



FIG. 3. The frequency histogram of the fresh weights of 211 *Myrmica sabuleti* males sampled from five nests at Durlston, Dorset; two nests were normal and three contained *Myrmica hirsuta* queens. The data are best described by two normal curves (means 2.9 mg and 4.1 mg) that are shown superimposed. The shaded areas represent individuals that are mounted and placed in the author's collection; hairy specimens are shown as stippled and normal specimens as vertical hatched areas. Note the association of the hairy specimens, which all come from the *M. hirsuta* nests, with the smaller size distribution.

described by a single normal curve and that the means of the two distributions were not significantly different. This showed that if *M. hirsuta* produces workers there is no significant difference in size between these and *M. sabuleti* workers. Secondly, a sample of 100 workers from each type of colony was examined carefully and no obvious *M. hirsuta* character, such as hairiness or large post-petiole width, could be detected. Finally, laboratory tests have not yet resulted in any workers being produced although eggs have been reared to the third instar diapause larval stage; these were most likely to have become sexual individuals after a low temperature period. It is hoped that details of the laboratory experiments will be published elsewhere.

Morphometric analysis

(i) Material examined and measurements used

The queens that have been measured for this paper are all preserved in the author's

collection. Specimens were obtained in two ways: first, from collection of whole colonies for the population studies that have been published elsewhere (Elmes, 1974) and secondly, from among the contents of pitfall traps that have been used for studies on spider populations. Consequently I have a total of 170 *M. sabuleti* queens, 106 of which were obtained from pitfall traps at three Dorset sites and sixty-four from the nests that were collected from Durlston, Dorset. There are fifty-four *M. hirsuta* queens in my collection, forty-seven were collected from *M. sabuleti* nests at Durlston and seven from the pitfall traps. *M. scabrinodis* is represented by 143 queens, 101 collected from the pitfall traps in Dorset and forty-two from population studies on colonies from Bodmin Moor, Cornwall, and Dartmoor, Devon. I have many fewer males in my collection than queens. The *M. scabrinodis* males consist of nine collected from pitfall traps in Dorset and fourteen collected from Studland National Nature Reserve in the 1930s by Capt C. Diver, whose collection is held at Furzebrook Research Station. A further four were collected