Update on a new pest-disease complex causing wilt on valley oak in CA

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CFPC Meeting, Davis, CA
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Valley Oak (*Quercus lobata*)

Symptoms on valley oak (*Q. lobata*) in Calistoga
Symptoms on valley oak (*Q. lobata*) in Calistoga

Frass accumulation at the base of the infested trunk
Symptoms on valley oak (*Q. lobata*) in Calistoga
Symptoms on young valley oak in Calistoga
Broken branches due to excessive beetle colonization on the branches of valley oak
Beetle galleries on live tissue of valley oak (Q. lobata)

Xyleborus monographus
Identification of the beetle:

Xyloborus monographus

Morphological ID
Robert Rabaglia, Entomologist, Forest Service USDA, Washington DC

Molecular ID (CO1 sequence)
Richard Stouthamer and Paul-Rugman Jones, Entomologist, UC Riverside

CO1_ Cytochrome c oxidase subunit I
**Xyleborus monographus**

- 1st record of established population in North America.
- 1 beetle found in a trap in Portland OR in 2018; subsequent trapping has not found any additional beetles.

Rabaglia et al
Associated Fungal Recovery

Isolation from the infested wood
Associated Fungal Recovery

![Graph showing fungal recovery](image)

- **Rafaela like**
- **Saccharomycopsis sp.**
- **Fusarium sp.**
- **Paecilomyces sp.**
- **Others**

Prevalence, %

- **Galery**
- **Mouth**

**Images:**
- Bug images
- Petri dish with fungal growth
Raffaelea sp.

Platypus cylindrus (Morelet, 1998)

Xyleborus monographus (Gebhard et al. 2004)

Maximum Parsimony

beta-(β) tubulin
**Fusarium solani**

Phytopathogenic and antagonistic potentialities of fungi associated with pistachio bark beetle, *Chaetoptelius vestitus* (Coleoptera, Curculionidae), infesting pistachio (*Pistacia vera*) in Tunisia

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Pathogenicity tests are underway
Thank You

http://ucanr.edu/sites/eskalenlab