Heteronyx beetles

Other names: Spring beetles (WA), cockchafers (larvae)
Scientific name: *Heteronyx* spp.
Order: Coleoptera
Family: Scarabaeidae

Heteronyx beetles are distributed throughout Australia, but the distribution range of particular species appears to be restricted. Only a small number of species (e.g., *H. elongatus*) occur in both SE and SW Australia. Particular species can cause localised moderate to severe damage. The distribution and abundance of damaging populations is difficult to predict within and between; different plantations, different regions and from year to year. In eastern Australia, *H. dimidiata*, a diurnal species, attacks seedlings in spring.

With most species damage is caused by adults feeding on the new growth of adult leaves. At times, shoots on tree tops can be severely grazed resulting in their death and heavy multiple branching of the upper canopy. Some species also feed on juvenile leaves and can severely damage or kill seedlings (e.g. *Heteronyx*. sp. nov. near *nigricans*). The larvae (commonly referred as cockchafers) and/or adults of some species feed on the roots of seedlings causing significant mortality (e.g. *H. elongatus*).

Small holes in the soil, at the base of trees, are often an indication of the presence of *Heteronyx* beetles. *Heteronyx* beetles are closely related to *Liparetrus* beetles, sharing a similar biology and morphology. *Heteronyx* beetles differ, however, in having more elongated bodies with the upper side of their abdomen almost completely covered by wing covers and, being uniformly coloured. Additionally, unlike *Liparetrus* spp. most *Heteronyx* spp. are active at night.

Small whitish eggs and larvae are found in soil. Larvae feed on roots and decaying plant material, they generally have an orange-brown head and a white body with greyish tip. Adult males and females are similar in appearance, though males tend to be smaller than females. Colouration usually darkens with age, with younger beetles being softer and lighter in colour (usually orange-brown) than older beetles.

In southern Australia, larvae are found mostly from autumn to early summer. Most larvae pupate after one growth season, but some larvae may not pupate until the end of the second growth season. Before pupation, larvae make pupation chambers in the soil. At maturity, adult beetles may remain in their pupation chambers until rain softens the soil. When conditions are right and generally at nightfall, they emerge from the soil and feed on leaves. However, some species do not feed at all. Adults return to the soil before dawn, preferring to spend the daytime in the soil under dense pasture growth. It is thought that mass emergence (swarming) of adults is controlled by environmental conditions particularly, ambient temperature and relative humidity. However, the particular conditions necessary for swarming varies between species and has not been elucidated for most species.

Matsuki M, Tovar F (2010) IPMG Pests Notes - *Heteronyx* beetles. Industry Pest Management Group, Western Australia.
Online: http://plantationhealth.com.au/pestnotes_pests/pdf/pestnotes/heteronyx.pdf

Scarabs

Heteronyx dimidiata

- 6 – 7 mm
- Seedlings and adult and juvenile leaves of older trees
- August – October
- Diurnal

Heteronyx elongatus

- 8 – 10 mm
- Larvae - seedling roots
- Adults - leaves of seedlings and older trees
- December – March
- Nocturnal

Heteronyx excius

- 7 – 12 mm
- Feeds on leaves
- October – March
- Nocturnal

Heteronyx imitator

- 5 mm
- Seedlings, coppice and older trees.
- October and April-May
- Characteristic jagged feeding marks
- Diurnal