

White Nose Syndrome (WNS):

The causal organism has now been aptly named as a new species of soil fungus *Geomyces destructans* which has spread, at the rate of 200 miles each winter, to 81 known sites in seven north-east states of the USA, where overall mortality exceeds 90% in any year. It is estimated that over a million bats have died. All six resident bat species are affected, although not all to the same extent. The fungus is expected to spread southwards and westwards and captive breeding programmes have been set in motion for Townsend's big eared bat *Corynorhinus townsendii virginianus* and the Indiana bat *Myotis sodalis*, since they are both listed on the US Endangered Species Act.

The possibility that *G. destructans* is closely related to the fungus reported on bats in caves in Europe is being actively investigated using molecular tools. It is widely assumed that the fungus was introduced into the US from Europe by human intervention, possibly by a caver or a batworker, since prevailing winds blow bats and fungal spores west to east.

Caves and mines on government and NGO-owned land in the United States have been closed and in March 2009 an advisory note urged private landowners to close mines and caves. Bat workers in unaffected areas are advised not to use harp traps, to decontaminate their equipment after a visit to a cave or mine, to wear a different pair of surgical gloves for each bat they handle and to hold bats in disposable paper bags rather than cloth bags.

Significant US Fish and Wildlife Service resources have been allocated to WNS, and \$1.9M of federal funds have recently been provided for research and monitoring. The main unanswered question is how and why it kills. The suggested mechanism is that the fungus aggravates the bats (in the same way that athlete's foot aggravates us), causing energetically-expensive arousals from hibernation and the bats exhaust their energy stores and starve to death.

What can we do in Europe? Maintain vigilance and avoid contaminating sites and the complacency of "we know about that and it doesn't cause our bats any problems". *Geomyces destructans* seems to be a recent mutant so whatever we have in Europe could also mutate with potentially devastating consequences.

Further reading:

Containment and decontamination procedures:

<http://www.fws.gov/northeast/whitenose/FINALQuickReferenceforDeconProtocolsforCaveActivityJune2009.pdf>

U.S. Fish and Wildlife Service information and guidelines (including photos):

<http://www.fws.gov/midwest/Endangered/mammals/inba/BatAilment.html>

White nose syndrome FAQs:

<http://www.fws.gov/northeast/pdf/white-nosefaqs.pdf>

Article on White nose syndrome in the US:

http://www.fws.gov/northeast/white_nose.html

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