

# New hope for the red squirrel

October 16 2008

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A number of red squirrels are immune to squirrelpox viral disease, which many believed would lead to the extinction of the species, scientists have discovered.

Scientists led by the Zoological Society of London (ZSL) have identified eight cases in which free-living red squirrels have survived infection with the squirrelpox virus by mounting an immune response. The research is published today in the Springer journal *Ecohealth*.

Dr. Anthony Sainsbury, ZSL researcher and lead author of the paper, said, "We were absolutely delighted to find signs of immunity in red squirrels after years of seeing the squirrelpox virus devastating populations throughout England and Wales. This finding is the first sign of hope in the long struggle to save the species from extinction in the UK."

The red squirrel (*Sciurus vulgaris*) is a European rodent which has declined dramatically in the UK since the introduction of grey squirrels (*Sciurus carolinensis*) at the end of the nineteenth century. Their rapid decline has been attributed primarily to the susceptibility of red squirrels to the squirrelpox virus, which the grey squirrel harbours but is immune to and which gives the greys a competitive edge over the reds. The research also confirmed that changes in the distribution of the squirrelpox disease in red squirrels over time mirrored the changes in the geographical range of the grey squirrel, supporting the theory that the grey squirrel was the reservoir host of the virus, passing it to the red squirrel but remaining immune to the virus itself.

Dr Sainsbury added, "Immunity to the squirrelpox virus should give red squirrels a fighting chance against the grey invaders, without which red squirrels would undoubtedly be destined to lose the battle for survival in the UK. It is imperative that we now discover how widespread immunity to squirrelpox virus in red squirrels is, and begin the work to develop a vaccine to protect the small number of populations that still exist."

Source: Springer

Citation: New hope for the red squirrel (2008, October 16) retrieved 25 June 2024 from <https://phys.org/news/2008-10-red-squirrel.html>

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