

Flatworm information sheet

Introduction

The 'New Zealand' flatworm, *Arthurdendyus triangularus*, was first discovered in the U.K. in 1963 and along with the 'Australian' flatworm, *Australoplana sanguinea* it has since gradually spread throughout England, Scotland, Northern Ireland and the Isle of Man. These non-indigenous flatworms are predominantly found in gardens where they pose a potential threat to our native earthworm populations. They could also, given time, have an impact on wildlife species dependant on earthworms and have a deleterious effect locally on soil structure.

Once flatworms have invaded a local habitat they can be very difficult, if not impossible, to eliminate, particularly as the population is unlikely to be limited to just one garden. However, there are a number of practical measures which can be taken to reduce flatworm populations and restrict their spread.

Identification

The New Zealand flatworm

The New Zealand flatworm was probably introduced to the United Kingdom some 40 years ago and appears to favour cool wet regions. It has gradually spread, most notably in southern Scotland and Northern Ireland. In England, it has been found mainly in the North and North West but there have been sightings in the South East. It was first recorded in the Isle of Man in 1992.

The mature stage has a purple/brown upper surface, buff coloured margins and underside. It is usually about 1cm wide by 5cm long, appearing longer, 10-15cm, when it is moving. Large specimens can extend beyond 20cm. it is flat and has a smooth but very sticky skin.



Flatworm egg capsules

Flatworm egg capsules are commonly found during early summer and late autumn and resemble shiny smooth blackcurrants. They are between 4-11mm long and 3-8mm wide. Juvenile flatworms emerge after about a month and are creamy white/pink in colour.

The Australian flatworm



The Australian flatworm appears to be a more recent introduction and currently has a more limited distribution. It was first recorded in the Isles of Scilly in 1980 and has since been recorded in Lancashire, Cheshire and the South West of England as well as Wales, the Republic of Ireland and the Isle of Man.

It is smaller than the New Zealand flatworm measuring 3-8cm, although this again depends on its degree of extension. Its colour varies from cream or white to peach or mid brown, often with a distinct red tinge near the head.

Other non-native species

Kontikia andersoni

1-2.5cm long, pale brown with 3 rows of darker brown spots, unknown origin. Scavenges small, dead invertebrates, therefore unlikely to be harmful. This species has been recorded on the Isle of Man (Jones 2005, 194)ⁱ

Kontikia ventrolineata

This species is another recent introduction into the British Isles from Australia. It is 1-2cm long and eats small snails and slugs. It is black with two narrow pale grey lines close to the midline. There are no records from the Isle of Man, but it has been recorded in Liverpool, Cornwall, Guernsey and recently in Scotland which suggests that it is spreading but has not yet shown to be harmful.



Recommended measures

1. To prevent introduction and establishment in your garden.

- **Inspect incoming consignments of plants**

Check all new plants you bring into the garden, especially those obtained privately, to ensure that no flatworms or egg capsules are present.

Removal of excess soil from the plants or heat treatment (see below) should prevent accidental introduction. Any soil which has been removed should be disposed of in a manner to prevent possible contamination (e.g. in sealed bags).

- **Maintain good hygiene**

Always use fresh, sterile compost or other sterile growing medium when potting up plants, not material taken from places where flatworms might be hiding. For example, a container of compost or growing medium which has been opened and left lying on the ground may prove an attractive hiding place for flatworms.

- **Avoid creating piles of plant cuttings, leaves and soil**

These are ideal refuges for flatworms. Compost heaps are not a problem as long as they are active i.e. warm, or they are bounded in such a way as to prevent the inward and outward movement of flatworms (e.g. keep out of direct contact with the soil surface).

- **Check regularly under matting or pots standing directly on the ground**

Flatworms are found on the soil surface. They will seek damp places, such as under loose turf, plastic or other sheeting, rocks, flat stones, plant containers etc. for shelter during the day. Egg capsules can also be found in such places.

Reducing the availability of stones, bricks or logs used as borders or paths which provide an ideal habitat will lessen the likelihood of the flatworms becoming established.

- **Lift plants from their pots frequently to check for presence of flatworms or egg capsules**

- **Set traps**

Set traps consisting of a weighed down sheet of black plastic or plank of wood and check the underside frequently for the presence of flatworms or egg capsules.

2. **If flatworms are already in your garden**

Do not move plants or soil unnecessarily. Infested or suspect potted plants can be treated by:

- Removal of the soil from the root ball and re-potting in sterile pots and growing media.
- Immersing the pot and root ball in warm (>30°C) water for 40 minutes.
- Placing the plants in a warm environment e.g. 30°C for 12 hours.

The last two treatments will result in the death of NZ flatworms. However, if egg capsules are present or suspected it will be necessary to repeat these procedures after 14 days, so that any hatchlings are destroyed.

There are no approved chemical control methods for flatworms. However, individuals can be disposed of by dropping into hot water (<40°C), or by sprinkling with salt or simply by squashing. **Warning,** NZ flatworms are covered with sticky mucus which can cause skin irritation. Therefore it is recommended not to touch them, but if necessary, handle them with rubber gloves.

If flatworms are established in your garden, then a recommended method for minimising their impact is to increase the number of refuges i.e. stones, logs, bricks, weighted down polythene lying on the soil surface and eliminate all flatworms found. This strategy relies on a regular and sustained campaign of searching for and disposing of flatworms.

Other creatures often mistaken for flat worms



Leech: tough body wall, with fine cross lines and a sucker at each end.



Earthworm: thin, rounded, obviously segmented body.

Further information:

Detailed descriptions and the best illustrations of the full range of species can be found in [Hugh Jone's article in British Wildlife](#).

The DEFRA UK has a [Code of Practice to Prevent the Spread of Non-Indigenous Flatworms](#)

FERA UK has more [information about the New Zealand flatworm](#).

Scottish Natural Heritage has further information on the [Australian and New Zealand species](#).

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¹ (Jones H D 2005, *Identification: British Land flatworms* British Wildlife 16 No 3. 189-194)