

= Caloscypha =

Caloscypha is a fungal genus in the family Caloscyphaceae (order Pezizales) . A monotypic genus , it contains the single species *Caloscypha fulgens* , commonly known as the spring orange peel fungus , the golden cup , or the dazzling cup . It is a cup fungus , typically up to 4 centimetres (1 @. @ 6 in) in diameter , with a bright to pale orange interior and orange ; specimens that are old or bruised often have an olive @-@ green discoloration , especially around the edges . In North America , it is usually found on the ground in forest litter near conifers . Fruiting occurs in early spring following snow melt . The asexual (imperfect) , or conidial stage of *C. fulgens* is the plant pathogenic species *Geniculodendron pyriforme* , known to infect dormant seeds of the Sitka spruce .

= = Taxonomy = =

This species was first described by Christian Hendrik Persoon in 1822 as *Peziza fulgens* , and has been grouped in several different genera since its original description . Phylogenetic analysis of DNA sequence data shows that within the Pezizales order , *Caloscypha fulgens* belongs in an evolutionary lineage with the families Helvellaceae , Morchellaceae , and Tuberaceae . Since 1968 , *Caloscypha* had been placed in the Pyronemataceae family , a small grouping of fungi distinguished from other Pezizales by their relatively undeveloped peridium . In 2002 , the new family Caloscyphaceae was described to contain the monotypic genus *Caloscypha* .

The distinctive orange @-@ yellow color of the fungus has earned it the common names " spring orange peel fungus " , the " golden cup " , and the " dazzling cup " . The specific epithet means " bright colored " , while the genus name *Caloscypha* means " beautiful cup " .

= = Description = =

The fruiting body of *C. fulgens* is roughly cup @-@ shaped , although the cup may be somewhat flattened , lopsided or split ; the size is up to 4 centimetres (1 @. @ 6 in) in diameter . The inner surface of the cup is orange @-@ yellow , while the external surface is pale yellow . Either the margin around the rim or the entire outer surface may be stained olive @-@ green . The green or bluish staining that occurs upon injury or with age is unique within the Pezizales order . The stem , if present , is rather short . The spore deposit is white .

A single specimen of an albino form , 2 centimetres (0 @. @ 8 in) in diameter , was discovered in Northern Idaho ; it was found to be lacking the pigment responsible for staining the outer surface olive @-@ green .

The spores are translucent (hyaline) , roughly spherical , thin @-@ walled and smooth , with dimensions of 6 ? 8 µm in diameter . The asci , the spore @-@ bearing cells , are cylindrical and 80 ? 100 by 7 ? 8 µm ; the paraphyses are thin and filamentous and contain orange granules . Edibility has not been recorded for this fungus .

= = Habitat and distribution = =

This species is usually found in the spring , often on duff under conifers shortly after the snow melts . In North America , where it has been noted to occur only between March and July , it is widespread in the Rocky Mountains and the Pacific Northwest . *C. fulgens* has been collected in Britain , and possibly arrived there from imported infected seeds . It has also been collected from Japan , Sweden , The Netherlands , and Turkey . It is listed on the Red List of protected species in Slovakia .

= = Imperfect state = =

The life cycle of this fungus allows for both an imperfect (making asexual spores , or conidia) or

perfect (making sexual spores) form ; as has often happened in fungal taxonomy , the imperfect form was given a different name , because the relationship between the perfect and imperfect forms of the same species was not then known . The imperfect , or conidial stage of this fungus is the plant pathogen *Geniculodendron pyrofirme* , first reported in 1964 , and known to infect dormant seeds of the Sitka spruce , *Picea sitchensis* . A 1978 study showed that about a third of Sitka spruce seed lots stored by the British Columbia Forest Service (Canada) contained diseased seeds , and these diseased seeds failed to germinate when sown in local nurseries . The fungus can grow at low temperatures , contributing to its ability to kill seeds before they have a chance to germinate . Infected seeds tend to shrivel and dry up rather than rot . It was also demonstrated that seed lots from squirrel seed caches have increased incidence of *C. fulgens* infection . Squirrels tend to cache pinecones repeatedly in the same location , and in cool , moist conditions favorable for fungus growth . In 2002 , *G. pyriforme* was found on imported conifer seeds in Germany , the first such report in continental Europe .

= = Similar species = =

Caloscypha fulgens bears some resemblance to the orange @-@ peel fungus (*Aleuria aurantia*) ; however , *A. aurantia* does not have the characteristic bluing reaction upon bruising or with age , and it fruits later in the season (usually in autumn) .