eggs filled the pocket heaped full. The exposed surface of the eggs was then closely spun over so that they were completely enclosed in a slightly compressed spherical cocoon, suspended in the center of the sheet. The edges of the sheet were then cut loose from the ground, carefully rolled up with the mandibles and palpi and tucked up against the cocoon, being spun fast as the work proceeded. This appeared as a rather prominent equatorial band around the cocoon at the line of attachment of the sheet. The whole cocoon was strengthened by further spinning, and, when finished, was fastened to the spinners and carried away. The whole was completed in a little more than one-half hour.

I have examined the cocoons of over fifty different species of *Lycosidae* and all show their equatorial band more or less prominently, so that it would seem that all the species adopt in general this same plan of constructing their egg-sac.

Experiments in the Hybridization of Fishes.

W. J. Moenkhaus.

[Abstract.]

During the past three years thirty-three different crosses were made among fishes. Most of these were between marine species; several were between fresh-water species, and three between marine and fresh-water species. In no combination was there a failure of impregnation. The per cent. of eggs impregnated was usually large—50 to 100 per cent.; in a few instances as low as 1 per cent. This per cent. bore no relation to the blood relationship of the species. In most of the cases there was either no polyspermy or the per cent. of polyspermy was small. In two crosses this was as great as 50 per cent. of the impregnated eggs. The degree of polyspermy bore no relation to the nearness of relationship.

In all cases of normal impregnation the earlier phases of development were passed through normally. All crosses except where *Batrachus tau* was used as the female, the development went beyond the segmentation stages, the embryonic shield being apparently perfectly formed. Many crosses went beyond this to the closure of the blastopore, but in these cases the embryo was varyingly shorter than the normals. Seven crosses developed into healthy fry. Some of these, however, showed abnormalities, usually in the caudal peduncle and the anal fin. These latter crosses were either between species of the same genus or nearly related genera.