

this distinction. In the specimens that the present writer has examined, including the types of *yuma*, there is considerable variation in the width and thickness of the petiole and the amount of incision at its crest. Indeed some of the types of *yuma* have a distinctly incised petiolar crest, perhaps again a result of distortion on drying. But it seems quite clear that it is hopeless to attempt to distinguish between *lugubris* and *yuma* on the basis of a difference in petiolar structure.

The same thing is true of the slight color differences cited by Wheeler. The color of *lugubris* was given as black, with the clypeus, antennae, legs, and palps fuscous and the mandibles sordid yellow. The color of *yuma* was said to be dark brown, with the anterior half of the head, antennae, palps, and legs paler and the mandibles, clypeus, cheeks, tibiae, and tarsi yellowish or pale brown. There is no possibility of utilizing such color differences, because any long nest series will contain individuals which fit either category. In the opinion of the present writer, the lighter-colored workers are those that have more recently emerged. As the present writer was unwise enough to employ three of the distinctions discussed above (curvature of the gula, shape of the petiole, and color) as the means for separating *yuma* and *lugubris* in the key presented in 1950 (Bull. Mus. Comp. Zoöl., vol. 104, p. 441), I wish to make it clear that further studies have shown the complete futility of these distinctions as separatory characters. There is only one course open—*yuma* must be treated as a synonym of *lugubris*.

It follows that an account of the habits of *lugubris* must include those previously attributed to *yuma*. Wheeler seems to have inclined to the view that *lugubris* is a honey-dew feeder, while *yuma* is entomophagous. He based his views on the fact that semi-repletes had been present in the type series of *lugubris* but none in that of *yuma*, and that in the case of *yuma* he had found insect remains scattered about the nest entrances. It is probable that *lugubris*, as do several other species of *Myrmecocystus*, feeds both on honey-dew and insects, but this is not certain. The presence of semi-repletes in the nests does not guarantee that the distension of the gaster is due to the imbibition of honey-dew. These semi-repletes are scarcely comparable to the enormously distended repletes of *mexicanum* and *melliger*. On the contrary they are much more like the semi-repletes of *Prenolepis imparis*. The gaster, while enlarged, is by no means spherical, and the insect seems to have no trouble moving about. As it is known that *Prenolepis imparis* often produces semi-repletes by imbibing the juices of dead earthworms, there is no reason why those of *lugubris* could not be produced by the imbibition of the juices of dead insects. We need additional observations before it can be stated with certainty that *lugu-*