

Ectotrophic root-infecting fungi on roots of ultradwarf bermudagrass putting greens

Phillip Vines

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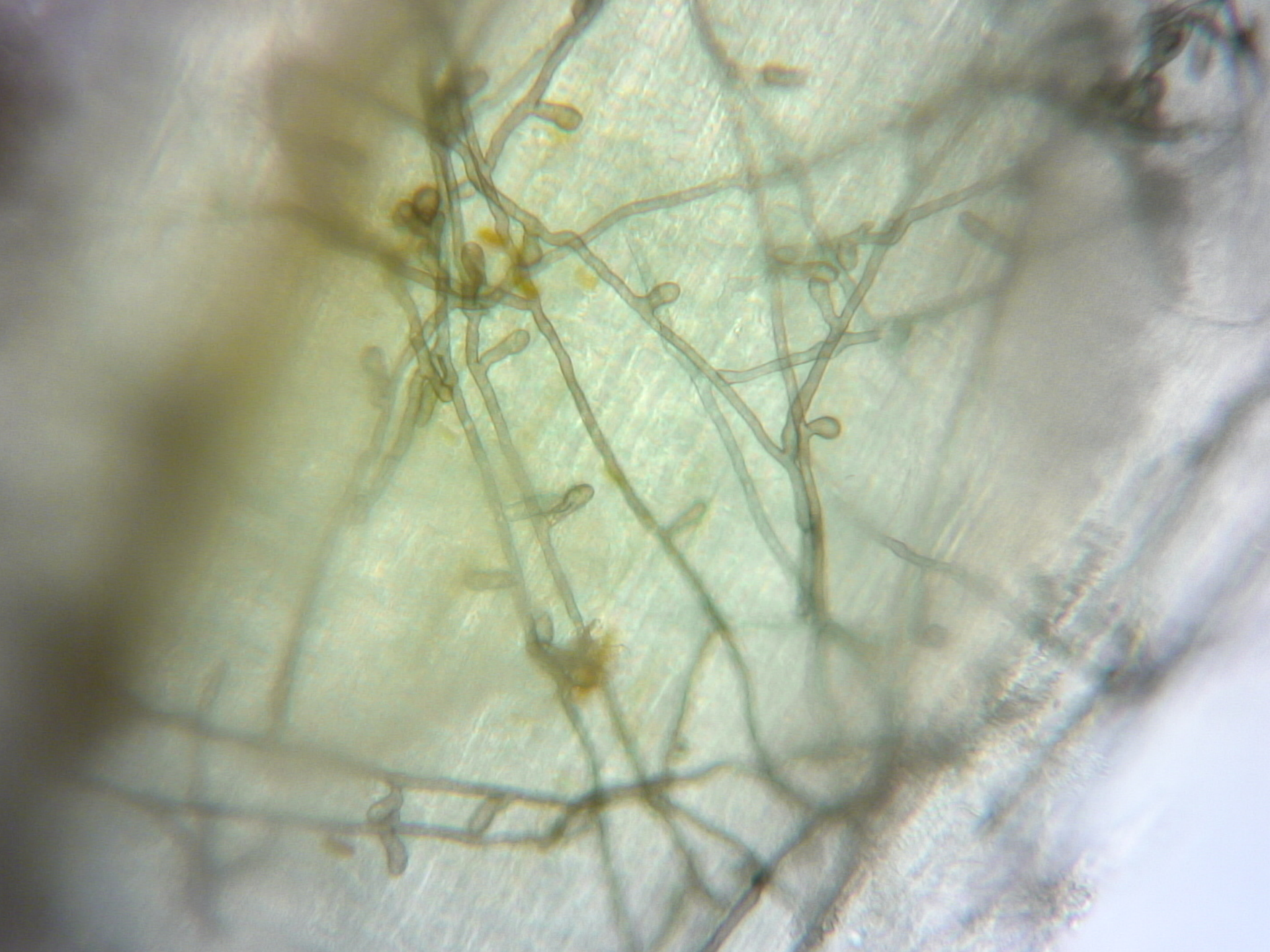


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“Summer Decline”





Ectotrophic Root-Infecting (ERI) Fungi

- Soil-borne; colonize plant roots via dark, runner hyphae
- Circular or patch-like dieback of foliar plant material
- *Gaeumannomyces*, *Ophiosphaerella*, *Magnaporthiopsis* (*Magnaporthe*)
 - Magnaporthaceae, Phaeosphaeriaceae



Turfgrass Diseases

- *Gaeumannomyces graminis* var. *graminis*
 - Bermudagrass decline (BG)
 - Root decline (warm season turfgrass)
- *Gaeumannomyces graminis* var. *avenae*
 - Take-all patch (CBG)
- *Ophiosphaerella* spp.
 - Spring dead spot (BG)
 - Necrotic ring spot (KBG, ABG)
 - Dead spot (CBG)
- *Magnaporthiopsis poae*
 - Summer patch (KBG, ABG, CBG)





Hypothesis

Novel ERI fungal species are responsible for
Summer Decline of UDB putting greens



Objectives

- I. Isolate ERI fungi from colonized UDB roots

- II. Conduct phylogenetic analyses to determine relatedness of MSU isolates to fungi in the Magnaporthaceae and Phaeosphaeriaceae families



Materials and Methods



Materials and Methods - Isolation



Materials and Methods - Isolation

- Collect root materials that are colonized with dark, runner hyphae
- Surface disinfect
- Plate for axenic culture

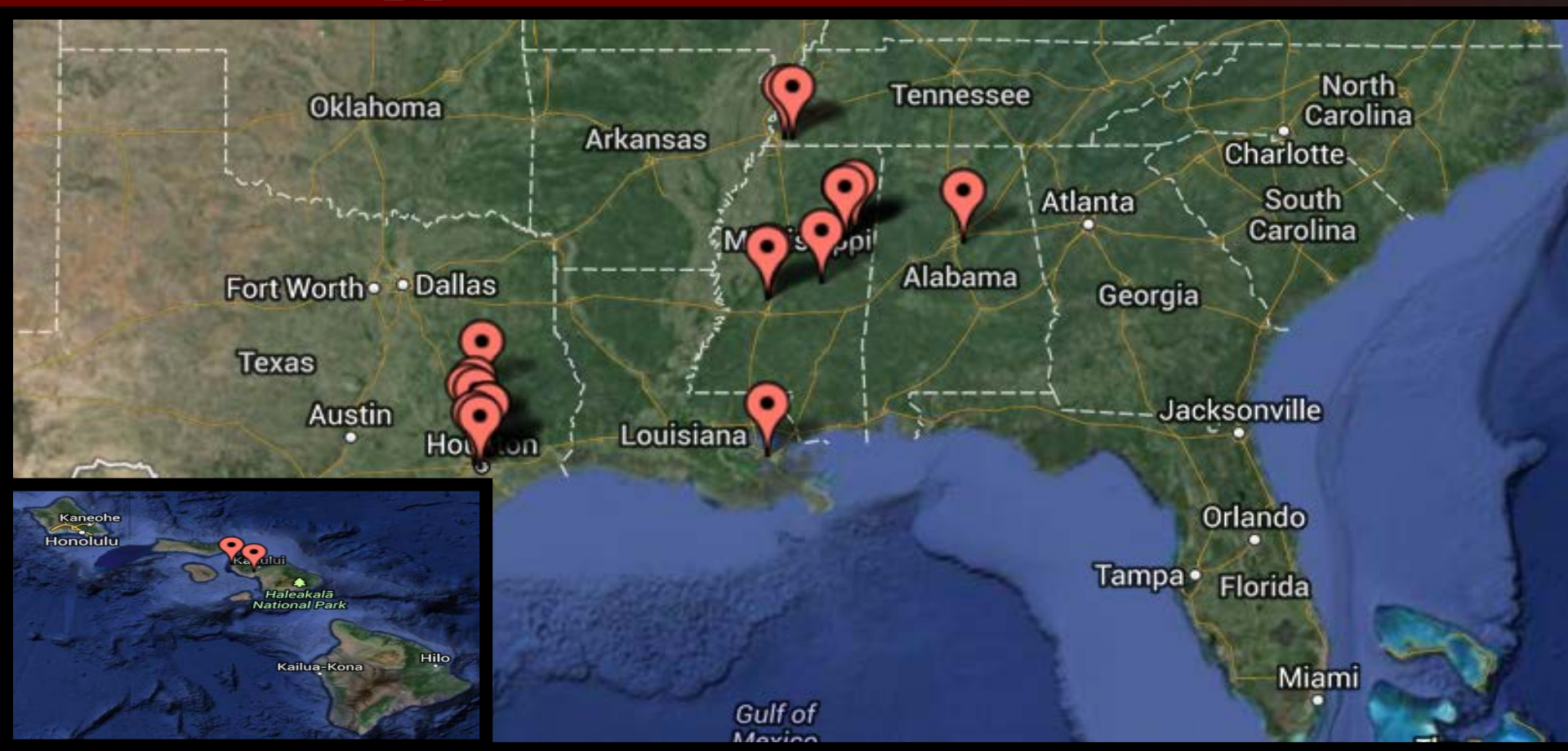


Results



Results - Isolation

- Distribution: Alabama, Hawaii, Louisiana, Mississippi, Tennessee, Texas (6 states)



Magnaporthiopsis, a new genus in Magnaporthaceae (Ascomycota)

Gaeumannomyces graminis var. *graminis*
MSU (3)
Gaeumannomyces graminis var. *tritici*
Gaeumannomyces graminis var. *avenae*

Magnaporthiopsis poae
SPKBG7
SPKBG3
Magnaporthiopsis rhizophila
MSU (4)
Magnaporthiopsis incrustans
MSU (3)
MSU (10)
MSU (9)
TAP41
TAP35

Nakataea oryzae
Buergenerula spartinae
Omnidemptus affinis
Gaeumannomyces cylindrosporus
MSU (1)
MSU (6)

Pyricularia grisea
Pyricularia oryzae
MSU (2)
Magnaporthe griffinii

Ophioceras dolichostomum
Ophioceras leptosporum
Ophioceras commune

MSU (4)
MSU (1)
MSU (1)
MSU (1)
Ophiosphaerella agrostis
Ophiosphaerella herpotricha
Ophiosphaerella korrae



Questions/Comments?



plv7@msstate.edu



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