

# Attack of the Killer Fungus: “Real” Research in the Classroom

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Discovery driven experiments in undergraduate laboratory courses have been shown to increase student learning and critical thinking abilities. This workshop focuses on a lab module involving the nematophagous fungus, *Arthrobotrys oligospora*, an ecologically relevant organism with potential use as a pest control agent in agricultural settings. *A. oligospora* is capable of capturing the nematode *Caenorhabditis elegans* through the formation of circular traps. The goals of this module are to enhance scientific understanding of the regulation of worm capture by soil dwelling fungi and for students to attain a set of established learning goals. Groups of four students are provided with the experimental background and conduct their own literature search to identify a variable that may affect the efficiency of *C. elegans* capture. Students develop a hypothesis and conduct an experiment to compare worm survival in the control versus variable condition, writing a lab report in the format of a primary research article. From this experimental module, students were able to produce results that agree with published data as well as add to the existing literature, while demonstrating positive gains regarding the learning objectives. Workshop attendees will be introduced to nematophagous fungi, design potential experiments that their students could perform using the established module, and get hands on experience with the organisms and experimental protocol. In addition, we will discuss how to incorporate this module into the lab curriculum at attendees’ institutions along with potential means of assessment to measure student learning. This workshop was previously presented at the Eugene OR conference in 2014 and is published in ABE Proceedings, Vol 36, Article 15 of the *Tested Studies for Laboratory Teaching* on the ABE website.

**Keywords:** nematophagous fungus, biocontrol, *C. elegans*

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## Citing this Article

Sato, B. 2017. Attack of the Killer Fungus: “Real” Research in the Classroom. .Article 13 In: McMahon K, editor. *Tested studies for laboratory teaching*. Volume 38. Proceedings of the 38th Conference of the Association for Biology Laboratory Education (ABLE). <http://www.ableweb.org/volumes/vol-38/?art=13>

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