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BODYSNATCHING FUNGI PART OF TRUST'S RARE MUSHROOM HABITAT

- **The Strathy Strangler (*Squamanita pearsonii*) invades the body of other fungi, feeding off its host, and is just one of the important fungi species found at Haddo House in Aberdeenshire**
- **The Strathy Strangler is present in the lawns at Haddo, which have been recognised as being of great importance for the fungi they support, including 20 different species of waxcap fungi**
- **Surveying and sensitively managing the ancient lawns and waxcap grassland habitats across several of the Trust's properties is part of the conservation charity's ongoing commitment to protecting these internationally important habitats**

A parasitic fungi that manifests itself inside its host is one of the species of fungi found at the National Trust for Scotland's internationally important grassland fungi habitat at Haddo House, Aberdeenshire.

The Strathy Strangler (*Squamanita pearsonii*) parasitises another fungi species, the Earthy Powdercap (*Cystoderma amianthinum*). Known only from a handful of sites, and globally rare, it is a biotrophic parasite of its host, meaning it keeps the host alive while robbing it of enough of its resources to maintain itself.

The lawns at Haddo House near Ellon, Aberdeenshire have been identified as an internationally important habitat for the number of fungi species found there after being measured on a scale for fungal biodiversity in grasslands called the CHEGD score. CHEGD is an acronym for Clavariaceae, Hygrocybe, Entoloma, Geoglossum and Dermoloma, which are the different types of fungi that are grouped together and scored.

Along with the Strathy Strangler, the lawns have been home to up to 20 different species of waxcap mushrooms (*Hygrocybe*), 18 species of pink-gill mushrooms (*Entoloma*), and 10 species of coral fungi. There are also several International Union for Conservation of Nature (IUCN) Red List of Threatened Species designated as Globally Vulnerable, like *Porpolomopsis calyptriformis*, known as 'the Ballerina' and Violet Coral (*Clavaria zollingeri*).

Roddy Hamilton, National Trust for Scotland Countryside Ranger, said: "The Strathy Strangler has not been seen recently, so it would be good to uncover again. It is a fascinating example of a fungi species' adaptation and it's one of the more unique and curious varieties that has been found in the lawns at Haddo. It infiltrates its hosts through an underground network of mycelial threads called hyphae and takes over its host's body, growing up its stem, and robbing its nutrients. The spectacle only becomes

apparent after the Earthy Powdercap loses its usual sandy colour, taking on a shaggy, grey appearance after the strangler has overcome its victim. Thankfully there isn't a risk of this Strangler taking over and wiping out different mushroom species, as it seems to have, through evolution, built a relationship only with this one fungus."

As part of the Trust's work to help protect globally vulnerable species, the conservation charity is conducting surveys of a variety of waxcap fungi grasslands, a key objective outlined in its Plan for Nature, published in 2024. This plan provides a framework and focus for the charity's nature conservation efforts and includes the actions it will take to care for the habitats and species it has responsibility for. The waxcap fungi monitoring has been supported by funding raised by players of People's Postcode Lottery.

Roddy Hamilton continued: "Very little conservation exists for waxcaps across Scotland, except for a few locations where grasslands are managed for nature conservation, like at Haddo. Grassland meadows generally are valuable for everything from carbon storage to ecosystem services like pollination and are a whole ecosystem in themselves. Some agricultural methods, including the use of fertilisers on grasslands, result in habitats that are inhospitable to waxcaps. Fungi are an important part of grassland ecosystems and our conservation efforts aim to enhance the habitat to make it more suitable for the fungi, rather than eradicate the parasite.

"We have a management plan in place which keeps the lawn short, emulating as much as possible the sheep grazing that historically would have made it a suitable environment for waxcap fungi. We stop cutting in autumn when the fungi 'fruit,' the period when the mushrooms and toadstools that we recognise become visible above the surface. We also don't add any nutrients to the lawn, removing cuttings to reduce nutrients from the cycle.

"It is thanks to the continued generosity of our members and supporters, including players of People's Postcode Lottery, that we're able to continue our vital work to protect Scotland's natural heritage at these special places for everyone to enjoy, now and into the future."

Players of People's Postcode Lottery have supported the conservation charity's Love Our Nature project since 2022, which benefited from £900k last year. Further funding will support nature conservation work across a variety of different habitats including coastal and marine areas, peatlands, wetlands, woodland, and the eight National Nature Reserves cared for by the Trust.

Head of Charities at [People's Postcode Lottery](#), Laura Chow, said: "Players of People's Postcode Lottery will be fascinated to hear about the Strathy Strangler and the important work the National Trust for Scotland is doing to enhance the natural environment where waxcap mushroom species can thrive. This work of the Trust is vital in helping to protect Scotland's natural heritage for future generations."

The Love Our Nature project supports the National Trust for Scotland's vision to care for, protect and share Scotland's nature, beauty and heritage for everyone, as outlined in its 10-year strategy, launched in 2022. For more information on the National Trust for Scotland, visit www.nts.org.uk.

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Images: <https://www.flickr.com/gp/133918740@N04/oe0vn5B76E>

Fungi classification

In 1995, Rald invented a scale for fungal biodiversity in grasslands called the CHEG score, which has been further adapted by the JNCC in 2018. This reflection of fungal biodiversity in a grassland area has been adopted as a standard. Importance is placed on this score because a high CHEG score could mean a conservation designation for a site.

CHEG is an acronym for *Clavaria*, *Hygrocybe*, *Entoloma* and *Geoglossum*. These are the different genera, which are grouped together and scored. *Clavaria* are coral-like fungi. Waxcaps belong to the genus *Hygrocybe*. *Entoloma* are subtle mushrooms known as pink-gills. *Geoglossum* are usually black and club-like in shape, and their name literally translates to 'earth tongues' (by which they are also known).

Waxcap mushrooms

Waxcap mushrooms come in a variety of shapes, sizes and colours, however, some are harder to identify through sight alone. The first step in the identification key is to decide if the stalk or cap is slippery, or if the cap is sticky. (The best way to check this is to rest it on your lip. If it sticks, it's sticky.) However, the feel of the waxcap can often change due to the temperature, when its smell becomes important in the identification. One identification key suggests you look for smells of cedarwood or of Russian leather.

People's Postcode Lottery

Players of People's Postcode Lottery have raised more than £4 million for the National Trust for Scotland. Funds are awarded by the Postcode Earth Trust.

About the National Trust for Scotland

Established in 1931, the National Trust for Scotland is Scotland's largest conservation charity and cares for, shares and speaks up for Scotland's magnificent heritage.

Over the last 90 years the Trust has pioneered public access to and shared ownership of some of the most magnificent buildings, collections and landscapes in Scotland. It cares for more than 100 sites, from ancient houses to battlefields, castles, mills, gardens, coastlines, islands, mountain ranges and the plants and animals which depend upon them.

In March 2022 the National Trust for Scotland launched *Nature, Beauty & Heritage for Everyone*, its ten-year strategy which sets out the ambitions of the charity over the coming decade. From speaking up for Scotland's heritage which doesn't have a voice, to improving the lives and wellbeing of people across the country, and responding to the climate and biodiversity crisis, the Trust will build on its work in recent years to grow its impact and conserve and restore more of Scotland's heritage, as it moves towards its centenary in 2031.

Scotland's largest membership organisation, the National Trust for Scotland relies on the support of its members and donors to carry out its important work.

For more information on the National Trust for Scotland visit www.nts.org.uk.

The National Trust for Scotland is a charity registered in Scotland, Charity Number SC 007410.