

Call for specimens: SEM study on morphology of resin collecting ants

Christine Grabatin from the University of Bonn, Germany needs specimens for her PhD study on resin collecting ants. She is studying the mandible structure with SEM in order to detect structures on the workers' mandibles that explain why the resin does not really stick to the mandibles when being worked. The results might provide new insights to the evolution of social behaviour. These species are most important for her project:

Formica paralugubris

Gauromyrmex sp.

Vollenhovia sp. aff. *acanthina*

Vollenhovia sp.

The basic idea is related to the collecting of resin by bees, ants and wasps as an indicator of eusociality. In her PhD study, Christine wants to detect structures on the workers' mandibles that explain why the resin does not really stick to the mandibles when being worked. Some preliminary results on bees already revealed quite interesting and distinctive mandibular features of different bee, ant, and wasp species that are known to transport resin, as well as of those who use other material like mud or wood for their nests or different materials.

As a first step, Christine will provide a comparative study of the mandibular structures. With the conclusions regarding the function and purpose of these structures, she will trace it back in the fossil record with amber specimens. With this knowledge, it might be possible to draw new conclusions about these families and get new insight into the different degrees of social behavior, regarding nest building and other factors.

For her study, even small samples of the respective ants with two or three specimens preserved in ethanol are very helpful. She will isolate and scan the mandibles with the SEM, so at least the head of the specimen will be broken.

Also, if there is any knowledge about resin-gathering ants she would be most grateful to hear about it. Even anecdotic field observations would be very helpful.

Please contact Christine if you have any samples or want to share some information with here!

Christine Grabatin

University of Bonn, Germany

s6chgrab@uni-bonn.de