

Mistletoe Information Sheet Nº1: *Distribution in the UK*

Information about *Viscum album*, the native mistletoe of Britain & Northern Europe



Mistletoe Matters

www.mistletoe.org.uk

Mistletoe Distribution in the UK

European Mistletoe, *Viscum album*, is just one of about 1500 species of mistletoe around the world. Most are tropical or subtropical and the mistletoe plant family doesn't extend very far into the northern hemisphere. In Europe as a whole we have about 4-6 species, depending on how you count the subspecies but in northern Europe we have just one – the true mistletoe of ancient legend, *Viscum album*.



Mistletoe in Europe

In mainland Europe mistletoe is fairly widespread, occurring across most of the continent and spreading eastwards well into Asia.

Distribution patterns depend on subtleties of climate, and the absence of mistletoe in the Netherlands, northern Germany and most of Scandinavia reflect mistletoe's climatic requirements. Small colonies occur in those areas but, like the isolated eastern colonies in Britain (see below), tend to be fairly static.

A complicating factor for traditional mistletoe, *Viscum album*, in Europe, is the presence of additional subspecies. In Britain we have *Viscum album* subspecies *album* - a plant that only grows on deciduous hosts. But on the mainland this is joined by subspecies *austriacum* and subspecies *abietis* which only grow on evergreens (pines and firs respectively).



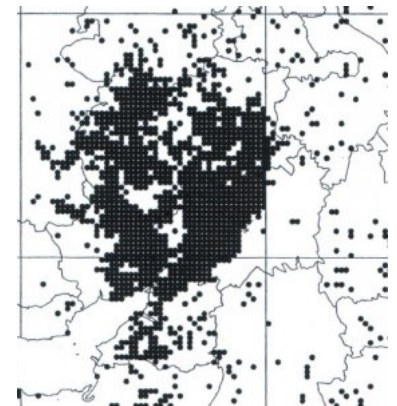
Mistletoe in Britain

In Britain most mistletoe is found in the south and west midlands, with particularly good populations in Herefordshire, Worcestershire, Gloucestershire, Gwent and Somerset.

There is mistletoe elsewhere, particularly in the south, plus a few rare occurrences in north and east England, Wales, Scotland and Ireland.

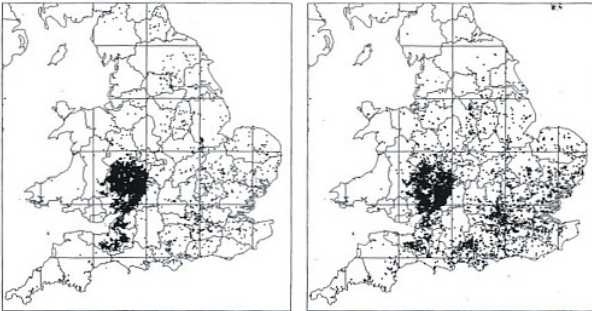
But it is only regionally abundant in that core area of the south-west midlands. Many assume this to be somehow linked to apple orchards (apple is a favourite mistletoe host, and orchards a favourite habitat). This assumption is almost certainly incorrect – there are many apple orchard areas elsewhere in Britain that don't have mistletoe, and studies across Europe link mistletoe distribution to particular climate preferences, which do seem to match the main distribution in Britain.

You can see some clear climatic preferences, particularly altitude, in the detailed enlargement on the right. The line of the Cotswold escarpment forms the main eastern edge to the mistletoe area, whilst on the western side the valleys of the Rivers Wye and Usk can be traced as lines of mistletoe records, taking mistletoe towards the Welsh uplands.



The northern boundary of the area is formed by the Cleve Hills (north-west) and the Birmingham plateau (north-east). The central empty area is the upland area of the Forest of Dean – good proof that mistletoe, despite loving trees, isn't fond of woodland.

Changing distribution?



Much of what we know about mistletoe distribution comes from survey work co-ordinated by the Botanical Society of the British Isles (BSBI) in the 1970s and a follow-up project, jointly run by BSBI and Plantlife in the 1990s. Data from both periods are shown in the small maps on the left.

The 1990s survey aimed to assess whether the decline in traditional apple orchards was affecting mistletoe too – was mistletoe declining? Results were mixed - orchard loss is affecting mistletoe abundance, but distribution patterns remain the same as before. Indeed the new data suggested more mistletoe in the east and south-east, though that might reflect better recording effort more than real change.

Change may be happening though – new evidence from the 2000s suggest something is different: In the last 10-15 years there have been several reports suggesting that mistletoe is spreading faster than it used to in Britain. This is particularly noticeable in eastern areas, where established mistletoe populations, whilst often long-established, have previously seemed slow to spread as they are outside their climatic comfort zone.

Changing due to climate or to birds?

Something is changing though – as many of those previously static mistletoe colonies are shifting. It could be subtle hints of climate change – computer modelling does suggest that mistletoe will head east with climate change. Or it could be something else.

One possibility is better spread of the seeds by Blackcaps (pictured with mistletoe, right), a bird species that is particularly efficient at spreading mistletoe. British Blackcaps migrate for the winter so they do not, usually, affect mistletoe here. But in recent decades continental Blackcaps have started overwintering in Britain, with many thousands now spending their winters here. Perhaps mistletoe is spreading more because of their activity



Further reading:

Briggs, J (2011) Mistletoe - a review of its distribution, conservation and insect associates, *British Wildlife* 23:1 (Oct 2011); 23-31

Briggs, J (2011) Mistletoe (*Viscum album*); a brief review of its local status with recent observations on its insect associations and conservation problems, *Proc Cotts Nat Field Club*, XLV (II), 181 193

Jeffree, CE & Jeffree, EP (1996) Redistribution of the potential geographic ranges of Mistletoe and Colorado Beetle in Europe in response to the temperature component of climate change. *Functional Ecology* 10: 562-577