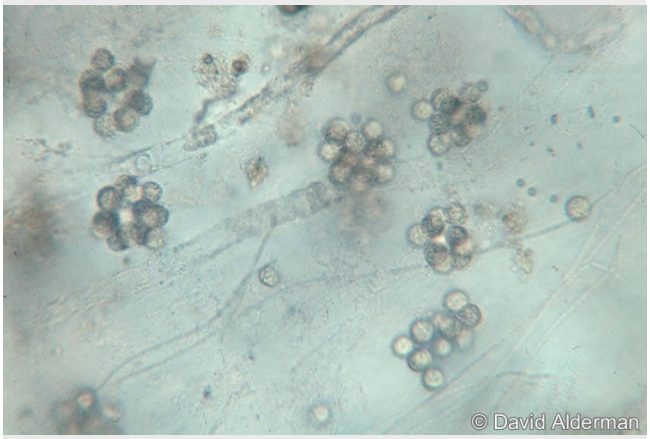
Aphanomyces astaci

Taxon	Family / Order / Class / Phylum
Aphanomyces astaci Schikora 1906	Saprolegniaceae / Saprolegniales / Oomycetes / Chromista

COMMON NAMES (English only)
Crayfish plague
Krebspest

SYNONYMS

SHORT DESCRIPTION
This Oomycete pseudofungus is the aetiologic agent for the disease which is known as crayfish plague. Crayfish plague is a disease which, as an acute disease, has only created problems in Europe, not in the native range of North America where crayfish act only as carrier vectors. It presents an extreme example of a pathogen that rarely kills its established hosts in its normal geographical range. Naïve European crayfish populations were totally destroyed by the very aggressive pathogen. Over the 150 years that the disease has been present in European rivers, no resistant European crayfish have appeared.



Aphanomyces astaci **on crayfish exoskeleton**

Photo: David Alderman

BIOLOGY/ECOLOGY

Dispersal mechanisms
Biflagellate zoospores.

Reproduction
Asexual stages only.

Known predators/herbivores
None.

Resistant stages (seeds, spores etc.)
From gemmae.

HABITAT

Native (EUNIS code)
C1: Surface standing waters, C2: Surface running waters, C3: Littoral zone of inland surface waterbodies)

Habitat occupied in invaded range (EUNIS code)
C1: Surface standing waters, C2: Surface running waters, C3: Littoral zone of inland surface waterbodies) All non N. American fresh water crayfish

Habitat requirements
As for host.

DISTRIBUTION

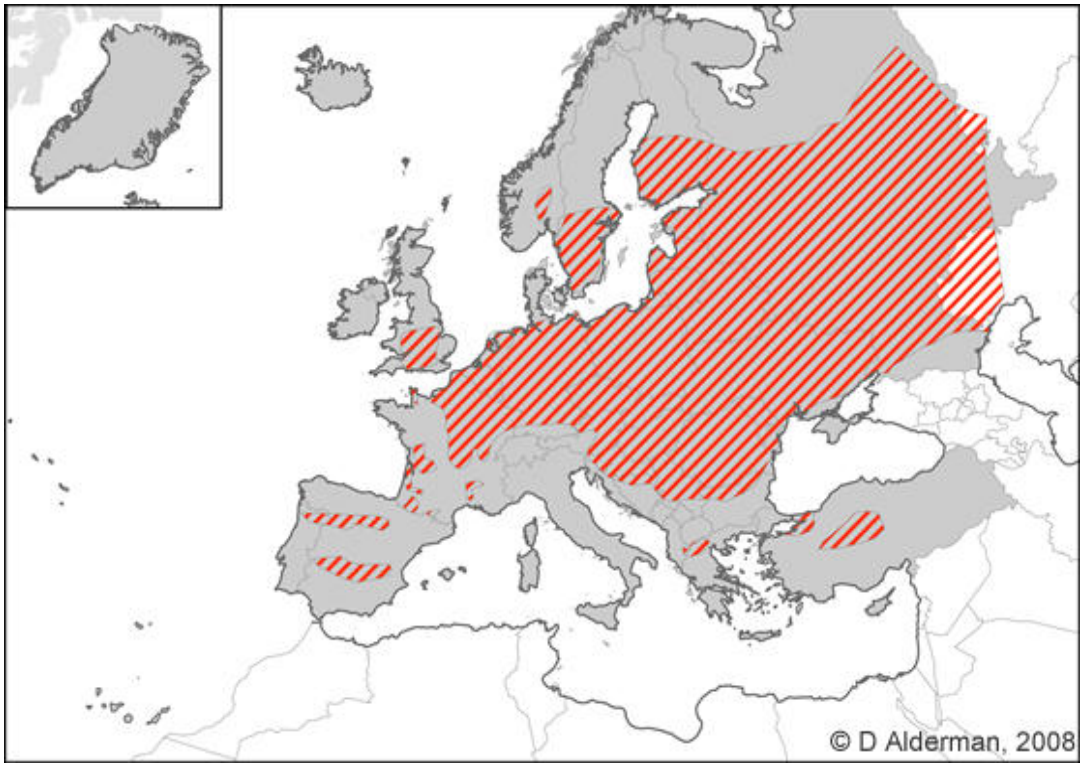
Native Range
North America

Known Introduced Range
Europe and Asia Minor

Trend

Increasing.

MAP (European distribution)



Legend

	Known in country		Known in CGRS square		Known in sea

INTRODUCTION PATHWAY

It was accidently introduced from North American in the 19th century with the crayfish species *Orconectes limosus*, *Pacifastacus leniusculus* and *Procambarus clarkii*.

IMPACT

Ecosystem Impact

It destroys European crayfish species in all infected watersheds. Relict populations survive, but when populations recover a further mass mortality will occur.

Health and Social Impact

Destruction of native populations of crayfish affected crayfish trappers and dealers in the period 1870 – 1930, since then there have been insufficient native stocks. Also led to the introduction of replacement N. American species from 1960s onward, for farming and repopulation, with the introduction of new *A. astaci* strains.

Economic Impact

Was very significant 100 years ago.

MANAGEMENT

Prevention

Preventing the movements of crayfish. Fish movements can also transmit the disease. See OIE (2006).

Mechanical

Unknown.

Chemical

Unknown.

Biological

Unknown.

REFERENCES

Office International des Epizooties (2006). Diagnostic Manual for Aquatic Animal Diseases, 5th edition, OIE Paris. (available via http://www.oie.int/eng/normes/en_acode.htm)

Office International des Epizooties (2006) International Aquatic Animal Health Code. 9th edition OIE Paris. (available via http://www.oie.int/eng/normes/en_acode.htm)

OTHER REFERENCES

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