

species at the bait station. Evidently *M. floricola* can forage successfully with many species, even though it cannot exclude them.

Our definition of a "winning" species was based on species replacement at subsequent checks. Using this criterion there were at least two cases where species would incorrectly be recorded as "winners." Species encountering previously occupied but currently vacant baits would appear to have repulsed the previous species (as suggested for *T. melanocephalum*). Alternatively, species which were actively repulsed from

a bait but occupied the bait after the dominant species left would be scored as "winners." The only way to determine if such cases are common relative to competitive exclusion would be to rerun the experiments using continuous observation (which would mean a greatly reduced sample size).

Table 7 shows the frequency distribution of the maximum number of individuals occurring at each dish at which a given species appeared. *Wasmannia auropunctata* showed the broadest range of maximum number recruited. It also recruited the largest groups. Thirty-five percent of *Wasmannia*'s maximum groups were composed of more than 128 workers, whereas only 4 percent of all other species' maxima were this large. A species' win/loss record was positively correlated with a crude index of size of group recruited (the octave in which the median group size occurred, table 7:  $r_{s,8} = 0.655$ ,  $P < 0.05$ ). In general, species which recruited larger groups were "winners," species which recruited only small groups were "losers."

We were unable to detect any systematic temporal pattern in the order in which species found or took over baits. We compared the number of times each species was the first found on a bait with the number of times it was last on a bait, for the four species for which we had sufficient observations. There was no significant interaction between species identity and order of appearance. Sample sizes were not large, however, so the question deserves further study.

TABLE 6. Percentages of solitary occurrence for species during baiting experiments on Santa Cruz.

Species	Number occurrences	% of observations with no other species present
<i>Wasmannia auropunctata</i>	458	81.9
<i>Tetramorium guineense</i>	33	84.3
<i>Paratrechina vaga</i>	189	64.0
<i>Tapinoma melanocephalum</i>	65	61.5
<i>Paratrechina longicornis</i>	63	57.1
<i>Pheidole</i> spp.	127	52.8
<i>Camponotus planus</i>	10	50.0
<i>Solenopsis globularia</i>	56	46.4
<i>Monomorium floricola</i>	34	29.4
<i>Cardiocondyla</i> sp.	31	29.0

TABLE 7. Frequency distribution (%) of maximum numbers observed foraging at individual sugar-water bait stations on Santa Cruz.

Species	Maximum number observed										Number of bait stations
	1-2	3-4	5-8	9-16	17-32	33-64	65-128	129-256	257-512	512	
<i>Wasmannia auropunctata</i>	6	1	1	10	16	13	17	9	24	2	87
<i>Paratrechina vaga</i>	15	12	15	27	12	12	7	—	—	—	41
<i>Pheidole</i> spp.	10	13	10	16	6	26	13	3	3	—	31
<i>Solenopsis globularia</i>	35	—	24	—	24	12	6	—	—	—	17
<i>Tapinoma melanocephalum</i>	18	—	12	24	18	29	—	—	—	—	17
<i>Cardiocondyla</i> sp.	47	13	13	—	20	—	7	—	—	—	15
<i>Paratrechina longicornis</i>	36	9	9	—	9	18	18	—	—	—	11
<i>Tetramorium guineense</i>	—	—	11	—	11	22	56	—	—	—	9
<i>Monomorium floricola</i>	17	17	—	—	—	33	33	—	—	—	6
<i>Camponotus planus</i>	67	—	17	17	—	—	—	—	—	—	6
Total											240