

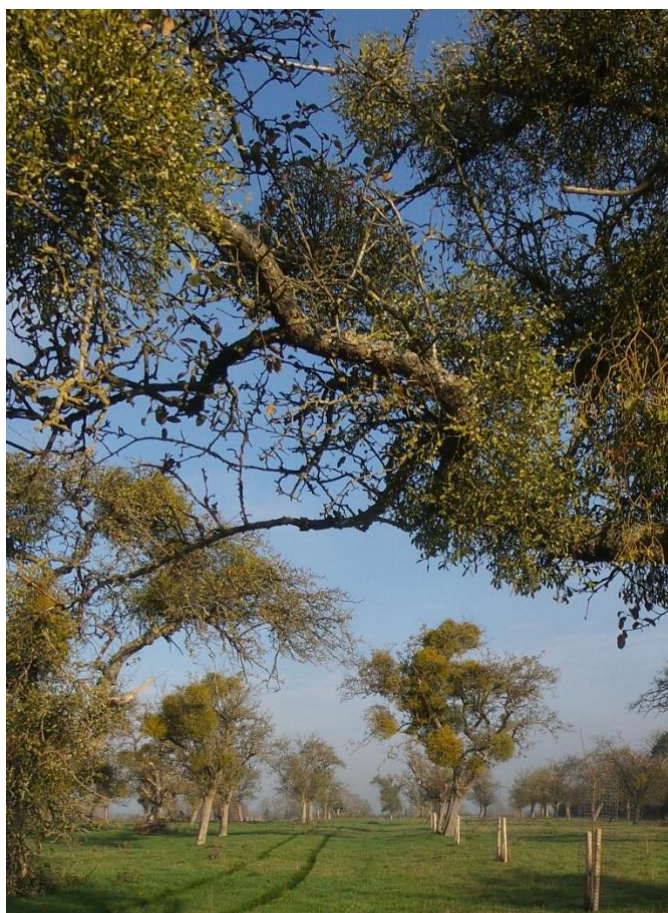
A few notes on Mistletoe *Viscum album* with particular reference to the Vale of Evesham and surrounding area.

Gary Farmer



01. Mistletoe growing in a traditional orchard at Naunton Beauchamp. Gary Farmer.

Mistletoe *Viscum album* is a very familiar, native hemi-parasitic plant, forming large spherical clumps in various trees and shrubs. It can be especially common in old orchards (01 & 02). Amphlett & Rea (1909) note it as abundant in Severn and Malvern districts, but less common in Avon. Maskew (2014) records a distinct decline especially in the Vale of Evesham due to clearance of old orchards, particularly in the Lenches. The clearance of these old, biodiverse orchards continues, and the Worcestershire State of Nature Report (Worcestershire County Council 2023) highlights the plight of this once common habitat, noting that “Since 1950 the area of orchards in England has decreased by 63%. Local data suggests that losses in Worcestershire may be closer to 85%”.



02. Traditional orchard with abundant Mistletoe. Worcestershire has lost 85% of its orchards since 1950. Naunton Beauchamp 06.11.2020. Gary Farmer.

But despite the loss of orchards, Mistletoe continues to be a fairly common sight in all but the extreme south-east and the north-east of Worcestershire. My personal observations from the north-east in Redditch are that it is a very rare species, occurring in just one or two roadside trees. I have tried to grow Mistletoe by pressing seeds onto an apple tree in a Redditch garden, where seeds germinated but apparently failed to establish in the host. It took several attempts over a number of years before Mistletoe actually began to sprout from the apple tree. The reason for its reluctance to establish in a large part of North-East Worcestershire and the extreme south-east are unclear, but host availability in the south-east and climate and altitude in the north-east might be influences (Maskew 2014).



03. Mistletoe grown from seed pressed onto an apple tree. The round growth is most likely a burr knot or burl, and nothing to do with the Mistletoe, although it may have given the parasite a weakened point of entry. Redditch 19.02.23. Gary Farmer.

The species' ability to parasitise different trees and shrubs has allowed it to continue to thrive in parts of the county where orchards are in decline. Amphlett & Rae (1909) recorded it growing in “Apple-trees, sometimes Limes and on one occasion on a Plane-tree”. The Flora of Worcestershire (Maskew 2014) mentions host-species including Domestic Apple *Malus pumila* (syn. *M. domestica*), Common Hawthorn *Crataegus monogyna*, Hybrid Black Poplar *Populus x canadensis*, and single records from Grey Alder *Alnus incana*, Red Oak *Quercus rubra*, Wall Cotoneaster *Cotoneaster horizontalis*, Yellow Buck-eye *Aesculus flava* and Dog Rose *Rosa canina*. More recently Mistletoe has been recorded by the Worcestershire Wildlife Sightings Project (Westmoreland 2022) as parasitising Pear *Pyrus communis*, Ash *Fraxinus excelsior*, Blackthorn *Prunus spinosa*, flowering quince *Chaenomeles* sp.,

False Acacia *Robinia pseudoacacia*, Rowan *Sorbus aucuparia*, willow *Salix sp.* and maple *Acer sp.* In the Vale of Evesham I have found it on most of the above mentioned species as well as occasionally on Plum *Prunus domestica* and rarely on Crack Willow *Salix fragilis* (04).



04. Mistletoe growing in Crack Willow on the banks of the Avon at Wick 11.03.24. Gary Farmer.

Mistletoe is a dioecious shrub: the berry-bearing female plants are green in colour whereas the male plants can be distinctly yellow. Both, flower very early in the year, whilst the previous year's berries are still present on the female plants (05 & 07). Honeybees have been noted collecting pollen from Mistletoe as early as February (N. Farmer pers comm).



05. Mistletoe flowers, male above and female below. Naunton Court Orchard February 2023. Gary Farmer.

The oval to strap-like leaves vary in size but are usually around 30-40mm in length, but very occasionally a 'monster' Mistletoe springs forth from a host. I have found one particular young plant growing from Plum at Hipton Hill Orchards with leaves measuring over 100mm in length (06).



06. 'Monster' Mistletoe with leaves over 100mm in length, found growing on Plum, Hipton Hill Orchards 19.03.24. Gary Farmer.

The berries provide food for many birds, particularly Mistle Thrushes *Turdus viscivorus* which will defend 'their' Mistletoe bushes from all comers (07). Other wintering thrushes as well as Waxwings *Bombycilla garrulus* take advantage of the glutinous offerings, and strings of sticky, seed-laden faeces can be seen hanging from orchard trees when a feeding party has passed through (forgive the pun). Wintering Blackcaps *Sylvia atricapilla* are also known to feed on the berries, but remove the seeds by wiping their bills on branches and twigs before swallowing which is why this warbler is credited with being particularly efficient at spreading Mistletoe (Mistletoe.org). The number of Blackcaps wintering in Britain has increased in recent years, as birds from Central Europe move to Britain to benefit from garden bird feeding (BTO website), and this change in habits might be one reason for the increase in Mistletoe in some areas.



07. Mistle Thrush defending its Mistletoe bushes. Note the green, berry-bearing female plant and the golden male plant. Gary Farmer.

However Mistletoe is spread, there can be no doubt that if the host plants are plentiful and the climate is to its liking, it can spread very quickly. The 10acre Stocken Orchard near Pershore was planted in the 1970s to supply cider apples to Bulmers. After several decades of producing fruit on a commercial scale, the orchard was all but abandoned until it was purchased by Vale Landscape Heritage Trust in October 2014, to provide a future-refuge for the Noble Chafer *Gnorimus nobilis*. The orchard was overgrown (08) and almost impenetrable, so it was divided into four sections by horse-loggers to improve the management of the trees and grassland. All of the trees were pruned once and the understorey of hawthorn and ash invading from the adjacent woodland was removed by cutting and then grazing with sheep. Subsequent pruning of the orchard has aimed to produce 'Christmas tree-shaped' trees, allowing extra light to fall on to the trees for the fruit and onto the grassland beneath the trees to benefit the wildflowers (09).



08 Stocken Orchard had been abandoned after several decades of providing apples to Bulmers. July 2014. Gary Farmer



09 Stocken Orchard has been managed by Vale Landscape Heritage Trust since October 2014. May 2016. Gary Farmer.

Once movement around the orchard was possible a Mistletoe count was undertaken in February 2016. The surveyor simply counted the number of trees bearing Mistletoe in each of the four sections and found only three trees in the whole orchard containing Mistletoe; one in section one, none in sections two and three, and two in section four (Table 01). This has been repeated occasionally over the years, but counting the number of individual Mistletoe plants per section rather than infected trees. Small multi-twigged plants and full-grown spherical masses are counted as one plant each.

Section	Date of count			
	Feb 2016	Mar 2019	Feb 2023	Mar 2024
1	1	3	4	18
2	0	8	21	88
3	0	4	18	38
4	2	6	10	70

Table 1. The number of Mistletoe plants in each section.

The survey has been far from scientific, but even allowing for significant counting errors and a shift from initially counting trees to counting plants, the increase in 10 years has been dramatic, noticeably between 2023 to 2024. The spread has been on such a scale that we are now pruning Mistletoe from the high points of some of the trees (10) to reduce the shading effect from this evergreen plant on the fruit buds and ripening fruit.



10. Volunteers pruning at Stocken Orchard, November 2024. Mistletoe has spread so fast we are now removing it from the canopy of some trees. Benjamin Rees-Roberts.

Keeping Mistletoe in an orchard is very important for wildlife but you can have too much of a good thing. Excessive plants in the canopy can act as a sail in winter storms, breaking large branches or even bringing down whole trees. The parasite is self-destructive though; if the host dies then so does the Mistletoe.

Some very big, old apple trees in Nauntun Court Orchard became so heavily infected (02) that the stress from this load on top of the age of the trees has combined to shorten the life of the tree (and parasite). Amphlett & Rea (1909) reported Mistletoe growing on a “*standard rose-tree in a Clent garden where it flourished for many years before ultimately killing its host*”. At Nauntun Court Orchard a young apple tree, five or six years in the ground, became infected by Mistletoe just above the grafting point (11). Only twelve months after the parasite was noted protruding from the rabbit guard, both the host and the parasite were dead. Normally a young, healthy tree can withstand Mistletoe but presumably on this occasion the guest had cut off the food supply to the tree close to the vulnerable graft.



11. Young apple tree infected with Mistletoe just above the grafting point. The tree and the Mistletoe died very soon after the Mistletoe was discovered. Nauntun Court Orchard 08.11.23. Gary Farmer

Mistletoe is known to be an important plant for wildlife. Not only does it provide early pollen for bees, but birds eat the berries and a

suite of invertebrates can be found living on the plant. Some of these live nowhere else, and there have been many articles written on the subject (e.g. Briggs 2011 and Green & Meiklejohn 2004).

Of these Mistletoe specialists I have found the following (12) in the Vale of Evesham: two Mirid bugs *Pinalitus viscicola* and a more recent arrival *Hypseloecus visci*, a predatory Anthocorid bug *Anthocoris visci* and the Mistletoe Weevil *Ixapion variegatum*. I have found the adult weevils at Naunton Court Orchard as well as distinctive exit holes located at leaf nodes on Mistletoe (13). A useful account of these and other Mistletoe-related insects can be found in Worcestershire Record number 30 (Briggs 2011).



12. Mistletoe obligates from the Vale of Evesham. Clockwise from top left; *Pinalitus viscicola*, *Ixapion variegatum*, *Anthocoris visci* and *Hypseloecus visci*. Gary Farmer



13. Mistletoe Weevil exit holes can be found at leaf nodes on Mistletoe. Naunton Court Orchard 18.03.23. Gary Farmer.

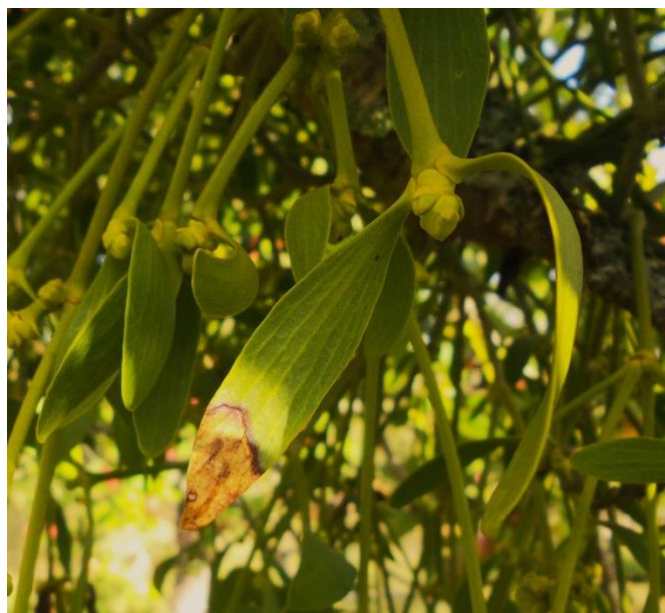
I have also found three species of spider associated with Mistletoe; an orb web spider *Gibbaranea gibbosa* and two tiny sheet-web spinning spiders *Nigma walckenaeri* and *N. puella* (Young & Farmer 2023). These arachnids are obviously not restricted to Mistletoe, but its evergreen foliage is beneficial to their habits.

Mistletoe is also host to a leaf-mining moth the Mistletoe Marble *Celypha woodiana* (14), a rare local resident (Simpson et al. 2020) and a UK Biodiversity Action Plan (BAP) species. I am yet to find the moth but I have found vacated mines (15) at several orchards around the Vale of Evesham and this moth appears to be well established in this part of the county.



14. Mistletoe Marble Moth. Oliver Wadsworth.

When surveying for this species, the last three weeks of May are the best time to locate active mines, and leaves with vacated mines were found persisting until early July (McGill 2009). I have now found vacated mines in late October and they might persist through the winter. However, Oliver Wadsworth commented that “*there is the possibility that mined leaves tend to fall. I took Harry around the Orchard between Tiddesley and the Avon one year, a couple of days after having found six or seven mines there, and failed to find one to show him!*”.



15. Vacated mines of Mistletoe Marble can be found into late October. Stocken Orchard October 2023. Gary Farmer.

Mistletoe Marble was first reported from VC37 in 2007, when mines were discovered on Mistletoe growing in a large roadside hawthorn bush near Chaceley (now Gloucestershire) (Homan 2007). The loss of orchards has a bearing on the future of this moth in the county, but despite early concerns as to whether the species will survive on scattered Mistletoe on other tree species outside of orchards (Simpson 2003), records are increasing from these alternative Mistletoe-hosts. The moth appears to still be most common on Mistletoe infected-apple and sometimes pear, but also on hawthorn and Oliver Wadsworth and Tony Simpson have found larval mines on Mistletoe on hybrid limes alongside an orchard near Kemerton and it may be on hybrid Black Poplar, but the Mistletoe is usually too high up to be sure (Tony Simpson December 2024 pers comm.).

So, this most familiar plant which has been studied for many years is still worthy of further investigation. What tree species can it grow

on, is it spreading further north-east in the county, are its obligate insects spreading, and what tree-hosted Mistletoe are they living on?

Next time you are standing hopefully under a bunch of Mistletoe, untie it from its red ribbon and take a closer look for larval mines of Mistletoe Marble or the exit holes of the Mistletoe Weevil. That could be far more rewarding than the alternative.

Acknowledgements

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