JUNE 2018

Crane fly adult (image: MukolaTV)

WINTER CRANE FLY

(Trichocera annulata)

The Winter crane fly is part of the large insect family *Tipulidae*. The adult looks like a large mosquito with long legs and long thin wings, however, they do not bite or sting. They are sometimes called "daddy long legs" but should not be confused with a type of spider (*Pholcus phalangioides*) that has the same common name.In Europe and North America some species of crane fly are pests of turf – their larvae can cause serious damage by their feeding on grass roots. These larvae are sometimes called "leatherjackets".

In Australia, the winter crane fly larvae feed on rotting organic matter and, possibly, on frost-damaged or waterlogged plants. They breed in wet or moist areas with poor soil drainage and as the name suggests are active in the cooler weather of autumn and spring[1]. Without moisture the larvae will not survive.

DAMAGE

Given the right conditions the winter crane fly can be found in some horticultural crops and they have been observed in cauliflower in Northern Tasmania. A mild, wet winter in southern Australia is ideal for larvae development. It is unusual for these crane flies to cause significant damage here, but in Canada they can be a serious pest of turf, pasture grass, and field crops. The larvae could be a contaminant in processing vegetables. Feeding damage from larvae could allow pathogens to infect plants.

LIFE CYCLE

Adult winter crane fly live for a short time before they lay eggs in the soil surface in autumn. There is just one generation per year. Dry soil conditions at that time can result in many of the eggs failing to hatch, so large numbers of adult flies does not necessarily mean that there will be large numbers of larvae.

The eggs hatch after a few weeks and the larvae burrow into the soil and start feeding on decomposing vegetation and some plant roots.

Larvae are white to yellowy greenish grubs; plump and segmented with a definite head and with tiny, fleshy projections at the hind end and no legs. They may grow

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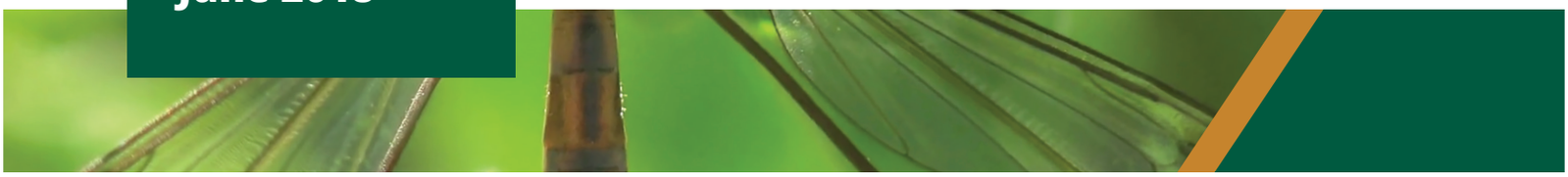
WINTER CRANE FLY (TRICHOCERA ANNULATA) June 2018



to 7–8mm and live for several months before pupating in the soil. The larvae of the winter crane fly can survive short-lived frosts in winter.

Figure 1. Winter crane fly larvae (image: padil.gov.au)

Pupae remain below the soil surface and look like long thin brown or dark grey-segmented tubes. When the adult crane flies emerge they make their way to the soil surface, often leaving part of the pupal case sticking out above ground level.

The adult winter crane flies do not feed, but gather in sometimes-large aggregations to mate before seeking suitable moist or wet sites to lay their eggs.

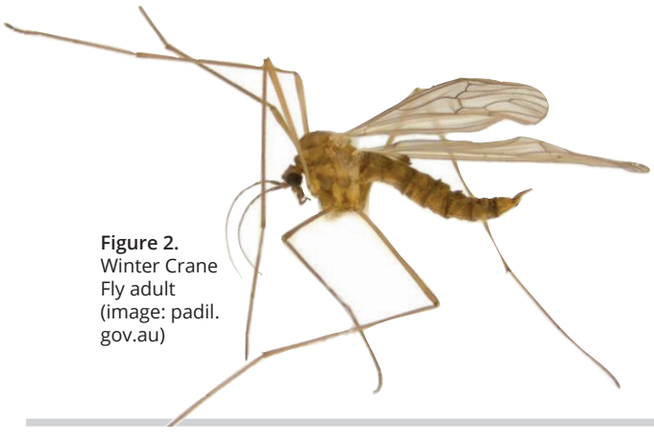


Figure 2. Winter Crane Fly adult (image: padil.gov.au)

MANAGEMENT

Cultural

Winter crane fly larvae need moist soil to survive, so not overwatering in the cooler months, and improving drainage in problem areas can help prevent their developing into a problem.

Frost

Damaged plants would offer ideal feeding material for larvae, so any such plants should be removed where possible.

Biological control

The parasitic nematodes *Steinernema feltiae* can be used to control the larvae in turf in the US and Canada. These nematodes are commercially available in Australia from Ecogrow (www.ecogrow.com.au).
(Bacillus thuringiensis subsp. israelensis (Bti) Registered in Australia as a larvicide for mosquitos but not for crane flies.)

Chemical control

Many broad-spectrum insecticides would kill the crane fly larvae, but there are none registered in Australia at this time.

PHOTOS

WCF adult & WCF larvae from PaDIL website (www.padil.gov.au/maf-border/pest/main/140651/33281).

PaDIL is Australian Government Department of Agriculture initiative in collaboration with Museum Victoria, Plant Health Australia, Department of Agriculture and Food Western Australia and the Plant Biosecurity Cooperative Research Centre.

REFERENCES

1. Australian Museum -Crane Flies. Available at https://australianmuseum.net.au/crane-flies