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Rearing Bark and Ambrosia Beetles from Naturally Infested Wood

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Protocols Bark Beetle M...

Bark Beetle Mycobiome Research Coordination Network Bark

Beetle

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Abstract

This protocol describes how to rear bark and ambrosia beetles in naturally infested wood.

This protocol is part of the Bark Beetle Mycobiome (BBM) Research Coordination Network. For more information on the BBM international network: Hulcr J, Barnes I, De Beer ZW, Duong TA, Gazis R, Johnson AJ, Jusino MA, Kasson MT, Li Y, Lynch S, Mayers C, Musvuugwa T, Roets F, Seltmann KC, Six D, Vanderpool D, & Villari C. 2020. Bark beetle mycobiome: collaboratively defined research priorities on a widespread insect-fungus symbiosis. Symbiosis 81: 101–113 https://doi.org/10.1007/s13199-020-00686-9.

Troubleshooting

Sealing ends of logs against desiccation (multiple options):

- with parafilm (quickest)
- Spectracide pruning seal (United Industry Corp.)
- paint over with natural latex
- dip in molten wax

Suitable rearing box

Long, skinny, transparent plastic tupperware with a snug lid.
The beetles often have problems walking on slick wet surface such as in a plastic box. Options for the surface inside:

- paint with latex and cover with sand immediately, to create rough surface
- roughen with sandpaper (not reliable, droplets still catching beetles)
- put paper towels on the bottom (keeps moisture well, but not reliable, doesn't cover corners, which is where beetles congregate)

Many other rearing box designs exist, most of them dark, with a transparent bottle attached to concentrate the insects. Our design is simpler, and sufficient to rear and collect live, freshly emerged beetles, which is critical for research.