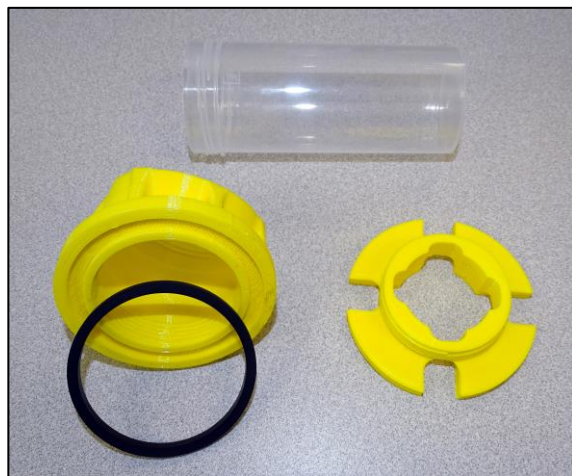


THIS IS THE DAWNING OF THE AGE OF EMERGENCE!

“Perhaps no major order of insects typifies the saproxylic habit more than beetles.” See overview in Gimmel and Ferro 2018.



3D Printable Emergence Chamber Attachments
(see reverse for more information)

<https://www.thingiverse.com/thing:6263974>

EMERGENCE CHAMBERS!

Make an emergence chamber to collect bugs that emerge from deadwood, decaying fungi, soil, leaf litter, etc.

Materials:

3D Retaining Nut (<https://www.thingiverse.com/thing:6263974>)

3D Tube Holder (<https://www.thingiverse.com/thing:6263974>)

O-ring (McMaster-Carr, 4061T249, Square-Profile Oil-Resistant Buna-N O-Ring, 1/8 Fractional Width, Dash Number 227)

Collecting Vial (Sarstedt, Multi-purpose container, 120 ml, (LxØ): 105 x 44 mm, graduated, PP, transparent, Order number: 75.9922.421)

Sterilite 18 Gallon Tote Box (recommended)

Hot Glue (hot-melt adhesive)

No-See-Um Mosquito Netting (polyester)

Assemblage:

Cut a 1 ¼ inch hole where the tube will be placed

Install retaining nut inside chamber, insert O-ring into tube holder, attach tube holder to retaining nut

Fill with material

Hot glue mosquito netting over top to seal container (can be removed and reused)

Add collecting vial with preservative (propylene glycol recommended)

Further Reading:

This design is meant to complement the design in:

Ferro, M. L., and C. E. Carlton. 2011. A practical emergence chamber for collecting Coleoptera from rotting wood, with a review of emergence chamber designs to collect saproxylic insects. *The Coleopterists Bulletin* 65: 115–124. <https://www.jstor.org/stable/41314167>

Overview of Saproxylic Beetles:

Gimmel, M. L., and M. L. Ferro. 2018. Chapter 2: General Overview of Saproxylic Coleoptera [pp. 51–128]. *In: Saproxylic Insects* (M. D. Ulyshen, editor). Springer Nature. Zoological Monographs I: 1–904. https://link.springer.com/content/pdf/10.1007/978-3-319-75937-1_2.pdf

Practical emergence chamber examples:

Ferro, M. L., M. L. Gimmel, K. E. Harms, and C. E. Carlton. 2012. Comparison of Coleoptera emergent from various decay classes of downed coarse woody debris in Great Smoky Mountains National Park, USA. *Insecta Mundi* 0260: 1–80. [5,700+ specimens, 51 families, 305 spp.] <https://digitalcommons.unl.edu/insectamundi/773/>

Ferro, M. L., M. L. Gimmel, K. E. Harms, and C. E. Carlton. 2009. The beetle community of small oak twigs in Louisiana, with a literature review of Coleoptera from fine woody debris. *The Coleopterists Bulletin* 63: 239–263. [400+ specimens, 16 families, 35 spp.] <https://doi.org/10.1649/1141.1>

3D design by Caitlin M (www.fiverr.com/caitandcoop).