

Plant Pathogen Records 2022

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SPRING

Ian Wright started the year off in January with a new rust for us all. It was *Milesina scolopendrium* (Figure 1) on Hart's-tongue Fern (*Asplenium scolopendrium*), our first pathogen on a fern. In March Ian spotted another rust, brown telia of *Gymnosporangium* (Figure 2) on a cultivated Juniper in a garden overlooking the Teme Valley. We were too late to obtain spores, but the Pear tree close by led us



Figure 1. *Milesina scolopendrium* rust on Hart's-tongue Fern (*Asplenium scolopendrium*).
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Figure 2. *Gymnosporangium* brown telia on a cultivated Juniper.
Rosemary Winnall



Figure 3. Hollyhock rust *Puccinia malvacearum*.
Jane Pope

to believe that it might be *Gymnosporangium sabiniae*. It will be interesting to see if this appears in future years. Jane Pope reported Hollyhock rust *Puccinia malvacearum* (Figure 3), which she described as prolific, from her garden at Trimpley.

In April we welcomed the familiar spring rusts and smuts in Wyre woodland on Lesser Celandine (*Ranunculus ficaria* agg), Wild Arum (*Arum maculatum*), Ramsons (*Allium ursinum*), Bluebell (*Endymion non-scripta*), Dogs Mercury (*Mercurialis perennis*) and Bramble (*Rubus fruticosus* agg.). We found the smut infection, *Antherospora hortensis* (Figure 4), on garden Grape Hyacinth (*Muscari*) flowers again this year after Ian noted it in 2021. Marian Davidson reported *Albugo hohenheimia* on Hairy Bittercress (*Cardamine hirsuta*) and Brett Westwood recorded *Albugo leimonica* (Figure 5) on the leaves of Ladies Smock (*Cardamine pratensis*). The rust *Puccinia aegopodii* (Figure 6), on Ground Elder (*Aegopodium podagraria*), was a new record for Wyre.



Figure 4. *Antherospora hortensis* smut on Grape Hyacinth flower.
Rosemary Winnall



Figure 5. *Albugo leimonica* on the leaves of Ladies Smock (*Cardamine pratensis*).
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Figure 6. *Puccinia aegopodii* rust on Ground Elder (*Aegopodium podagraria*).
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Figure 7. *Puccinea arenariae* rust on the leaves of Bog Stitchwort (*Stellaria alsine*).
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Figure 8. *Ochropsora ariae* rust on Wood Anemone (*Anemone nemorosa*).
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Figure 9. *Ochropsora ariae* rust on Wood Anemone (*Anemone nemorosa*).
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SUMMER

In May and June, recording days in our meadows around Wyre enabled us to record familiar rusts on Betony (*Stachys officinalis*), Barren Strawberry (*Potentilla sterilis*), Common Nettle (*Urtica dioica*), Wood Anemone (*Anemone nemorosa*), and smuts on Wood Anemone leaves and flower anthers of Lesser Stitchwort (*Stellaria graminea*). Brett Westwood spotted a rust (Figure 7) on the leaves of Bog Stitchwort (*Stellaria alsine*) in a damp area within Wyre.

A special trip was made into Withybed Wood to try to see if the uncommon rust *Ochropsora ariae* (Figures 8 and 9) was present this year on Wood Anemone. When re-found on a steep west-facing slope, the infected leaves were obvious with their extra-long stalks. One leaf only was collected, but on closer inspection the rust was found to be immature. It was kept for several days in a warm place, but still the teliospores did not mature. It was noted that we need to check in the field before we collect, although that is not always easy. Perhaps a mirror might help!

In July and August, we found the rust *Puccinia punctiformis* (Figure 10) on Creeping Thistle (*Cirsium arvense*). Ergot, the ascomycete *Claviceps sp.* (Figure 11), was recorded on Sweet Vernal Grass (*Anthoxanthum odoratum*) growing along the edge of one of the forest tracks, and the rust *Puccinia menthae* was discovered on Water Mint (*Mentha aquatica*). Ground Ivy (*Glechoma hederacea*) rust, *Puccinia glechomatis*, was obvious in various sites and some amazing Maize smut galls (*Ustilago*

maydis; Figure 12) were recorded in a Maize crop. Summer temperatures soared and much vegetation started to brown and dry as the hot weather continued for weeks at a time, reaching an incredible 38°C in Bewdley on 18th July, while Britain topped its highest ever summer temperature at 40°C the next day. As a result, it became more difficult to locate plant pathogens on already infected plants, while further infections ceased as the foliage died-off completely.



Figure 10. *Puccinia punctiformis* rust on Creeping Thistle (*Cirsium arvense*).
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Figure 11. Ergot *Claviceps* sp. on Sweet Vernal Grass (*Anthoxanthum odoratum*).
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Figure 12. Maize smut galls *Ustilago maydis*.
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AUTUMN

In September and October, we spent two interesting days around Bewdley town recording in an urban setting. Ian Wright spotted rusts on Petty Spurge (*Euphorbia peplus*), Daisy (*Bellis perennis*, Figure 13), Nipplewort (*Lapsana communis*), and *Albugo candida* s.l. on Hedge Mustard (*Sisymbrium officinale*). On rough ground we found the rusts *Puccinia lagenophorae* on Common Groundsel (*Senecio vulgaris*) and *Puccinia glechomatis* on Ground Ivy. Tar Spot, *Rhytisma acerinum*, was present on every Sycamore (*Acer pseudoplatanus*) we passed, and rusts were prolific on leaves of hybrid Poplars.

A walk in Eyemore provided a record of the rust *Stenacis convolvens* on Spindle (*Euonymus europaeus*) which was growing along the hedge around Huntsfield meadows.

Powdery Mildews started to appear in numbers and some of our garden plants turned white, an effect caused by species such as *Erysiphe intermedia* on Lupins (Figure 14) and *Golovinomyces magnicellulatus* on Phlox spp. Marian Davidson reported infections of the rust *Gymnosporangium sabiniae* (Figure 15) on Pear leaves and *Puccinia malvacearum* on Common Mallow (*Malva sylvestris*).



Figure 13. *Puccinia distincta* rust on Daisy (*Bellis perennis*).
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Figure 14. Powdery Mildew *Erysiphe intermedia* on Lupin.
Rosemary Winnall



Figure 16. Honey Fungus *Armillaria mellea*.
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Figure 15. *Gymnosporangium sabinae* rust on Pear.
Marian Davidson



Figure 17. Honey Fungus *Armillaria mellea* rhizomorphs.
Rosemary Winnall

WINTER

Brett Westwood reported the rust *Melampsora hypericorum* on wild Tutsan (*Hypericum androsaemum*) growing along the bank of the River Severn.

When the fungus season began after heavy rains, we started to record toadstool fruiting bodies of plant pathogens including Honey Fungus, *Armillaria mellea* (Figure 16). We also found its black rhizomorphs (Figure 17) where it had become parasitic and killed a deciduous tree.

Fruiting bodies of Dyers Mazegill, *Phaeolus schweinitzii* (Figure 18), parasitic on the roots of conifers, are not so often recorded and are sought by natural dyers to produce yellow, orange and brown colours.



Figure 18. Dyers Mazegill *Phaeolus schweinitzii*.
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I wish to thank David Ingram for verifying specimens and encouraging us all in our ongoing study of plant pathogens. More images can be found on Flickr at:
<https://www.flickr.com/photos/193669565@N03/albums/72157720083165397>