

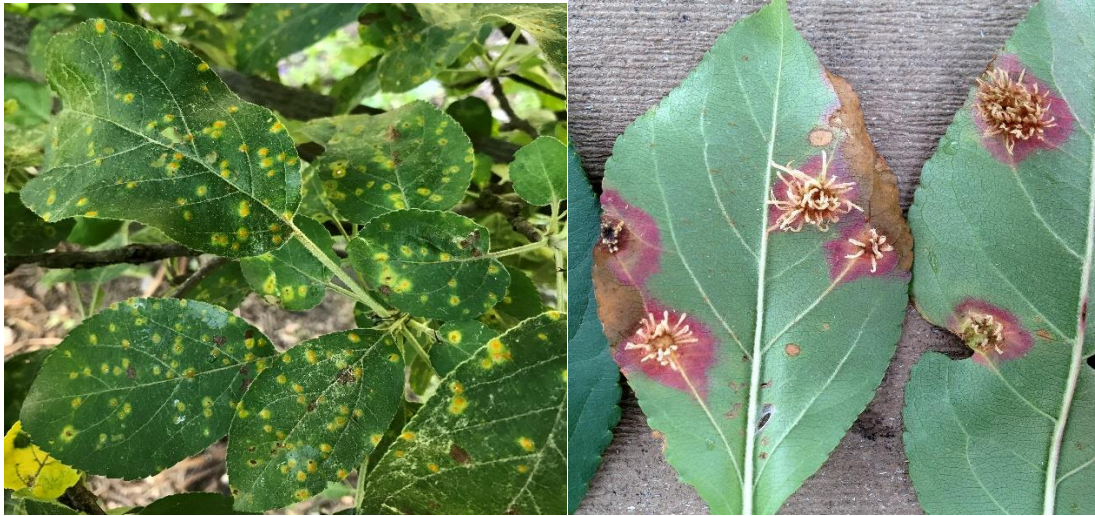
CEDAR APPLE RUST

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With our recent rainy weather, you may have noticed bright orange orbs with gelatinous tendrils in our native eastern red cedar and ornamental cedars (*Juniperus* spp.). These are the galls of the cedar apple rust disease pathogen, *Gymnosporangium juniperi-virginianae* Schwein. This unique fungus disease requires two hosts within a couple of miles of each other to complete its lifecycle: a juniper species and an apple, crabapple, serviceberry, hawthorn, or quince host. The pathogen overwinters on the evergreen host as a 1-2 inch knotty brown gall or swelling. When the weather warms in May and conditions are rainy, orange gelatinous ‘spore horns’ are produced, and the gall functions as a fruiting body releasing spores that are carried on wind currents to the alternate host. These fruiting bodies can dry down between rains and then become active again 5-7 times following rainy weather through May and June. When the fungus infects the alternate host it causes a leaf spot that initially appears on the foliage as small yellow spots which gradually enlarge and turn bright yellow/orange. The leafspot stage on apples and crabapples can impact the health and vigor of the apple host and has probably contributed to some of the early defoliation we have noted in the past few years. On the leaf undersides another kind of fruiting body is apparent, releasing spores in summer that are carried back to the juniper host completing the lifecycle.



Galls of the cedar apple rust fungus. A. Hazelrigg



(L) Bright yellow leafspot on upper apple leaf surface (R) Fruiting bodies under leaf. Nick Brazeo, UMass

Although this disease rarely kills either host, you should try to avoid growing susceptible junipers near crabapples and apples. When planting new apples or crabapples, try to select rust-resistant cultivars. Pruning apples and crabapples yearly to open them up to air and light can reduce leaf wetness and reduce infection. Removing dormant galls from junipers before the orange-colored spore tendrils are formed in the spring can also help to reduce the amount of disease. Fungicide control for the disease is not practical or necessary.

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