

Emerging Garden Pests and Diseases

Jassy Drakulic, Plant Pathologist

Plant Heritage Collection Holder's Conference
20th November 2020



RHS Gardening Advice Service



#	Pest	#	Disease
1	Box tree moth	1	Honey fungus
2	Vine weevil	2	Phytophthora root rot
3	Slugs & snails	3	Box Blight
4	Fuchsia gall mite	4	Pear rust
5	Alder leaf beetle	5	Brown rot of fruit
6	Woolly aphid	6	<i>Prunus</i> leaf spot & canker
7=	Rosy apple aphid	7	Apple & pear scab
7=	Viburnum beetle	8	Rose black spot
9	Glasshouse red spider mite	=9	Blossom wilt of fruit trees
10	Plum leaf-curling aphid	=9	<i>Prunus</i> powdery mildew

Fuchsia gall mite (*Asulops fuchsiae*)

- First found in UK by RHS GAS in 2007
- First ever found in Brazil in '70s
- Widespread in southern England and spreading into Wales & Northern England
- Microscopic, 0.25mm long
- Suck sap at shoot tips causing flowers and leaf deformities
- Spread by wind, via insects or by humans
- Overwinters on bud scales, cold winters may kill it off
- Cut off affected shoots, likely to re-infect new shoots
- No chemicals available
- Mite biocontrol available
- Differences in species and cultivar susceptibility



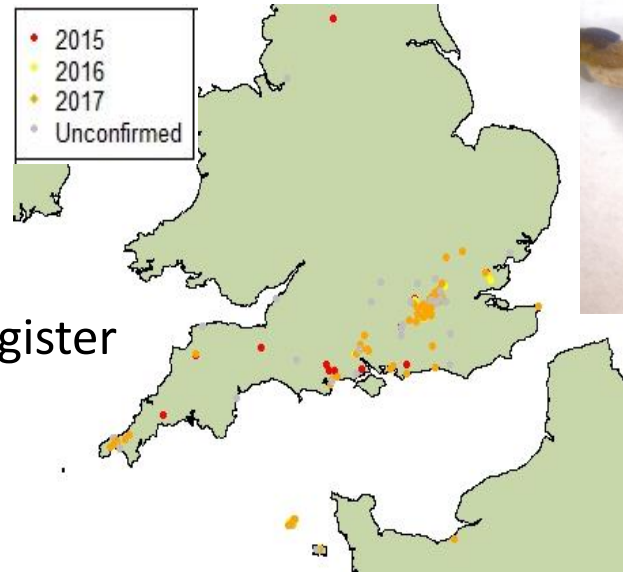
Year	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20
# Records	8	3	2	8	17	12	52	18	22	27*

(*until Sept 21st)

Agapanthus gall midge (*Enigmadiplosis agapanthi*)

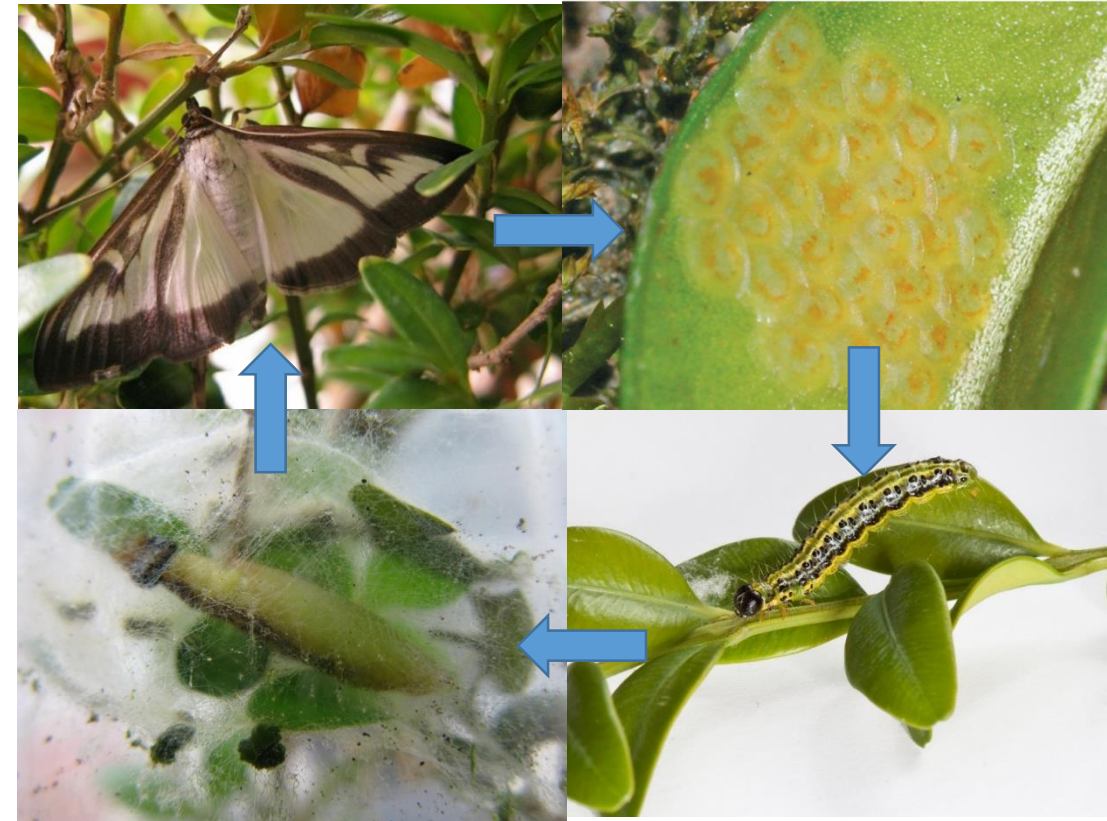
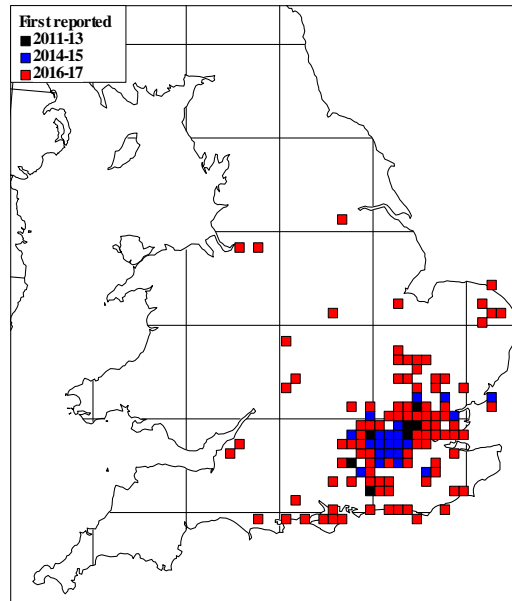


- New to science in 2014
- Widespread in S. England
- Flying midge lays eggs inside buds, developing larvae inside abort the flowers, no leaf symptoms
- Larvae between mid-June to early Oct
- Remove infested flower heads & repot
- Strulch & bark chips disrupt pupation
- Variation in cultivar susceptibility
- Archived on the UK Plant Health Risk Register



Box tree moth (*Cydalima perspectalis*)

- Adult moth in UK in 2007, caterpillars in 2011, established by 2014
- Native to Asia, present in N. America & mainland Europe
- Severe defoliation
- 2-3 generations/year
- Overwintering caterpillars
- Control: hand removal, pheromone traps, insecticides, nematodes
- Natural enemies



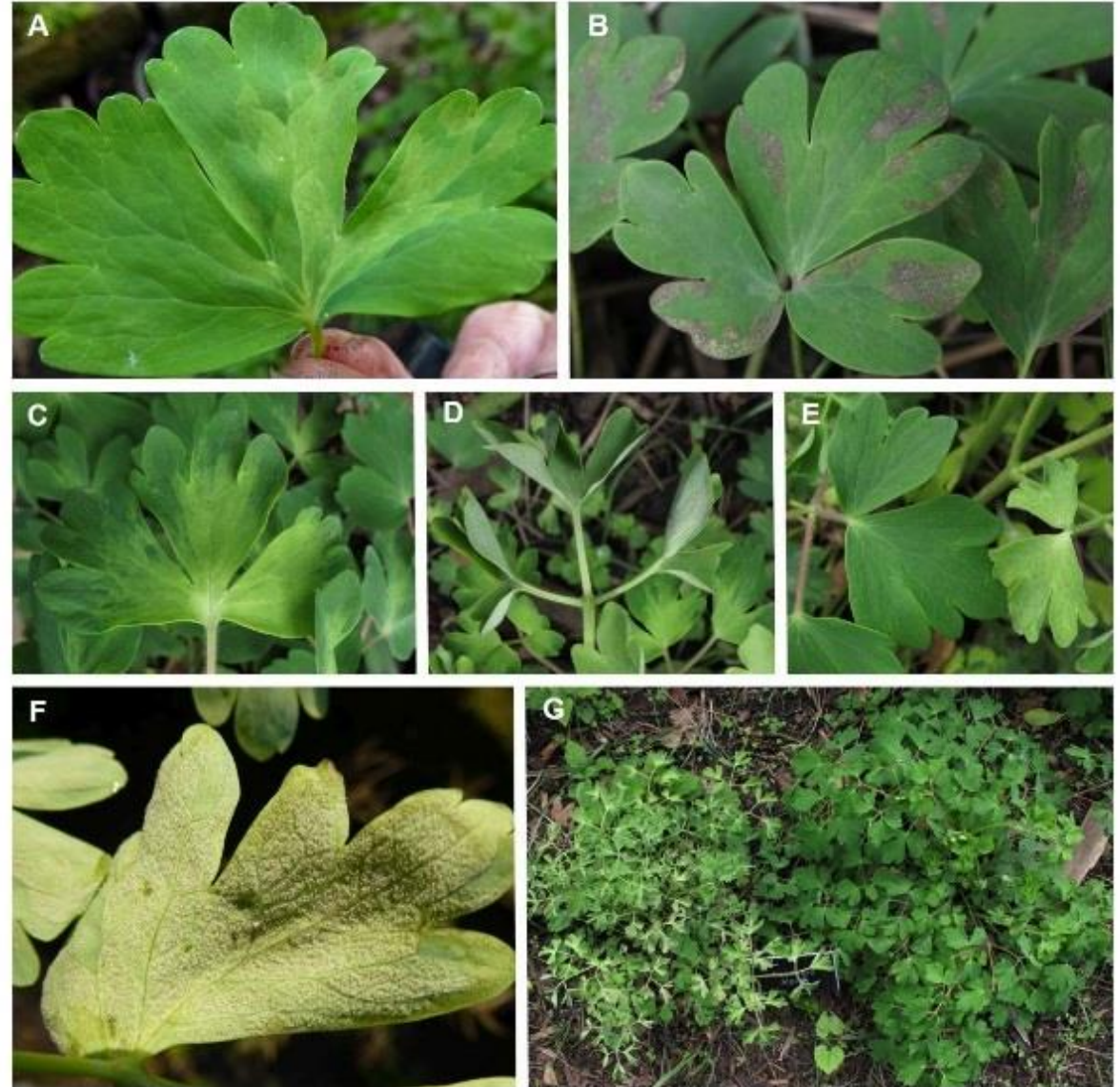
Year	2014	2015	2016	2017	2018	2019	2020
Records	13	194	312	3088	5131	10261	5512*

(*until August)

Aquilegia downy mildew (*Peronospora aquilegiicola*)



- First reports to Fera in 2011, RHS GAS in 2013
- National Collection (Touchwood Plants) collating records, oldest from ~2005
- Widespread in UK, found in Korea
- New species?
- Spread by splashing water, resting structures in soil
- Leaves: angular pale patches, brown/purple lesions, 'downy' underneath
- Flowers: water-soaked
- Systemic infection: plants stunted and curled
- Remove infected debris and soil
- No fungicides available, no resistant cultivars



Kerria twig & leaf blight (*Blumeriella kerriae*)

- Previously found in USA, first found in UK by RHS GAS in 2014, NDR in 2017
- Leaf spots with yellow haloes
- Sunken purple elliptical stem cankers
- Overwinters on infected debris
- Spread by splash, wind, tools
- Control by removing infected plants
- No data on fungicide efficacy

	2019		2018		2017	
Disease	Rank	%	Rank	%	Rank	%
Kerria twig & leaf blight	14	1.2	8=	1.3	11	0.9



Pear rust (*Gymnosporangium sabiniae*)

- Previously common in Europe and rare in UK but spreading
- Juniper alternate host, biotroph
- Wind-borne spores
- No fungicides for amateurs on edibles
- Removing infected leaves more harm than good

Year	2017	2018	2019	2020
Records	10	20	25	52*

(*until Sept 21st)



Photo: ispotnature.org



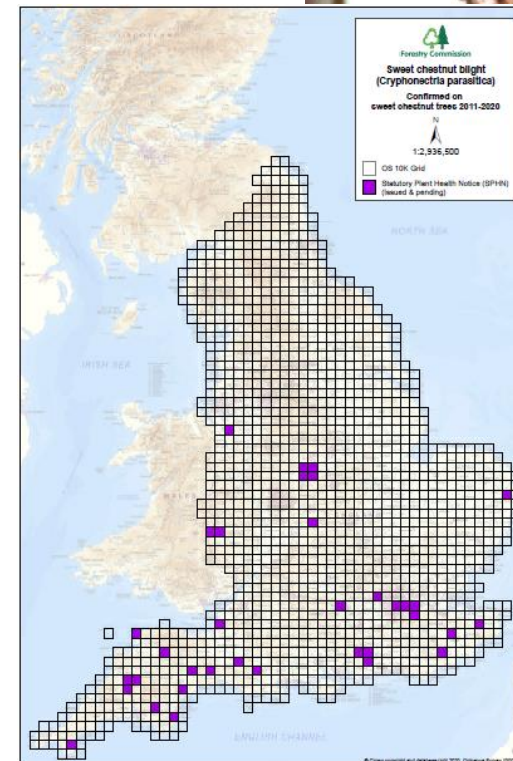
Sweet Chestnut Blight (*Cryphonectria parasitica*)



- Originated in Asia
- Obliterated American chestnut population
- Found in UK 2011, outbreaks 2017 S. England
- Sunken cankers, wilting, orange spores
- Kills in a few years
- dsRNA hypovirus CHV1 allows recovery
- Notifiable disease:

<https://treealert.forestryresearch.gov.uk/>

- Other hosts: *Quercus*, *Acer*, *Castanopsis*, *Rhus typhina*, *Carya ovata*



Images: Forest Research & Forestry Commission

Final thoughts

- Pests & diseases can emerge because of **invasives, host-jumps, changing climate,**
- Impact on wider **biodiversity**
- **Monitoring, awareness & reporting** is key to catching things early, identifying research needs & preventing spread
- **Resistance** breeding introduces bottlenecks in cultivar diversity



Photo: New York Botanical Garden

Brown Marmorated Stink Bug (*Halyomorpha halys*)

- RSPB Rainham Marshes, Essex August 2020
- Native to Asia
- Present in N. America & mainland Europe
- Host plants: apples, pears & soft fruit
- Warm summers helping it establish



Thank you for listening!

 @jassydrak



Inspiring everyone to grow