

(0.27 g), subtracting the weight of 1000 *Wasmannia* maintained without food for 24 hours (0.08 g), and dividing by 1000.

SYNECOLOGY OF ANTS OF SANTA CRUZ ISLAND

We collected 17 species of ants on Santa Cruz (table 1). Four taxa were endemic; most of the rest were common tropical "tramp" species. The minimum rate of endemism on Santa Cruz is therefore 4/17 or 24 percent, a figure which is considerably lower than the presettlement rate of endemism, due to the numerous introduced species.

All four endemic species that were collected in the early part of this century (Wheeler 1919, 1924, 1933) were also collected by us. Thus, over a 50-year period no described endemic ant has become extinct on Santa Cruz.

It is difficult to document introductions in the last 50 years, since some species could have been overlooked by early collectors. However, both *Wasmannia* and *Monomorium floricola* (Jerdon) were missed by early collectors and yet are currently common to

abundant. It therefore seems likely that at least two of the current 17 species represent recent introductions to Santa Cruz.

Table 1 shows the numbers and locations of collections for all species on Santa Cruz. The data do not reflect equal sampling effort in all areas, nor equal rates of collection of each species. Only qualitative data are given for *Wasmannia*, because we frequently ignored it when collecting other species. The data give a crude index of relative collectability within each zone. For example, *Cylindromyrmex williamsi* Wheeler was collected in only two of 429 samples (both samples from the same general area on the same day). While the true relative frequency of this species is unknown, it was clearly difficult to collect.

Of the 17 species collected, eight were concentrated in the arid and transition zones, seven had very broad altitudinal ranges, and two were confined principally to higher elevations (table 1). The arid zone had the highest ant diversity of the five major vegetation zones sampled; only two of 17 species were never collected in the arid zone. Note the greater species diversity and frequency of collection in the north *Scalesia* and transition zones relative to the

TABLE 1. Number and location of collections of ants on Santa Cruz Island, Galápagos.

Taxon (Abbreviation)	S. arid zone	S. transition zone	S. <i>Scalesia</i> zone	<i>Niconia</i> zone	Summit-fern/sedge zone	N. <i>Scalesia</i> zone	N. Transition zone	N. arid zone	Total
<i>Tapinoma melanocephalum</i> (Ta)	12	0	0	0	0	0	0	4	16
<i>Conomyrma</i> sp. (Co)	10	0	0	0	0	0	1	9	20
<i>Tetramorium simillimum</i> (Ts)	3	0	0	0	0	0	0	0	3
<i>Cylindromyrmex williamsi</i> ^a (Cw)	0	0	0	0	0	0	0	2	2
<i>Camponotus macilentus</i> ^a (Cm)	6	0	0	0	0	0	0	3	9
<i>Paratrechina longicornis</i> (Pl)	8	0	0	0	0	1	0	0	9
<i>Monomorium floricola</i> (Mf)	14	0	1	0	0	1	0	13	29
<i>Solenopsis globularia</i> (Sg)	17	0	0	0	0	3	11	21	52
<i>Tetramorium guineense</i> (Tg)	12	1	6	0	0	3	1	0	23
<i>Pheidole williamsi</i> ^a (Pw)	5	0	0	1	1	3	18	9	37
<i>Camponotus planus</i> ^a (Cp)	6	1	2	0	0	4	18	13	44
<i>Pheidole</i> sp. <i>flavens</i> group (P)	2	4	3	8	1	22	9	0	49
<i>Paratrechina vaga</i> (Pv)	23	2	7	5	2	27	10	17	93
<i>Cardiocondyla</i> sp. (Ca)	1	0	0	2	0	2	13	4	22
<i>Hypoponera</i> sp. (H)	0	0	2	4	1	13	4	0	24
<i>Strumigenys</i> sp. (S)	0	0	2	3	0	1	1	0	7
Total for zone	119	8	23	23	5	80	86	95	439
<i>Wasmannia auropunctata</i> ^b (Wa)	+	+	+	+	-	+	+	-	

^aEndemic species. ^b+ = present, - = absent.