

## VARIATION NOTES.

C. H. EIGENMANN AND CLARENCE KENNEDY.

## THE SPINNING OF THE EGG-SAC IN LYCOSA.

W. J. MOENKHAUS.

The habit of the female spinning a round, ball-like egg-sac and carrying this suspended from the spinners during the period of incubation, is, so far as I can determine, characteristic of the entire family of ground spiders, the *Lycosidae*, with the exception of the single genus *Dolomedes*. The process of the construction of the cocoon has been seldom observed, so far as I can determine from the literature. This is due to the difficulty attending such observation, since all of the species either tunnel more or less deeply into the ground or live in retreats under stones, boards, and the like. I had tried for a long time, without satisfactory results, to observe this until I finally hit upon a species *Lycosa* sp. that permitted me to make the observation very completely. The plan had been to place gravid females in glass jars half-filled with earth, and by moistening this next to the glass induce her to construct her burrow there and thus enable me to watch her actions through the glass. While I got several females thus to construct their burrows and spin their egg-sacs, I was not able to see sufficiently well through the glass, which always became pretty well besmeared with earth during the excavation. In the case under consideration, however, the whole process occurred above ground, so that I could see it step by step. This, briefly, ran as follows:

She first excavated a shallow hole in the middle of the jar about one-third greater in diameter than the length of her body. This she did with her mandibles and palpi, piling the excavated ground in a crescentic heap around one side of the hole. Then she spun a thin sheet over the hole, extending from the top of the crescentic heap to the opposite side, completely covering the hole. This sheet, thus, was not horizontal, but inclined, and in the instance observed about 25 degrees, the inclination, of course, being determined by the height of the crescentic embankment. Upon the center of this sheet a crescent-shaped pocket was constructed with the broad and open side directed toward the higher end of the incline. Into this the eggs were deposited immediately after its completion. The