

Mold of the Month October 2009

Leptosphaerulina sp.

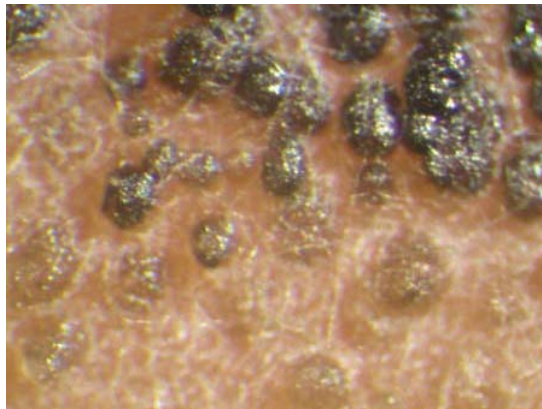


Figure 1: Developing pseudothecia of L114 on 20% V-8 juice agar.

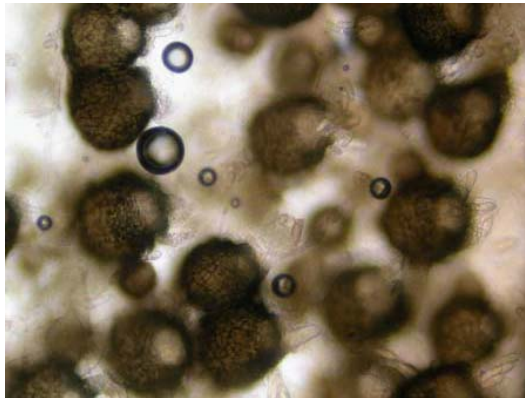


Figure 2: Crush mount of pseudothecia showing emerging asci. The culture was isolated from a necrotic perennial ryegrass leaf and grown on 20% V-8 agar.



Figure 3: Pseudothecia on a necrotic creeping bentgrass leaf.



Figure 4: Bitunicate ascus of L107 with endotunica rupturing through the exotunica

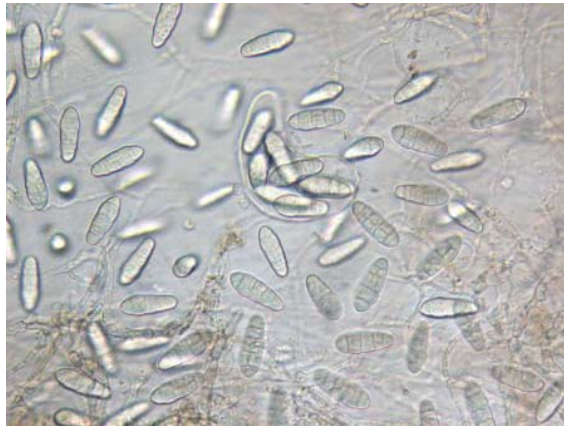


Figure 5: Ascospores of L108 in V-8 juice inoculum broth

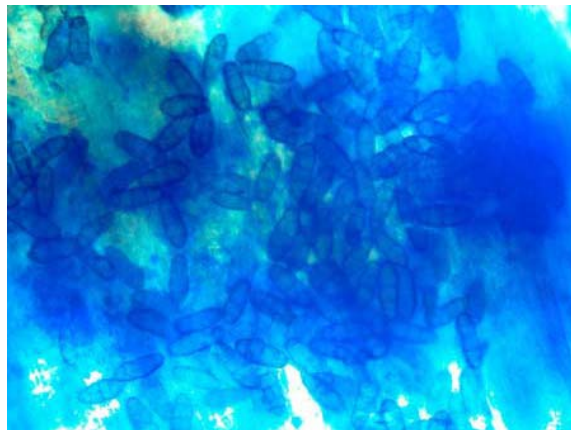


Figure 6: On a necrotic perennial ryegrass leaf.

Colony Description

Teleomorph of *Pithomyces chartarum*. Colonies are first hyaline then dark grey were fast growing on PDA and malt extract agar plates and produced dark brown multicellular conidia on small peg-like branches of the vegetative hyphae. Conidia were broadly elliptical, pyriform, verrucose, 20-25 µm long and 10-15 µm wide and exhibited, as a distinctive feature, transverse and longitudinal septa.

Microscopic Morphology

Ascomycete found on leaves and herbaceous stems. Its asexual state is *Pithomyces*. Ascoma an ostiolate, immersed in host tissue, apex erupent at maturity. Asci few, bitunicate, thick-walled, 8-spored. Ascospores are colorless, variable in shape from oblong to ellipsoid or short cylindric, transverse and longitudinal septa, sometimes longitudinal septa lacking in some spores, with a thin gelatinous sheath, sometimes becoming brownish with age.

Ecology

Leptosphaerulina leaf blight is a common problem of amenity turfgrasses during humid weather in the United States. The disease is characterized by a general leaf blighting of small patches to large stands of turfgrasses. *Leptosphaerulina spp.* are most frequently found colonizing necrotic creeping bentgrass (*Agrostis stolonifera* L.), perennial ryegrass (*Lolium perenne* L.) and Kentucky bluegrass leaves (*Poa pratensis* L.) from the late spring through fall.

Health Effect

Leptosphaerulina leaf blight is presently thought of as a common problem in the humid areas of the United States, occurring mostly on creeping bentgrass (*Agrostis stolonifera* L.), Kentucky bluegrass (*Poa pratensis* L.), and perennial ryegrass (*Lolium perenne* L.) Other turfgrass species described as being susceptible include annual bluegrass (*Poa annua* L.), colonial bentgrass (*Agrostis tenuis* Sibth.), red fescue (*Festuca rubra* L.), tall fescue (*Festuca arundinacea* Schreb.), annual ryegrass (*Lolium multiflorum* Lam.), and bermudagrass (*Cynodon dactylon* L.). The initial symptom described for the disease is leaf tip yellowing. The blighted area shifts from yellow to brown and expands toward the leaf sheath.