

## CEDAR HAWTHORN RUST

*Gymnosporangium* spp.

- Natural range -** Fungi of this group are found throughout the northern hemisphere, wherever suitable host plants occur.
- Species affected -** These rusts require two hosts to complete their life cycle: junipers and certain members of the rose family such as apple, crabapple, hawthorn and juneberry.
- Type of damage -** Damage is minimal to junipers although some species of *Gymnosporangium* can cause witches brooms, which may be unsightly. When apples, hawthorns or other members of the rose family are infected, foliage loss, smaller than normal fruits, reduced fruiting and general tree decline can result.
- Symptoms -** Structures, known as telial horns, form on branches or foliage. They often appear as round gall like structures and are orange brown in color. Some species of *Gymnosporangium* can cause witches brooms. On apples, hawthorns and other alternate hosts, small greenish yellow spots appear on the undersides of leaves, which later turn an orange yellow color.



Left – Telial horns of *Gymnosporangium* sp. on juniper.  
Right – Spores of *Gymnosporangium* sp. on hawthorn.