

Discovering New Codling Moth Entomopathogenic Fungi

Problem: Effective codling moth management requires a diversity of active ingredients and modes of action. Organic management is limited to only a handful of options, and they need more to prevent resistance development.

Project Goal: Discover, characterize, and develop new codling moth entomopathogenic fungi.

Background:

- 14,000 Codling moth larvae were collected in cardboard bands in 2023
- 8 were screened for entomopathogenic fungi
- 3 were found infected
 - *Beauveria bassiana*
 - *Metarhizium robertsii*
 - *Ophiocordyceps* sp.
- *B. bassiana* and *M. robertsii* show the most promise in initial assays

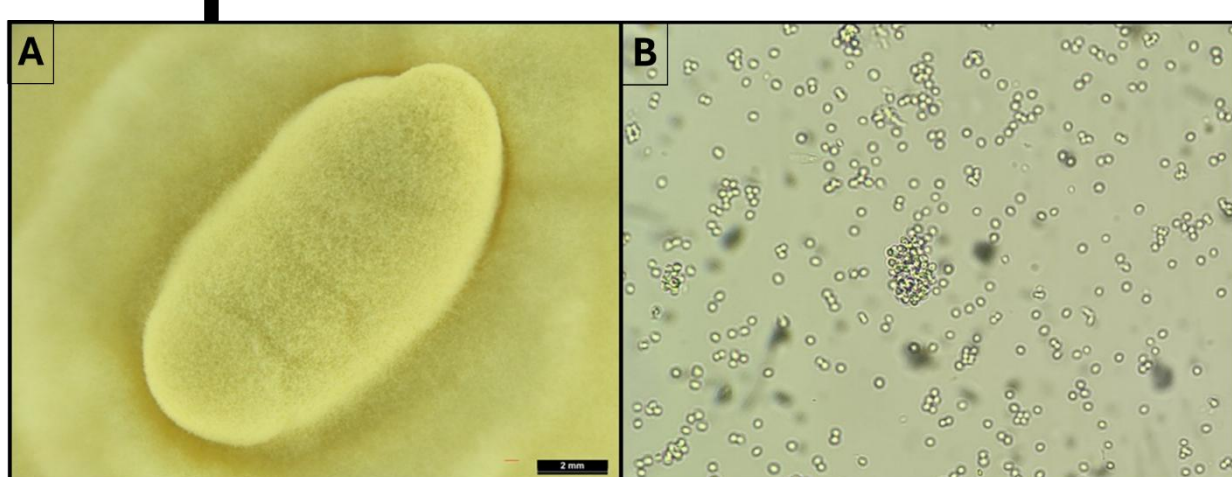


Figure 1. A) A *Beauveria bassiana* infected codling moth caterpillar discovered in Washington State, and B) *Beauveria bassiana* spores.

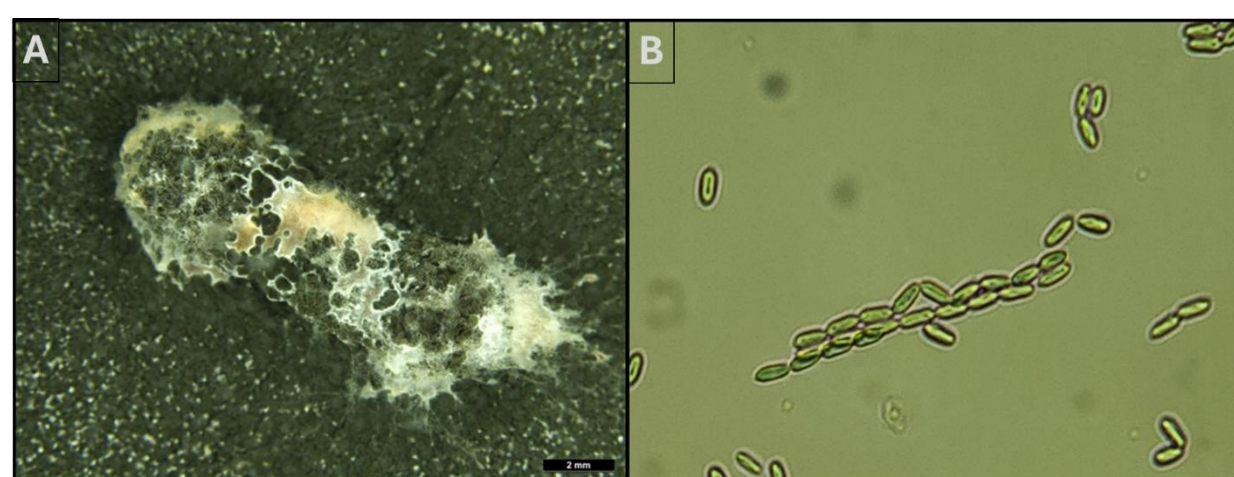


Figure 2. A) A *Metarhizium anisopliae* infected codling moth caterpillar discovered in Washington State, and B) *Metarhizium anisopliae* spores.

Future

- Continue infecting healthy codling moth larvae
- Select for the most virulent strains
- Develop those strains into biopesticides
- Identify, screen, and develop new strains from new collections

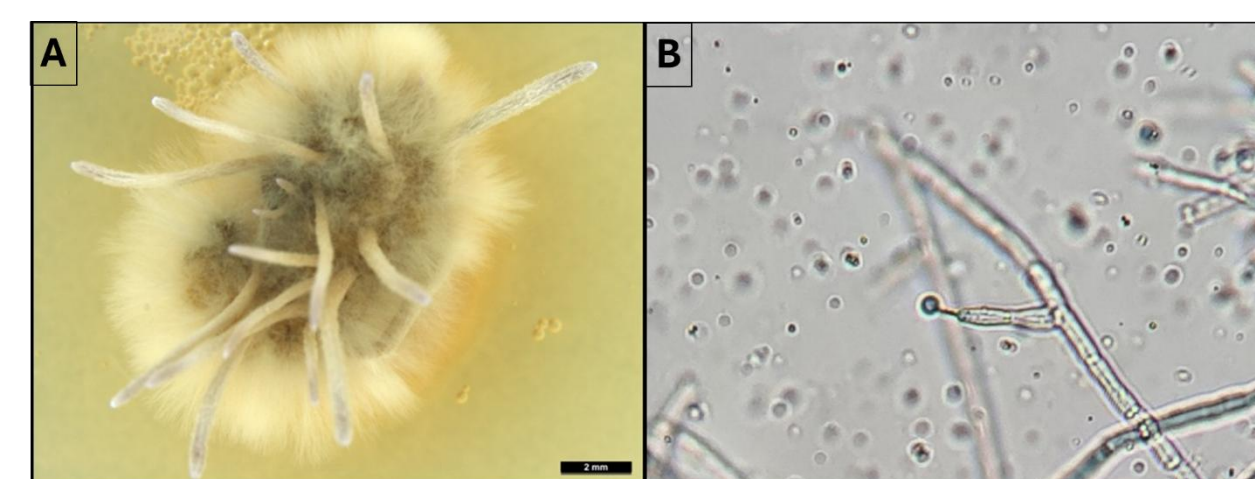


Figure 3. A) A *Hirsutella* / *Ophiocordyceps* infected codling moth caterpillar discovered in Washington State, and B) *Hirsutella* / *Ophiocordyceps* spores.

Thank you to funders



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