

Searching for Calostoma cinnabarina using GARP



photo by David Diehn - from MushroomExpert.com

Locations of known sites			
ID	Name	North Latitude	West Longitude
A	Durant Pond	42.444836	71.468050
B	Nashoba Brook	42.514455	71.402819
C	Hope Cemetery	42.469165	71.476085
D	Hibbett	42.126474	71.598991
E	Blue Hills	42.211959	71.113186
F	Broad Meadow	42.228950	71.770334
G	Wachusett	42.488874	71.893052

Calostoma cinnabarina is a remarkable looking basidiomycete fungus. Classification has historically presumed a saprotrophic ecology for the genus. Molecular studies of Calostoma's evolutionary relationships discovered that this genus is part of a lineage derived from the Boletes. This began to shed doubt on Calostoma's presumed saprotrophic status.

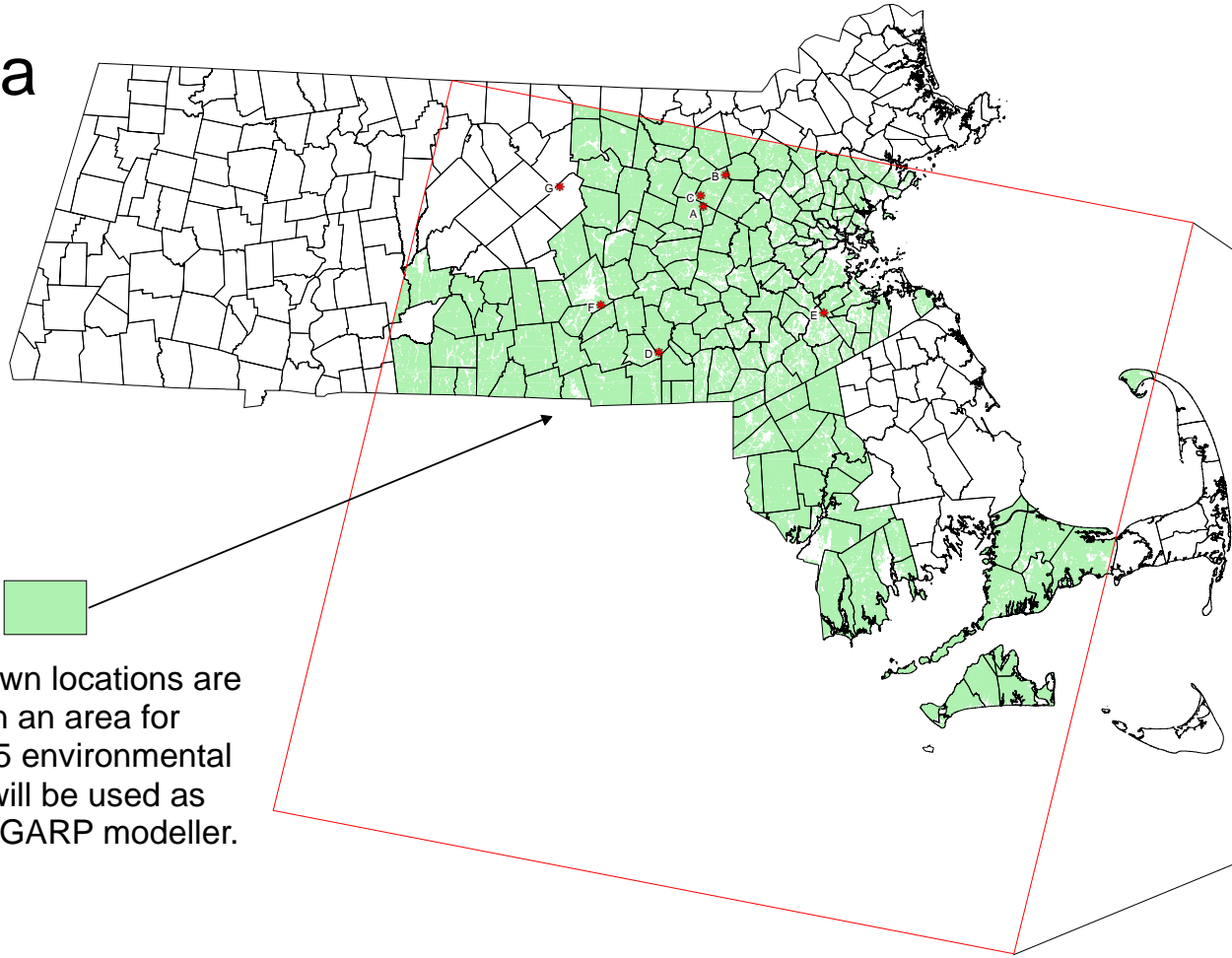
This study will use GARP (Genetic Algorithm for Rule-set Production, Stockwell 1992) to predict field locations where collections may be found. Environmental characteristics will be terrain aspect and slope, and hydrography, which are statewide data from MassGIS, and Landsat data from July 31, 2002 and soil data from NRCS SSURGO.

Six known sites where Calostoma cinnabarina has been collected will be used as the basis for the GARP model. Three sites are from known collections by G. Riner (A, B, C) and 3 sites from collections made by A. Wilson (D, E, F).

Area of Study



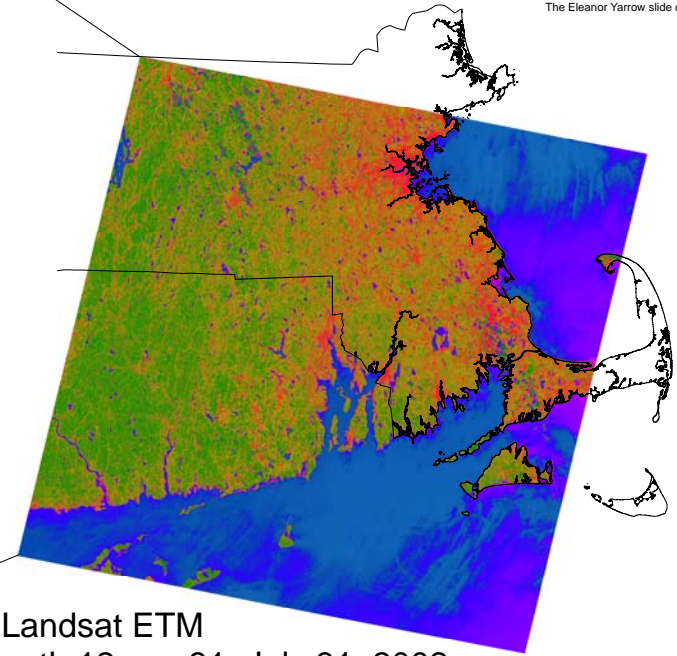
Six of the seven known locations are geographically within an area for which data exist for 5 environmental layers. These sites will be used as training sites for the GARP modeller.



George Riner
GGR-902 - Digital Cartography



The Eleanor Yarrow slide collection - COMA



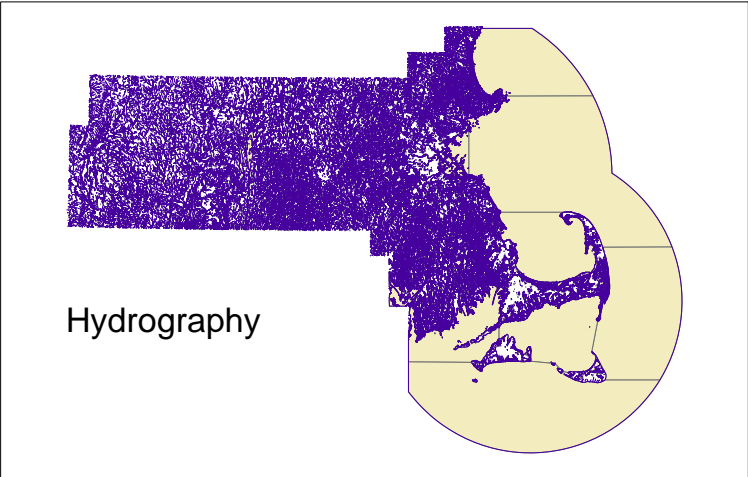
Landsat ETM
path 12 row 31, July 31, 2002



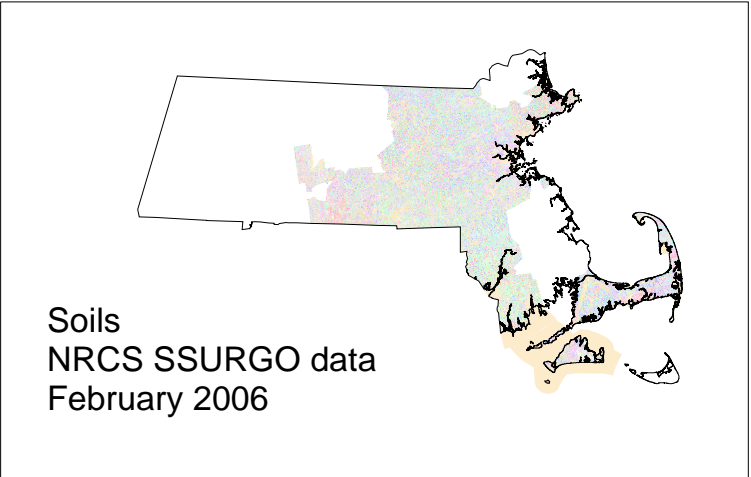
Aspect



Slope



Hydrography



Soils
NRCS SSURGO data
February 2006