Table 13.3 Diversity Indexes from Berlese Samples

	Number of Individuals	Species Richness	Alpha	Shannon Index	Reciprocal Simpson Index	Reciprocal Berger-Parker Index
Old Growth Samples						
1	104	19	6.82	2.02	4.49	2.36
2	226	26	7.59	2.19	5.98	3.37
3	156	22	6.98	2.34	6.97	3.25
4	250	22	5.81	2.02	4.66	2.60
5	132	15	4.35	1.89	4.35	2.49
6	472	32	7.77	2.17	5.47	3.42
7	198	24	7.15	2.02	3.91	2.11
8	122	15	4.50	1.35	2.08	1.45
Mean (standard deviation)	208 (119)	22 (5.7)	6.37 (1.34)	2.00 (0.30)	4.74 (1.47)	2.63 (0.69)
Second Growth Samples						
9	405	37	9.92	2.61	7.68	3.27
10	187	20	5.68	2.10	5.79	3.46
11	274	31	8.99	2.48	7.99	4.49
12	120	23	8.45	2.14	4.25	2.14
13	347	20	4.61	1.80	4.13	2.97
14	108	23	8.95	2.56	8.97	3.86
15	60	18	8.72	2.39	7.70	3.16
16	112	21	7.63	2.24	6.03	3.11
Mean (standard deviation)	202 (126)	24 (6.5)	7.87 (1.82)	2.29 (0.27)	6.57 (1.79)	3.31 (0.68)
t Test	ns[a]	ns	ns	ns	$P < 0.05$	ns

[a]ns, Not significant.

emphasize the effects of dominant species show definite trends toward second growth being more diverse, with the reciprocal Simpson's index being significantly different.

Comparing diversity indexes across habitats or other environmental partitions is the most common use of sample data. For example, Kaspari (1996a) used sample species richness to show how leaf litter ants respond to disturbance. Levings (1983) used species richness and a modified Shannon index to investigate the effects of seasonality, site, and year on leaf litter ants. Roth et al. (1994) used a variety of sample diversity statistics to assess the effect of land management history on ground-foraging ants.

Exercise caution in assuming that significant differences in sample diversity are reflections of the same differences at other sampling spatial scales or in the real community. Imagine a scenario such as that depicted in Fig. 13.6. Habitat A might have higher within-sample diversity than habitat B but lower overall community diversity. Species-accumulation curves should be examined to see if this pattern is occurring. Levings (1983), Roth et al. (1994), and Oliver