

## PERSISTENT STICKINESS OF CRIBELLUM SILK

Capture threads made by cribellate spiders are covered with balls of a sticky, viscous liquid which gradually dries out (e.g. Kullmann 1975) and loses most of its stickiness. Cribellate spiders' sticky thread is very different, being composed of a cloud of very fine threads about  $0.015 \mu$  in diameter (Lehmensick and Kullmann 1957, Friedrich and Langer 1969). The degree of "wetness" of cribellate silk is not clear. Many authors (e.g. Comstock 1940: 192, Gertsch 1949: 137-138, Bristowe 1958: 79, Kaestner 1968: 171, and Forster and Forster 1973: 209) have used the word "viscid" to describe it, intentionally or unintentionally implying that it is wet ("viscid" is defined in Webster's New World Dictionary of the English Language as "thick, sirupy, and sticky; viscous"). Kullmann (1975: 325) on the other hand describes it as dry, but offers no evidence. This note describes an observation which shows that cribellate sticky silk is probably dry, as it does not lose its stickiness on prolonged exposure to dry conditions.

A wooden frame in which a mature female *Uloborus diversus* (Uloboridae) had built an orb was placed in a small laboratory oven turned to "low," and left there for three months during the winter in Cambridge, Mass., where indoor humidity is low (usually 10-20%). At the end of this time, it was removed and immediately tested. When the tip of a lead pencil was touched to individual stands of sticky spiral, the silk stuck readily; there was no obvious difference compared to new silk.

As noted and clearly illustrated by Kullmann (1975: 325), the stickiness of cribellum threads is not simply due to the fine fibers becoming entangled in substrate irregularities as is sometimes stated (e.g. Kaestner 1968: 171). Its persistent stickiness implies that it is superior to "wet" sticky silk. In nature, however, the stickiness of cribellum silk is often substantially reduced within a few days or less due to rain or dust accumulation.

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