feed on the leaves of host trees but it is the larval stage that does the most damage. They cause damage by eating only one surface of the leaves, leaving characteristic tracks while adults chew the edges of the leaves giving them a ragged, scalloped appearance (Phillips, 1992). Both adults and larvae prefer the newly expanded adult leaves and shoots. Such feeding can result in dieback of shoot tips and development of tufts of epicormic shoots (EPPO, 2005).

Severe infestations and successive defoliations by this beetle can cause tree mortality, reduction in growth, coppicing and stunting of trees although some *Eucalyptus* spp. are more susceptible to damage than others. Young trees are the most susceptible but seedlings may also be attacked.

DISPERSAL AND INTRODUCTION PATHWAYS

Dispersal is by adult flight, adults hitch-hiking on non-plant material, and movement of infested plant material or soil.

CONTROL MEASURES

Biological control of this species by means of the importation of *Anaphes nitens* (Hymenoptera: Mymaridae), an egg parasitoid, has been highly successful in many areas. Where the biological control of *G. scutellatus* is unsuccessful, the alternative is to use tolerant host plant species (Rivera and Carbone, 2000). Chemical treatment is not recommended because of the potential danger to beneficial honey bees attracted to the flowers of eucalypt species (EPPO, 2005).

Gonipterus scutellatus is an A2 quarantine pest for EPPO and is also of phytosanitary significance for COSAVE. It is regulated by most EPPO countries, in particular by the EU, and recommended measures require that *Eucalyptus* plants for planting (except seeds) and cut branches should come from a pest-free area or plants should be free from soil and treated against *G. scutellatus* (EPPO, 2005).

References

European and Mediterranean Plant Protection Organization (EPPO). 2005. Data sheets on quarantine pests. *Bulletin OEPP/EPPO Bulletin*, 35(3): 1-438.

Phillips, C. 1992. *Eucalyptus* weevil. Fact Sheet Number 7, Revised November 1992, Primary Industries and Resources SA (PIRSA), Government of South Australia. (also available at: www.pir.sa.gov.au/data/assets/pdf_file/0014/32900/Number_7_Eucalyptus_Weevil.pdf)

Rivera, A.C. & Carbone, S.S. 2000. The effect of three species of *Eucalyptus* on growth and fecundity of the *Eucalyptus* snout beetle (*Gonipterus scutellatus*). *Forestry*, 73(1): 21-29.

