

Magnified *Gyrodactylus salaris* parasite

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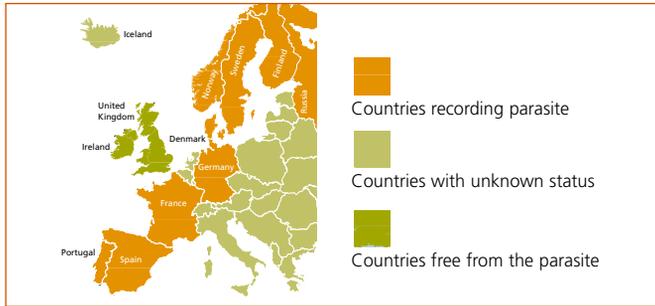
Keep fish disease out



A guide to protecting freshwater fish stocks from
Gyrodactylus salaris

- Department for Environment Food and Rural Affairs
- Welsh Assembly Government
- Scottish Executive
- Department of Agriculture and Rural Development

Keep fish disease out



What is *Gyrodactylus salaris*?

Gyrodactylus salaris is a parasite which infects the skin, gills and fins of salmon, trout and some other types of fish in fresh water. It is less than half a millimetre in size, so small that it is barely visible to the naked eye. Despite this, it can cause serious damage in some strains of Atlantic salmon.

Why should I worry?

The effects of the disease are so serious that salmon stocks have now been lost completely from more than 20 Norwegian rivers, with the particular races of salmon in the affected rivers being lost forever. *Gyrodactylus salaris* does not occur in UK rivers but experiments carried out in Norway have shown that our salmon, like those of Norway, are killed by the parasite. It is therefore essential that the parasite is not introduced into UK waters.

REMEMBER IT ONLY TAKES ONE INFECTED FISH TO START AN EPIDEMIC

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Can it be eradicated?

To eliminate *Gyrodactylus salaris* from affected rivers, all types of fish capable of harbouring the parasite must be removed, so restoration of salmon stocks in affected Norwegian rivers has involved poisoning whole catchments. Such remedial work is destructive, difficult, very expensive and likely to take many years. It may also not be successful.

Where does it come from?

Gyrodactylus salaris occurs naturally in the Baltic rivers of Finland and Russia (possibly also eastern Sweden). The native fish of these rivers, including Baltic salmon, are tolerant of the parasite and normally the infection causes them no harm. However, Atlantic salmon in areas where the parasite does not naturally occur have little or no tolerance of it. Some years ago, *Gyrodactylus salaris* was accidentally transferred for the first time to some rivers of the west coast of Sweden, to Norway and more recently to some rivers in northern Finland and northern Russia.

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Is it a notifiable disease?

Gyrodactylus salaris is a listed notifiable disease and legislation is in place to prevent the transfer of live salmon and trout (the main hosts for the parasite) to British waters. This has now been supplemented by EU legislation that recognises the special status of the UK as being proven free of the parasite.

How could it get here?

This parasite is very hardy and may be inadvertently introduced by fishermen. It is capable of surviving for several days in damp conditions such as plastic bags, wet angling equipment (e.g. bags, waders, landing nets, lines) and the wet surface of dead fish (e.g. bait fish). The parasite can also survive on other fish species including the eel. Care needs to be taken at all times to ensure that movement of these other species takes place strictly in accordance with statutory fish health requirements. As the parasite has a direct life cycle and reproduces very rapidly, it is possible that even a single specimen imported by accident to a previously unaffected river would be capable of starting an epidemic in a very short time.

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What can I do?

Prior to arrival in the UK, anglers travelling from areas which are not designated as free of *Gyrodactylus salaris*, and in particular from those areas known to be infected, such as Scandinavia, should take the following precautions to ensure that their equipment is not contaminated.

All fishing equipment should be thoroughly cleaned and then treated to kill any parasites by either:

- Drying at a minimum temperature of 20°C for at least two days, or
- Heating for at least one hour at a temperature above 60°C, or
- Deep freezing for at least one day, or
- Immersion in a solution suitable for killing *Gyrodactylus salaris* for a minimum of ten minutes. Chemical solutions which have been used successfully include Virkon* (1%), Wescodyne* (1%), sodium chloride (3%), sodium hydroxide (0.2%).

* these chemicals are available from agricultural chemical suppliers. The use of trade names is for illustrative purposes only and does not signify endorsement of any particular product.

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