



THE UNIVERSITY *of* EDINBURGH

Edinburgh Research Explorer

Squirrelpox in a red squirrel in Fife

Citation for published version:

Wilson, LA, Marr, M, Logie, C, Beckmann, K, Lurz, PWW, Ogden, R, Milne, E & Everest, DJ 2024, 'Squirrelpox in a red squirrel in Fife', *The Veterinary record*, vol. 194, no. 8, pp. 312-312. <https://doi.org/10.1002/vetr.4182>

Digital Object Identifier (DOI):

[10.1002/vetr.4182](https://doi.org/10.1002/vetr.4182)

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Peer reviewed version

Published In:

The Veterinary record

General rights

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.



SQUIRELPOX has been identified as a key factor in red squirrel (*Sciurus vulgaris*) decline in the UK.¹ Grey squirrels (*Sciurus carolinensis*) are thought to act as reservoir hosts for squirrelpox virus (SQPV), the causative agent of squirrelpox, with a reported asymptomatic seroprevalence of 61 per cent.²

SQPV is implicated in the complete replacement of red squirrels by grey squirrels throughout mainland England and Wales,¹ and poses a major threat to Scottish red squirrel populations since being first detected in 2007.³ To combat this threat, a mortality surveillance programme has been established at the Royal (Dick) School of Veterinary Studies, University of Edinburgh, using opportunistic sampling of red squirrel carcasses. This has been ongoing for several years, including a summary publication covering 262 cases submitted from 2005 to 2009.⁴

As part of this monitoring programme, an adult female red squirrel carcass was submitted by a member of the public, after having been found in Townhall Wood (NT110894), on the outskirts of Dunfermline, Fife, in March 2024. Postmortem examination identified multiple lesions typically associated with squirrelpox, including ulcerative and exudative dermatitis of the periocular and perioral skin

Histopathology of the affected skin identified extensive ulceration alongside remnant areas of epithelium with marked ballooning degeneration and eosinophilic intracytoplasmic inclusion bodies. Transmission electron microscopy of the affected tissue also identified numerous pox virions within the affected tissue, which through their size, shape and available surface morphology (Fig 2), were consistent with those of SQPV.

In Britain there have been no additional identified diseases in red squirrels that present with periocular or perioral, ulcerative to exudative dermatitis due to a poxvirus,⁵ indicating this case is highly likely due to SQPV.

This finding represents the first identification of squirrelpox north of the central belt and is consistent with the predictions of previous modelling, which identified a high risk of northern SQPV spread from 2023 onwards.⁶ This modelling also suggests a rapid increase and spread of squirrelpox into more northerly and naive red squirrel populations is likely following establishment north of the central belt in central Scotland.

This case and modelling supports an increased requirement for targeted investigations, ongoing monitoring and grey squirrel interventions both around Dunfermline itself and within adjacent areas to establish the disease burden in this locality and limit further northerly squirrelpox spread.