

Phidippus AND THE WASP

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Walking along a dusty trail on a sparsely timbered hillside one hot afternoon in July, 1936, my attention was attracted by the quick movements of a dark, iridescent blue wasp with dusky brown wings. The wasp seemed to be searching as it ran and flew amongst the grass roots and lumps of soil. The lost prey, when it was regained, was a jumping spider, *Phidippus* sp., dark grey with red and white markings on its hairy body.

The spider was seemingly lifeless. It had been paralyzed by the wasp which had already excavated a cell in the earth nearby and was stocking it with several of the spiders. Having filled the cell the wasp would lay an egg beside the spiders and then fill the entrance. The paralyzed spiders would provide fresh food for the wasp larva. If the spiders were killed they would decompose and dry before the wasp egg could hatch.

I took the spider home and put it in a vial on a shelf. It was late September before I remembered it again. To my surprise it was not a shrivelled corpse, but looked as fresh as ever. On examining it with a magnifying glass I thought there was a slight trembling of the pedipalps. With a fine glass tube I placed a drop of water on its mouth. The mouth parts moved slightly and the bead of water gradually disappeared. I replaced the water several times with the same result.

A few days later the process was repeated. This time the mouthparts moved visibly. Next I caught a fly, mashed it in a drop of water, and placed it upon the spider's mouth. For several days this feeding was repeated. Each time there was improvement, until the spider could actually sit with its legs in a natural position and move them slightly.

Two weeks after the first drink I held a whole fly, partly killed, against the spider's jaws, which opened far enough to clasp it. By early December it could move 6 legs. By Christmas it had begun to web the earth in the jar. In February, 1937, it could jump at a fly or a pencil waved nearby. During the next summer it moulted once, and in February, 1938, it was still living in the jar, apparently as healthy as ever.

It is difficult to appreciate the delicacy of the paralyzing operation. The spider must be stung exactly in the thoracic ganglion or the operation is a failure, in which case the spider either lives and kills the wasp larva, or dies and so starves the larva.

Editor's Note: The foregoing is a condensed and revised version of a manuscript found in 1963 among the papers of the late A. A. Dennys, Vernon, B.C. It is used here by permission of Mrs. Dennys. The wasp is not identified further than as a "Digger." Probably it was one of the *Psammocharidae*.