There are no approved chemical control methods for New Zealand flatworms. However, individual flatworms can be disposed of by dropping them into salty water or by squashing. New Zealand flatworms are covered with sticky mucus which can cause skin irritations. **It is recommended that you use gloves when handling them.**

Any conditions which make your soil more suitable for earthworms will tip the balance in their favour. For example, incorporate lots of organic matter into soil to benefit earthworm populations.

Large predatory beetles, particularly rove beetles (Staphilinidae) and ground beetles (Caribidae) will eat New Zealand flatworms. Although this is unlikely to be totally effective the presence of these beetles should be encouraged. One way this can be achieved is by minimising the use of insecticides.

Granulated Carabid, *Carabus granulatus*

To report the presence of New Zealand flatworms or for more information please contact Outer Hebrides Biological Recording www.ohbr.org.uk

Records and specimens can also be sent to: Dr Brian Boag, James Hutton Institute, Invergowrie, Dundee DD2 5DA brian.boag@hutton.ac.uk

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Advice for Gardeners

Where would we be without the common garden earthworm?

They recycle organic matter and help to improve the drainage and aeration of the soil. We can no longer take this for granted. The recently introduced New Zealand Flatworm (*Arthurdendyus triangulatus*), a predator of earthworms, was first discovered in the UK in 1963. Since then it has gradually spread in the north and the west where it prefers the cool and wet conditions. Unfortunately this now includes the Outer Hebrides.

New Zealand Flatworms

Identification

New Zealand flatworms have a purple-brown upper surface with buff coloured margins and underside. They can vary a lot in size and shape but are usually about 1cm wide, between 5 to 10cm long and have a smooth, sticky skin. Their characteristic resting shape is a flattened spiral resembling a small Swiss roll.

The egg capsules resemble shiny blackcurrants and are found during the summer and autumn. The juvenile flatworms emerge after about a month and are creamy white in colour. Adult New Zealand flatworms are active during the night. Adults and egg capsules can be found during the day under stones, bricks or logs, they especially like discarded black plastic.

Preventative measures

Check all the new potted plants you bring into your garden, especially if you are unsure of the origin and cleanliness of the soil they are planted in.

New Zealand flatworms come from the cool wet south island of New Zealand and cannot tolerate temperatures above 20°C.

There are two things you can do if you think flatworms may be present. If the weather is warm put the plant pots on a windowsill for a few days. Alternatively immerse the pot in warm water for 40 minutes.

If you suspect egg capsules may be present either inspect the growing medium for their presence or leave the warmth by which time the worms will have emerged and died.

Reducing the impact

New Zealand flatworms are probably impossible to eliminate once they are established in your garden; however there are a number of practical measures which you can take to reduce their impact.

Create a number of refuges i.e. stones, bricks, logs, weighted down black polythene bags on the soil surface and then destroy any New Zealand flatworms found under them. This strategy relies on a regular, sustained campaign of searching and disposing of flatworms.

This will minimise their impact. Do what you can to stop them spreading. When you share plants with friends give them seeds, cuttings or bare-rooted plants repotted in clean sterile compost.