

Gribble Worms



<https://www.cabi.org/isc/datasheet/109146>

What are gribble worms?

The gribble worm (*Limnoria terebrans*) was first discovered in 1799, they resemble tiny yellowy pink lice about the size of a grain of rice, but they are actually very small crustaceans.



Crustaceans are animals that usually have a hard covering, or exoskeleton, and two pairs of antennae, or feelers. Other types of crustaceans are crabs, lobsters, shrimps, and barnacles.



All crustaceans are **arthropods**. This is a group of animals that also includes insects and spiders. Arthropods are characterised by being invertebrates (lacking a backbone) and having a segmented body, jointed limbs, and usually a chitinous shell that undergoes moulting.



Some examples of different arthropods:

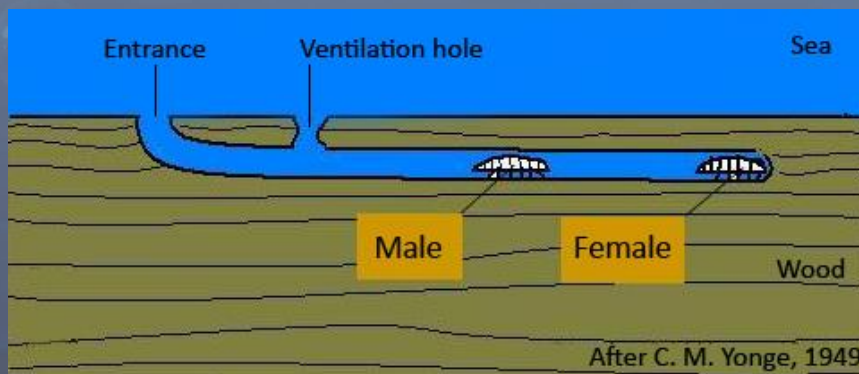


<https://kids.britannica.com/kids/article/crustacean/353023>

However, what makes a gribble especially interesting and very destructive, is that it can digest wood. For centuries seafarers were plagued by these minute creatures that would bore through the planks of their ships and eat through the piles holding up wooden piers.

How does the gribble worm damage the wooden piles on the pier?

This illustration shows the gribble worms burrowing into the wood and eating into it to make long tunnels. They leave behind long burrows and holes which eventually weakens the wood and makes it crumble and rot.



It is impossible to protect the Pier from the gribble. Due to their attacks, the wooden piles on the pier must be replaced on average every 25 years.



Damage done to wood by gribble worms:



In the exhibition area of Swanage Pier there is a large piece of wood that has been eaten by gribble worms. See if you can find it when you next visit.



R.J. Menzies, 1957 – Figure 2 ([PDF download](#)): Pilings destroyed by *Limnoria* in San Francisco Bay, California. From [Hill and Kofoid, 1927](#).

The good thing about Gribbles

However, an exciting discovery about the gribble worm has recently been made. These wood-eating marine pest could possibly be the key to a biofuel breakthrough, say scientists. Some of the enzymes that the gribble produces to break up the wood that it eats into sugars to digest it, are being investigated for producing a new type of biofuel.

This is exciting to scientists investigating green fuel sources, because it means gribble could hold the key to converting wood and straw into liquid biofuel.

A gribble-like processing plant could make sugars from woody raw material that could then be fermented into alcohol-based fuels for vehicle engines.

Duncan Eggar, the BBSRC's Bioenergy Champion, said: 'The world needs to quickly reduce its dependence on fossil fuels and sustainably produced bioenergy offers the potential to rapidly introduce liquid transport fuels into our current energy mix.'

<https://www.dailymail.co.uk/sciencetech/article-1256528/Meet-Gribble-Wood-munching-marine-pest-key-biofuel-breakthrough.html>

<https://www.popularmechanics.com/science/energy/a25399474/gribble-worm-renewable-energy/>

