

Mistletoe Information Sheet N°6: Biodiversity value

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



Mistletoe Matters

www.mistletoe.org.uk

Biodiversity value – birds and insects

Mistletoes all over the world have very interesting inter-actions with other species, and not just with their hosts. Most also form miniature ecosystems of their own, with specialist birds, insects and fungi. This information sheet outlines some of the biodiversity value of mistletoe in Britain, concentrating on associated birds that eat and spread mistletoe berries, and on insects that specialise on mistletoe.

Mistletoe birds in Britain

There are two key background issues for European mistletoe with regard to birds. Firstly it relies entirely on winter birds for berry, and therefore seed, distribution – so birds are essential. Secondly the white sticky berries of *Viscum album* are not attractive to many birds – many ignore them as they are looking for red, orange, black or blue berries (mistletoe is the only native British species with white berries) and even if they



try them the birds are put off by the super-glue quality of the berry pulp.

So which birds do take mistletoe berries? In Britain the answer is largely Mistle Thrushes (left), whose common name and latin name, *Turdus viscivorus*, hint at a mistletoe specialism. Other thrushes – including Redwings, Fieldfares etc will also eat the berries. But despite their name Mistle Thrushes aren't really mistletoe specialists as they occur commonly across the country in

areas with no mistletoe, where they will eat many other berries. Furthermore they're not really very efficient at spreading mistletoe. They usually swallow the whole berry, seed and all, excreting a mass of semi-digested berry pulp and seeds about 30 minutes later. Some of those seeds, still sticky, may stick to a branch where they can germinate. Most will not – often hanging uselessly below a branch.

A few other birds will eat mistletoe too, including Waxwings and a few other relatively uncommon species, but the most efficient mistletoe spreading species is the Blackcap (female pictured right). These smart little birds only swallow the berry skin and pulp, wiping each seed off their beak before swallowing – and so they are much more efficient than Mistle Thrushes.



Blackcaps in Britain migrate south for the winter, so they have not, traditionally, been a factor in mistletoe distribution in the UK. But changing migration patterns in the last 20-30 years have led to first 100s and now 1000s, of migrant Blackcaps from Germany visiting Britain each winter. This huge increase in efficient mistletoe spreaders may be altering mistletoe distribution patterns in Britain

Mistletoe Insects...

Mistletoe insects in Britain

Specialist insect associations are a common feature of mistletoes worldwide – and ours is no exception, with six species known on mistletoe in Britain. All are considered rare and worthy of conservation, though actually very little is known about how frequent they are – sampling insects on mistletoe is quite difficult so there are large gaps in the data.



Four of the six are bugs and some are rather obscure – including the psyllid bug *Cacopsylla visci* (left), which looks similar to many other species-specific psyllids.

The mirid bug *Pinalitus visciicola* (right) is more distinctive, and has been known in Britain for over 100 years, living on mistletoe on various hosts and habitats across the



country.



Another mirid bug *Hypseloecus visci* (left) is ‘new’ to Britain, known only since 2003. Since its discovery here it has been recorded across mistletoe’s main distribution area and also further east, notably on lime and hawthorn.

Those first three bugs feed on mistletoe itself but the fourth bug *Anthocoris visci*, is a predatory species, thought to feed on the psyllid. This species occurs across the country, on mistletoe on a variety of host trees.

Most conservation work on mistletoe invertebrates is directed at the

Mistletoe Marble Moth, *Celypha woodiana*, as this is a Priority Species in the UK BAP a Species of Principal Importance in England under the NERC Act 2006. Known in Britain since 1878 it has larvae that live on mistletoe leaves in blister mines. A factsheet on this species is available from Butterfly Conservation.



Our last mistletoe insect is the mistletoe weevil *Ixapion variegatum* (left). This is another ‘new’ species, only known in Britain since 2000. The larvae live inside the stems of mistletoe, usually just below the terminal bud during the summer months, and on emerging as adults that bud (which is next year’s flower bud) often dies.

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) 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