

The Birds of Small Islands Off The Eastern Coast of Panay

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The authors, in April and May, 1969, visited the islands off the eastern coast of Panay to study their bird and mammal populations. The authors felt urgent need for the study because the continuing destruction of the forests there could lead to the extinction of these birds and mammals. The authors found that the birds in these islands are similar to those in Negros.

While the vertebrate faunas of large Philippine islands are in general sufficiently known, those of small ones are usually not. Examples of the latter are the islands of Pan de Azucar, Sicogon, Calagna-an, Gigantes North, and Gigantes South, off the eastern coast of Panay.

In April and May, 1969 the authors, aided by a team of seven experienced collectors, visited these islands for the purpose of determining their vertebrate faunas. These islands, excepting Calagna-an, had been explored a year before primarily for amphibians and reptiles. During the second trip, collecting activities were extended to the birds and mammals. Only observations on birds will be discussed in this paper; those on amphibians, reptiles, and mammals will be presented in separate papers later.

There is reason for urgent explorations of these islands, and this is the fast disappearance of the original vegetation as a result of human

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activities. Destruction of the original vegetation could result in a host of after-effects. These effects are clearly shown by these islands in terms of badly eroded soil, changed vegetation, altered soil characteristics and lowering of water table. Since animals are dependent upon the physical and biological environment, it may be assumed that they have already been affected by the changes. Indeed, we have evidence that three forest species are already extinct on one of the islands (Pan de Azucar). The possibility exists that some more species may share this fate. Before they become extinct, ecologists must determine the species existing in these islands to provide data useful for setting up conservation programs. The time to do this is now.

Study Area and Method

Information on the islands is summarized in Table 1. The data on areas are from **The Census Atlas of the Philippines, 1940**. Other data are based on our observations. The figures on the vegetation types are rough estimates. All five islands are rocky, especially the Gigantes group, and are volcanic in origin. The primary forest differs from island to island: that of Sicogon is the thickest, being not appreciably logged and that of the Gigantes group the thinnest, owing to the very rocky ground surface.

The dates and localities of our bird samples are as follows: Pan de Azucar Island, April 30 to May 3, Barrio Talotoan; Calagna-an Island, May 4-8, Barrio Barangkalan; Sicogon Island, May 9-15, Barrio Buaya; Gigantes Islands, May 15-20, Barrio Lantangan. The localities were selected on the basis of proximity to the different types of animal habitats and to source of supplies.

In all of these islands, three men who were all experienced in ornithological collection and identification were assigned as full-time observers. Birds were collected by means of mist nets and by shooting. Species sighted but not collected were also recorded.

Results and Discussion

The number of resident bird species observed in the five islands is given in Table 1. In Table 2 are listed all the species sighted and collected in the islands. Seven of these are migratory, namely *Sterna albifrons* (little tern), *Lanius cristatus* (brown shrike), *Tringa totanus* (redshank), *Actitis hypoleucos* (common sandpiper), *Motacilla cinerea* (gray wag-tail), *Erolia ruficollis* (little stint) and *Muscicapa greseisticta* (gray-spotted flycatcher). Our stay in the islands was rather short, and we probably missed some species. Our data provide a list of bird species existing in these islands, and little may be inferred from them. However, it appears that at least three species, namely, *Dicaeum pygmaeum*, *Halcyon winchelli*, and *Leucotreron leclancheri*, which are strictly primary forest species, are absent from the relatively denuded Pan de Azucar Island. It is highly probable that these birds have become extinct on the island. *Dicaeum pygmaeum* was observed on three of the four islands explored; *Halcyon winchelli* only on Sicogon, the most forested among the islands; and *Leucotreron leclancheri* on both Calagna-an and Sicogon. These birds are so characteristic of tropical forests that they could not have been missed by the field observers. Since the four islands are sufficiently big to support a type of tropical forest, our guess is that they all had the three bird species in the immediate past. If this is correct, the absence of these birds on one or more of the islands must be attributed to the destruction of the original forests by man.

There are four other forest species which are apparently being pushed out of existence by the destruction of the natural vegetation. The pigeon, *Phapitreron leucotis*, was found only in Calagna-an, which has some forests, although badly logged; this bird is probably also found in Sicogon, where dense forests still exist. The second bird, the hornbill, *Penelopides panini*, still holds out in the denuded Pan de Azucar island; its presence in Sicogon is not surprising. The third species, the woodpecker, *Dendrocopus maculatus*, was observed only in Gigante Islands. It may be present also in Sicogon and Calagna-an, but the fact that we did not observe it probably indicates that it is already rare in these

islands. The fourth bird, the whistler, *Pachycephala plateni* was observed in Pan de Azucar and Gigante islands. Like the preceding species, it is probably rare in Calagna-an and Sicogon, if it exists there at all.

The remaining species listed in Table 2 are shore birds—hence do not depend on forests—and other species that can and do adapt to the environment resulting from man's agricultural activities.

The birds of these islands could be expected to show taxonomic affinities to those of Panay Island. Unfortunately, we lack comparative material from Panay Island, whose bird fauna is not completely known. However, we rely on the statement of McGregor¹ that the bird faunas of Negros and Panay are similar. In fact, Delacour and Mayr² have grouped together Negros and Panay, together with Cebu, Guimaras, Bantayan, Masbate, Ticao, Tablas, Romblon, and Sibuyan in the faunal division they called central Philippines. We have compared the species which we have collected from these islands with their counterparts from Negros and have found them similar taxonomically.

Of theoretical interest is the relation between number of species and land area, a subject which is discussed at length by Preston³ and MacArthur and Wilson.⁴ In Figure 1 is shown this species-area curve in relation to Negros, Panay, and the whole Philippines. The Negros avifauna is among the most well known in the Philippines. We have drawn the curve through the points represented by Negros and the Philippines, and its slope (z value) is about .25, very close to .26-.27, as predicted by Preston.⁵ The small islands fall roughly in the curve. Incidentally, Panay falls below the curve, and the reason for this is that its avifauna is not completely known.

¹ Richard C. McGregor, "Birds of the Philippines," in R. Dickerson, et al. **Distribution of Life in the Philippines** (Manila: Bureau of Science, 1928), 322 pp.

² Jean Delacour and Ernst Mayr, **Birds of the Philippines** (New York: Macmillan, 1946), pp. xv, 309.

³ Frank W. Preston, "The Canonical Distribution of Commonness and Rarity: Part 1," **Ecology**, Vol. 43, pp. 185-215.

⁴ Robert H. MacArthur and Edward O. Wilson, **The Theory of Island Biogeography** (Princeton: Princeton University Press, 1967), pp. xi, 203.

⁵ Preston, *op. cit.*

Table 1. Summary of Data on Islands Explored

Island	Area (Km ²)	Estimated Percentage of Area With				Number of Birds		Total	
		Original Forest	Second Growth	Wooded Grassland	Cultivated Mangrove	Collected	Sighted		
Pan de Azucar	16.03	5	8	38	45	4	26	15	41
Sicogon	10.90	30	5	23	40	2	14	11	25
Calagna-an	22.32	30	10	15	42	3	23	25	48
Gigante N.	4.65	25	15	0	59	1	5	29	34
Gigante S.	5.28	50	15	5	26	4	5	29	34

Table 2. List of Birds of Pan de Azucar, Sicogon, Calagna-an, Gigantes North, and Gigantes South Islands. (X), collected; (X_o) observed but not collected; (-), absent. Systematic list follows that of Rand (unpublished manuscript)

BIRD SPECIES	Islands				
	Pan de Azucar	Calagna-an	Sicogon	Gigantes (North and South)	
1. <i>Butorides striatus</i>	X	-	-	X _o	
2. <i>Nycticorax nycticorax</i>	-	-	-	X	
3. <i>Ixobrychus cinnamomeus</i>	X _o	-	-	-	
4. <i>Accipiter virgatus</i>	X _o	X _o	-	-	
5. <i>Haliaeetus leucogaster</i>	X _o	X _o	-	X _o	
6. <i>Spilornis cheela</i>	X _o	X _o	X _o	-	
7. <i>Excalfactoria chinensis</i>	X _o	-	-	X _o	
8. <i>Turnix suscitator</i>	X _o	X	-	X _o	
9. <i>Rallus torquatus</i>	X	-	-	-	
10. <i>Poliolimnas cinereus</i>	-	-	-	X _o	
11. <i>Tringa totanus</i>	-	X _o	-	-	
12. <i>Actitis hypoleucos</i>	-	X _o	-	-	
13. <i>Erolia ruficollis</i>	-	X _o	-	-	
14. <i>Sterna albifrons</i>	X _o	X _o	X _o	-	
15. <i>Treron vernans</i>	X	X	X	X _o	
16. <i>Phapitreron leucotis</i>	-	X	-	-	
17. <i>Leucotreron leclancheri</i>	-	X	X	-	
18. <i>Streptopelia bitorquata</i>	X	X _o	-	X _o	

Table 2 continued

BIRD SPECIES	Islands			
	Pan de Azucar	Calagna-an	Sicogon	Gigantes (North and South)
19. <i>Geopelia striata</i>	X	X	-	X _o
20. <i>Chalcophaps indica</i>	X _o	-	-	-
21. <i>Eudynamis scolopacea</i>	X _o	X _o	X _o	X
22. <i>Centropus viridis</i>	X	X _o	-	X _o
23. <i>Centropus toulou</i>	-	X	-	X _o
24. <i>Tyto capensis</i>	-	X _o	-	-
25. <i>Caprimulgus macrurus</i>	-	X	-	-
26. <i>Collocalia whiteheadi</i>	-	X	-	X
27. <i>Collocalia esculenta</i>	-	X _o	-	X
28. <i>Halcyon smymensis</i>	-	X _o	-	-
29. <i>Halcyon winchelli</i>	-	-	X	-
30. <i>Halcyon chloris</i>	X	X	-	X
31. <i>Penelopides panini</i>	X _o	-	X _o	-
32. <i>Megalaima haemacephala</i>	X	X	-	-
33. <i>Dendrocopus maculatus</i>	-	-	-	X _o
34. <i>Hirundo tahitica</i>	X	X	X	X _o
35. <i>Lalage nigra</i>	X _o	X	X _o	X _o
36. <i>Oriolus chinensis</i>	X	X	-	X _o
37. <i>Corvus macrorhynchus</i>	-	-	X _o	X _o
38. <i>Pycnonotus goiavier</i>	X	X	X	X _o
39. <i>Hypsipetes philippinus</i>	-	X	X	X _o
40. <i>Copsychus saularis</i>	X	X	X	X _o

Table 2 continued

BIRD SPECIES	Islands			
	Pan de Azucar	Calagna-an	Sicogon	Gigantes (North and South)
41. <i>Megalurus palustris</i>	-	X _o	-	-
42. <i>Megalurus timoriensis</i>	X	X _o	X _o	X _o
43. <i>Cisticola exilis</i>	X _o	X _o	X _o	-
44. <i>Acrocephalus arundinaceus</i>	-	-	X	-
45. <i>Phylloscopus olivaceus</i>	X	X _o	X	-
46. <i>Orthotomus atrogularis</i>	X _o	X _o	-	-
47. <i>Rhipidura javanica</i>	X	X	X _o	X _o
48. <i>Muscicapa rufigaster</i>	X	X	-	X _o
49. <i>Muscicapa griseisticta</i>	X _o	X	X	-
50. <i>Hypothymis azurea</i>	-	X	X _o	-
51. <i>Pachycephala plateni</i>	X	-	-	X _o
52. <i>Motacilla cinerea</i>	-	X _o	-	X _o
53. <i>Anthus novaeseelandiae</i>	X	X _o	-	X _o
54. <i>Artamus leucorhynchus</i>	X	-	X	X _o
55. <i>Lanius nasutus</i>	X	X _o	-	-
56. <i>Lanius cristatus</i>	X	X _o	-	-
57. <i>Aplonis panayensis</i>	X	X _o	X	X _o
58. <i>Sarcops calvus</i>	X	X _o	X _o	X _o
59. <i>Nectarinia jugularis</i>	X	X	X	X _o
60. <i>Dicaeum pygmaeum</i>	-	X _o	X	X _o
61. <i>Padda oryzivora</i>	X	X	-	-
62. <i>Lonchura malacca</i>	X	-	-	X _o

Fig. 1. Relation Between Number of Bird Species and Areas for Some Philippine Islands

