

‘Host of the month’ is a series of information sheets and blogs that highlight a tree host and their associated priority pests and diseases that are best seen and recorded in that month. This July we’re looking at Rowan and European mountain ash ringspot associated virus (EMARaV).

Rowan can often be found growing on inaccessible cliffs or atop large boulders, and in Scandinavia these trees are known as flying Rowan. More spectacular though are those that form air trees, the result of a seedling taking root in a mulch filled crevice of the host tree and becoming an epiphyte – a plant that grows on other plants. Over time the roots of the epiphytic tree grow down through and over the host tree, eventually reaching the soil. If the host dies and rots away the epiphyte remains, balancing on its stilt-like roots. In both cases the seed almost certainly arrived via bird droppings, the berries forming an important food source for birds such as Blackbirds and Waxwings.

Rowans (*Sorbus*) are members of the Rose family (*Rosaceae*) which they share with trees such as cherries (*Prunus*), apples (*Malus*) and hawthorns (*Crataegus*). There are around 70 species worldwide, all with pinnate compound leaves made up of small leaflets, the leaves themselves being arranged alternately on the shoots. The Rowans all bear brightly coloured berries in the autumn which has made them very popular as street trees, from pure whites through to the brilliant orange red of the UK native (*Sorbus aucuparia*). Until recently Rowans shared *Sorbus* with the whitebeams and wild service tree but these now have their own Genera, whitebeam for example is now *Aria edulis*, and wild service tree is *Torminalis glaberrima*.



Figure 1: A rowan growing as an air tree, complete with stilt-like roots.

Rowans are also known as mountain ash, probably because of their similar leaves, but the two are not closely related. Ash trees (*Fraxinus* spp.) are in the Olive family, and ash specific pests and diseases like Emerald ash borer or Chalara ash dieback do not affect rowan. Conversely ash is not affected by EMARaV.

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Figure 2: Compound pinnate leaf (left - Tom deGomez, University of Arizona, Bugwood.org), clustered white flowers (middle – Matt Parratt), and bright orange-red berries of rowan (right - Chris Hrasovec, Faculty of Forestry, Bugwood.org)

Priority disease – European mountain ash ringspot associated virus (EMARaV)

Although symptoms now known to be associated with EMARaV have been reported for over sixty years it was first confirmed on rowan in Scotland in 2011 across range of habitats from urban to mountainous. It primarily affects rowans but has also been found on other woody members of the rose family including whitebeam, wild service tree, Chokeberry (*Aronia* spp.) and Amelanchier (see the recent blog by Observatree volunteer Alan Inman [here](#)).

Our knowledge of its distribution across the UK is still very scarce but the symptoms associated with it have now been recorded in England and Wales, fully confirmed cases however are few and far between. The main reason being that the molecular testing required for confirmation is only carried out at one laboratory and is very expensive, so many of our data points are based only on visible symptoms and therefore listed as ‘probable’. The main mechanisms of spread are probably vegetative transmission via grafting and cutting but mites have been suggested as a possible vector. The level of damage to affected trees is uncertain but there are reports of trees suffering growth reduction and dieback following observation of visible symptoms.

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Identification

The observable symptoms of EMARaV are all foliar discolorations and are best seen throughout June, July and August. Pale green chlorotic spotting of the leaves can be either simple spots, or the eponymous 'ringspots'. Much more striking is the Rorschach inkblot-like patterning also described as oak leaf patterning, more or less symmetrical patterning centred on the primary vein of the leaflet (Fig. 3).



Figure 3: 'ringspot' pattern of chlorotic (pale yellow-green) markings (left) and 'oakleaf' patterning associated with EMARaV infection (right). Both images by Adrian Fox, Fera Science Ltd.)

Lookalikes

Eriophyes mite galls are very common on Rowan leaves and can be caused by two species, rowan gall mite (*E. sorbi*) and pear leaf blister mite (*E. pyri*). Both present as small lumps on the leaf surfaces whereas the patterning caused by EMARaV is within the leaf and flush with the leaf surface. The bumps are initially very pale green (Fig. 4) but eventually turning brown as the season progresses

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Figure 4: Galls caused by *E. sorbi* on the upper (left) and underside (right) of rowan leaves (Milan Zùbrik, www.forestpest.eu)

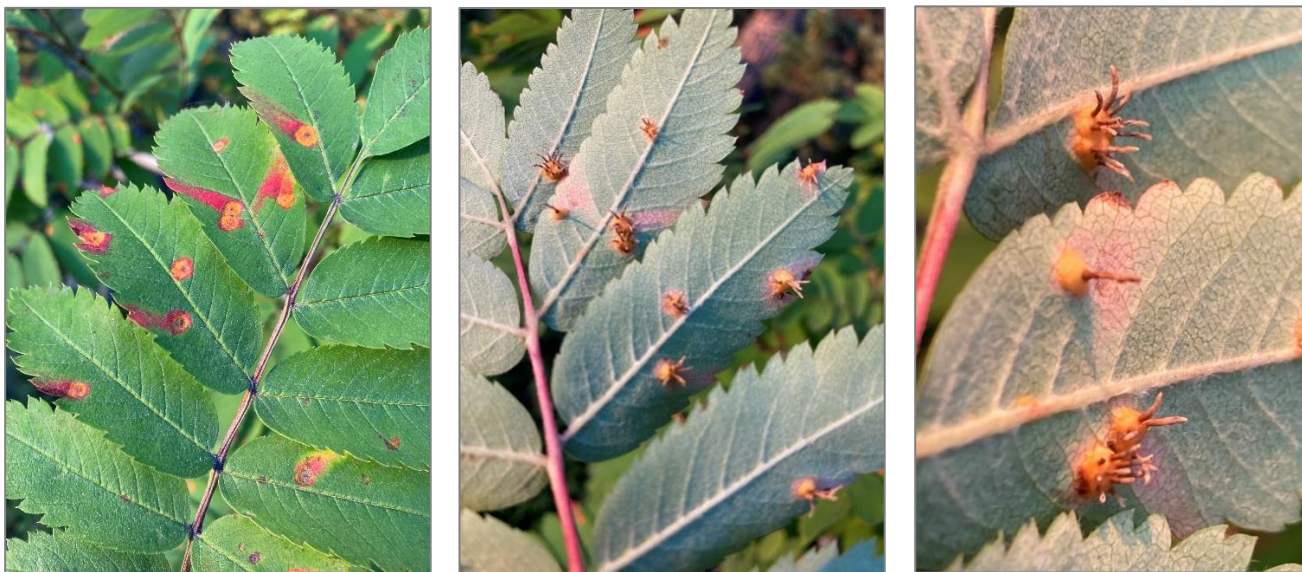


Figure 5: Upper (left) and underside (middle) and a close up of the fruiting structures (right) of rowan leaves infected with Juniper rust (Matt Parratt)

Juniper rust (*Gymnosporangium cornutum*) is a fungus which alternately infects junipers (*Juniperus* spp.) and rowan. It presents as coloured spots on the upper surface of leaves, but on the underside these are the origin of distinctive spiny or tentacled outgrowths (Fig. 5).

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Reporting

Continued surveillance and reporting is important to our knowledge of distribution and effects of EMARaV so please do report possible sightings via [TreeAlert](#). Healthy tree data is equally important so please do report those too.

For more information and resources on EMARaV check the [Observatree website](#).

Matt Parratt, Forest Research, June2026

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