

BOOK REVIEW: *A Naturalist in New Guinea*

by William E. Davis, Jr.

A Naturalist in New Guinea by Bruce M. Beehler; illustrated by John Anderton. University of Texas Press, Austin. 1991. 251 pages, 26 color photographs, 30 line drawings, 7 maps. \$26.95 (cloth).

This is a book about adventures in faraway places, but we can emphasize with Bruce Beehler's reasons for heading into such an exotic world: "What exactly, led me to attempt that initial, year-long stay in New Guinea? Why would I leave my familiar surroundings in the eastern United States to fly across the Pacific in order to become an unpaid, novice staff member of the Wau Ecology Institute? It can only be explained by my passionate interest in birds that developed when I was a schoolboy." Although the book chronicles more than a decade of ornithological research, mostly on the ecology of birds of paradise, he states that the plan and purpose of the book is to introduce the island's natural history and describe what naturalists do. He is a broadly based naturalist/ecologist, and the book presents a balanced natural history perspective with botany, amphibians, insects, and mammals skillfully woven into the ecological fabric. His digressions into the Papuan culture add flavor and interest.

A Naturalist in New Guinea is a personal narrative describing, in roughly chronological order, Beehler's numerous expeditions to wild places in New Guinea. He describes the harsh, unpredictable, and primitive conditions that faced him during much of the research in remote tropical New Guinea forests.

The book has an Introduction and nine chapters, the first three of which deal with Beehler's impressions as he learned his new environment surrounding the Wau Ecology Institute. We read of the betel nut (mildly narcotic) chewing natives in the capital city, Port Moresby, and his initial experiences camping in the rain forest. We learn of his first encounters with the Raggiana Bird of Paradise, which became one of his principal research interests, with its raucous "wau wau wau wau Wau Wau WAUUAGH WAAUAGH!" It was with great excitement that he fixed his binoculars "on the brilliant flashing orange of display plumes—a male Raggiana!" The story of his first attempts at removing fierce and belligerent birds from a mist net will elicit pangs of empathy from anyone who has ever banded birds. The text is interspersed with ecological accounts about the birds he encountered. For example, after a description of his first encounter with a bowerbird bower, the text meanders into an informative digression about the ecology of the various bowerbirds and their decorated bowers, the evolution of bower building, and sexual selection as an evolutionary explanation for their mating system.

Succeeding chapters deal with expeditions to Goodenough Island, where the author searched unsuccessfully for a reported "black bird" that he hoped might



be an undescribed bird of paradise, to the Wau area, where he did his doctoral dissertation work, to the highlands of western Papua, to Irian Jaya (western New Guinea), to lowland forests, and to tropical mountain tundra.

Behler's dissertation research was on the evolution of bird of paradise reproductive behavior and focused on a comparison of four species with wonderful sounding names: Trumpet Manucode, Buff-tailed Sickelbill, and the Magnificent and Raggiana birds of paradise. There is much to interest both the ornithological and lay audiences, including descriptions of complex bird and food-plant relationships. For example, he concludes that the manucode, the only monogamous species of the four studied, specializes in figs of low nutritional value, and is thus monogamous because both parents are required at the nest to feed the offspring. In the highlands he studied a variety of birds of paradise. Tales of these exotic birds are spiced with stories of highland natives, tribal warfare, and fantastic ceremonial *sing sing* gatherings.

The chapter, "Jungle Camps," deals with his adventures in the lowland rain forests. Here he learned the "subtle art of 'sit and wait' natural history," motionless on a log near a fruiting tree. He tried to keep from swatting mosquitos (it scares the birds) as he watched a Thick-billed Ground-Pigeon, Little Kingfisher, Twelve-wired Bird of Paradise, Orange-breasted Fig-Parrots, and other exotic birds with equally exotic names troop by his vantage point. He

also describes in great detail grappling with leeches and contending with tropical ulcers, torrential rain, and mildew—the downside of lowland rain forest camping.

The final chapter relates a torturous trek to the alpine tundra, where Beehler hoped to solve some of the mysteries surrounding the rare and local Macgregor's Bird of Paradise. It is perhaps in his descriptions of camping, huddled beside a campfire watching the stars, that best explains his passion for the wilds and rigors of New Guinea. "My memory of that first night at Lake Omha burns through the mist of passing years. It is for memories of nights like that, in places like that, that I keep returning to New Guinea."

Beehler concludes with a discussion of the complex nature of New Guinea forest ecology and the resulting difficulties facing conservationists who wish to plan for the future. He also argues for educational opportunities for aspiring native New Guinea naturalists, because they are the ones who ultimately will be responsible for determining the fate of their wonderful forests.

A Naturalist in New Guinea is attractive and apparently error-free. Excellent black-and-white drawings are interspersed throughout the text and give some visual sense to such unfamiliar birds as Pale-billed Sicklebills, Marbled Frogmouths, and Carol's Parotia. These drawings are complemented by twenty-six color photographs by the author. The text is informative, clearly written, and paints a vivid picture of wild and beautiful conditions of an important ornithological frontier. I was fortunate to accompany Beehler on a month-long birding trip he led to New Guinea in 1982. I also spent six weeks in 1990 working with him on Raggiana Bird of Paradise research at a rain forest camp in the mountains near Port Moresby. Reading this book brought back many memories. I can attest that the excitement and grandeur of the mountains, birds, and forests of New Guinea have been fully captured.



This book is must reading for anyone who has traveled, or plans to travel, to New Guinea, or who simply enjoys vicarious adventures in natural history.

WILLIAM E. DAVIS, JR., describes his experiences birding in New Guinea in an accompanying article in this issue of *Bird Observer* and created the illustrations shown here.

RAIN FOREST BIRDING

by William E. Davis, Jr.

I have always been impressed with how difficult rain forest birding is. In general, birds are secretive and often quiet. Most rain forest is dark (if it has a closed canopy), or has a dense understory and shrub layer if the canopy is more open. The paths are often narrow, difficult, and muddy (the term rain forest means what it says), and poisonous snakes, although generally shy and retiring, are present, so you have to watch where you step. What generally happens is that you walk around hoping to run into a mixed-species foraging flock, and try to stay with it as long as possible. This is often frustrating because the flocks seem ephemeral, visibility is often poor, birds of the understory vegetation appear only momentarily, often so close that you have trouble finding the birds in your 10-power binoculars, and then vanish before you can focus on them. Occasionally you stumble into something special, like a tinamou, but if you happen to be the second person in line on a narrow trail, you may easily miss it. But because of the high species diversity found in most rain forests, and the beautiful and spectacular bird species that occur therein, the hit-or-miss birding pattern is still rewarding. Isn't there some way of making this difficult birding easier?

In this article I describe my experiences while watching birds at fruiting trees and from an observation blind. From July 24 to August 20, 1990, I worked on a variety of bird projects in a rain forest bush camp in Varirata National Park, in the mountains a few miles from Port Moresby, Papua New Guinea. The research was conducted under the auspices of Dr. Bruce Beehler of the Smithsonian Institution and occasionally involved doing census work at fruiting trees. I also observed a nesting female Raggiana Bird of Paradise (Raggiana males do not help in rearing the young) for twenty-two days from an observation blind that was open on three sides, allowing me to observe birds other than the nesting Raggiana.

Flowering and Fruiting Trees

In rain forests, at any point in time, fruiting trees are usually widely scattered, but birds often tend to concentrate at these patchily distributed resources. Sitting and watching a fruiting tree may reveal many species, and the quality of your observations could be high as well. Frugivorous birds come to eat fruit, nectivorous birds nectar, and flowers and fruit tend to attract insects, so insectivorous species focus on these trees as well. High species diversity is common at a fruiting tree.

The idea of watching fruiting or flowering trees is not new. This practice dates back at least to the early part of this century when William Beebe spent a week studying the bird life of a single fruiting wild cinnamon tree and

commented that, "this thing had not been done before" (Beebe 1919). There is a wonderful picture of Beebe birdwatching from a lawn chair under a huge saman tree in Trinidad (Bridges 1974). More recently Charles Leck (1969) observed sixteen species of birds in sixteen hours of watching at a fruiting tree in Costa Rica, and John Kricher (1989) saw seventeen species at a fruiting tree in Belize. Many studies of birds at fruiting trees have been conducted to determine the evolutionary interactions between the trees (a source of food for the birds) and the birds (many of which act as seed dispersers) (e.g., Howe 1977; Beehler 1983). But science aside, fruiting and flowering trees make for some delightful birdwatching.

I watched two fruiting trees for a total of about nine hours. Table 1 lists the birds recorded and emphasizes how fruiting trees provide food resources for a high diversity of birds. Below are some excerpts from my field journal which I hope will give some sense of the marvelous rain forest birding experiences you can have while watching birds at fruiting trees.

The first of the fruiting trees, which I censused for a total of four hours, was a *Dysoxylum*, in the mahogany family, which has large, encapsulated fruit that can only be eaten by large birds such as the Raggiana Bird of Paradise (Beehler 1983). In addition to the birds entering the fruiting tree several interesting birds came by as I sat quietly watching.

I left at 6:15 A.M. . . . [for] the new fruiting tree. I was down near the stream up past the Raggiana lek [a tree where male Raggianas display to attract females] . . . I started watching at 6:30 but nothing showed up until nearly 8:00 when three male Raggianas suddenly appeared and dashed and thrashed about the crown, plucking the fruit from the yellow, golf-ball size capsular husks. Several female Raggianas also filtered in and out. In the two hours a total of nine Raggianas fed on fruit, but no doves or other birds. I heard the "chuck-chuck" of a Chestnut-backed Jewel-babbler and managed this time to see its blue-grey color. Then a giant Great Cuckoo-Dove flew along the stream and lit on a vine right in front of me. Nearly two feet long, this gigantic dove has a pearl grey head and underparts, and rich brown back and long tail.

This was the only Great Cuckoo-Dove I saw, and only one other time did I have as good a look at the skulking little jewel-babbler.

I was up at 5:30 A.M. and at 6:15 wound my way down to the fruiting tree where I recorded a total of twenty-three birds entering the tree, and got the best look at Raggiana males that I have ever had. Several males came down low in the tree, and I could see their green gorgets glistening in the sun, and even their yellow irises. I watched them call, chase, and feed. It was a magnificent display. I heard the grating double croak of a Magnificent Riflebird, and then found an immature male, brown with a gray belly, striped black.

Then he flew across the creek toward me, and I heard his "creak-creak" again not far to my left.

The male Raggianas were resplendent with their long flowing bright orange nuptial display plumes sparkling in the early morning sunlight.

The second fruiting tree was a strangler fig which produced an abundance of small soft pulpy fruits, upon which fed a wide variety of birds. There must have been an abundance of insects as well because the tree attracted sizable numbers of small insectivorous species. I censused birds coming into the fig for a total of just over five hours, recording eighty-six individuals of fourteen species. I saw the Dwarf Fruit-Dove nowhere else. On one 2:00 to 4:00 P.M. shift, I saw three (two male) Superb Fruit-Doves, with their black belly bands, and a few Raggianas. On another visit:

... a number of Boyer's Cuckoo-shrikes came in and chased each other and fed. Several female Superb Fruit-Doves, an Orange-bellied Fruit-Dove, and a half dozen of the lovely little Beautiful Fruit-Doves rounded out the dove contingent. Just at about 4:00 P.M. a Brown Oriole entered the tree. The usual Hooded Pitohui, Black Berrypeckers, and loads of Black-fronted White-eyes flitted about. If you want to see the forest birds, go to a fruiting tree and wait!

Family	Species	Individuals
Columbidae	Superb Fruit-Dove	5
	Beautiful Fruit-Dove	5
	Orange-bellied Fruit-Dove	2
	Dwarf Fruit-Dove	2
Campephagidae	Boyer's Cuckoo-shrike	13
	Black-Cuckoo-shrike	2
Pachycephalidae	Hooded Pitohui	3
Dicaeidae	Black Berrypecker	8
Zosteropidae	Black-fronted White-eye	16
Meliphagidae	Mimic Honeyeater	2
	Helmeted Friarbird	3
Oriolidae	Brown Oriole	6
Paradisaeidae	Magnificent Riflebird	2
	Raggiana Bird of Paradise	46

Table 1. Families, Species, and Numbers of Individual Birds Seen During Censuses at Two Fruiting Trees.

Let the Birds Come to You

Sometimes, remaining stationary and letting the birds come to you is a worthwhile strategy for birding under difficult rain forest conditions. Obviously, you cannot always let the birds come to you. In order to find the maximum number of species you need to visit as many different habitats as possible, and by moving around you will encounter more of the sedentary or territorial species that cannot or will not come to you. But I suggest that sometimes it may pay to see fewer species but to see them well. In other words, one of the advantages of being stationary is that you may see the birds you encounter better than if you are moving around. The quality of your observations may be higher, and there may be times when you are willing to trade quantity for quality.

I spent several hours a day birdwatching on the way to and from the observation blind, where I was studying a nesting Raggiana Bird of Paradise. In nearly five weeks I did about as much birdwatching while walking the forest trails as I did incidentally while observing the nest. I saw a total of seventy-one bird species at Varirata National Park, and I saw forty of those species (fifty-six percent) from the blind at my Raggiana study site. Of the thirteen life birds I saw at Varirata, six were seen from the blind. What is much more important to me is that I had, almost without exception, the longest and best views of the forty species while I was at the blind. The quality of observation was vastly superior. It is neither new, nor surprising, that sitting in a blind can produce marvelous views of birds (Arthur A. Allen got his full frame photographs that way early this century). You usually do not even need a blind, because sitting quietly on a log or hidden in a clump of vegetation will often produce similar results. But in my experience, most people do not consider actually doing this when birding in a rain forest.

Below are a few excerpts from my field journal observations made at my Raggiana blind. The nest was about seventy-five feet from the blind, and both were located on about the same level of a gentle slope. The crest of a ridge was about 150 feet above the nest, and the study plot that included the nest and blind was roughly 100 yards square.

There were several pairs of Hooded Pitohuis that were almost constantly present, and notes like: "Hooded Pitohui eating red berries within six feet of blind," or "Whit-whit of Hooded Pitohui almost constant," were scattered throughout my journal.

About noon a large flock of Rainbow Lorikeets lit in the casuarina [native Australian pine-like tree] above my blind and chattered merrily away while dropping casuarina cones and twigs all around my blind. From time to time the cricket-like call of the Yellow-billed Kingfisher is heard, reminding me of the harsh, grating calls of baby Glossy Ibis as they beg for food. . . There were lots of birds around the nest today. Several mixed foraging flocks had Frilled

Monarchs, all flashy with blue skin around their eyes and puffy black-and-white plumage. An equally flashy Spot-winged Monarch showed up, displaying white in his tail . . . A male Black Berry-pecker, white shoulder puffs conspicuous, landed three feet from the Raggiana nest, but the Raggiana did not even turn her head. Grey Whistlers wandered through, and a Red-cheeked Parrot lit in the big tree . . . Papuan King Parrots flashed by along the ridge . . . several Raggianas [called] not 100 feet from the nest in the big trees along the ridge. I counted six female-type (could be young males) flying along the ridge and working their way down behind the Raggiana nest. A black Butcherbird, an imposing crow-like omnivore, worked its way along the ridge, well away from my Raggiana.

It is clear from the choice of adjectives how "flashy" some of the birds are, and that I was worried about the safety of the female Raggiana, which I considered to be "my" bird. When mixed flocks of birds passed by the nesting tree, it was always interesting to watch the female Raggiana's response, as well as watching the flocks themselves. Usually she remained still, cryptically tucked away in the dense foliage.

I also had long eye-level views of both the Superb and Beautiful fruit-doves, birds of which I normally had only had fleeting glances at great distance. I watched a Dwarf Honeyeater, a life bird, spiral up the trunk of a sapling like a nuthatch. The behavior of the bird was consistent and diagnostic for the species. One of the nicest things about having the birds come to me was the fact that I could often watch their behavior at leisure.

"I heard an 'unk, unk' grunting noise and thought that a pig was nearby. Then a Black-billed Brush-turkey walked out of the bracken-like ferns [*Gleichenia*] about fifteen to eighteen feet from me, grunting away." I had only once before glimpsed one of these turkey-sized birds. This one was less than twenty feet away from me for at least a minute, walking slowly along pecking at small objects on the ground like some gigantic chicken, before it disappeared into the bush.

A female Superb Fruit-Dove posed for me on a low branch, and a Spot-winged Monarch perched fifteen feet from the blind to do its daily "bathing," shaking and preening and fluffing. A Zoe Imperial Pigeon filled the blind with its deep "whooo-who-who-who," and obligingly stayed perched twelve feet above the blind when I came out to find it. . . I heard a great "grack-grack" and saw the Palm Cockatoo fly up and perch on top of a dead stub. I taped a call or two along with the chorus of Helmeted Friarbirds that were jabbering away. The Palm Cockatoo had actually perched in three different places in the Raggiana nest plot . . .

The Palm Cockatoo had been seen or heard nearly daily for about a month and was the first record of this species in Varirata National Park. It was a wary

bird, and outside of the study site I got only occasional glimpses of it. This species, with its bright red face contrasting with its black plumage and sporting a huge bill and crest, may be the most bizarre and magnificent of all the cockatoos.

I got up to stretch and look around for little birds when I stopped in my tracks. There, about sixty feet from me and about the same distance from the Raggiana nest, sat one of the biggest hawks I had ever seen. It looked twice the size of a goshawk with its long tail, overall more than two feet long. It was a Doria's Hawk, with a finely barred tail and a dark mask. When it flew directly toward my Raggiana nest I rushed into the blind and looked through the scope. My Raggiana sat tight on the nest. Apparently the hawk went over the nest tree. A half hour later I again stretched, looking upslope this time, when the hawk flew in from the direction of the Raggiana tree and lit twenty-five feet away and stared down at me! Then it flew down the ridge to the back of the plot. I hope it kept on going. If my Raggiana had left the nest at any point, my project would have terminated in a Doria's Hawk meal.

The Doria's Hawk, with its long tail, is the largest "bird hawk" in the world, and this individual was clearly a large female. This was the second record for this species in Varirata National Park. This rare and cryptic canopy dweller was certainly the most exciting of the many fascinating birds that came to me in the rain forest.

References

- Beebe, C.W. 1919. *Jungle Peace*. New York: Henry Holt and Company.
- Beehler, B.M. 1983. Frugivory and Polygamy in Birds of Paradise, *Auk* 100:1- 12.
- Beehler, B.M., T.K. Pratt, and D.A. Zimmerman. 1986. *Birds of New Guinea*. Princeton: Princeton University Press.
- Bridges, W. 1974. *Gathering of Animals*. New York: Harper and Row.
- Howe, H.F. 1977. Bird Activity and Seed Dispersal of a Tropical Wet Forest Tree, *Ecology* 58:539-550.
- Kricher, J.C. 1989. *A Neotropical Companion*. Princeton: Princeton University Press.
- Leck, C.F. 1969. Observations of Birds Exploiting a Central American Fruit Tree, *Wilson Bulletin* 81:264-269.

WILLIAM E. DAVIS, JR., is a professor in the science and math department in the College of General Studies at Boston University. He serves as *Bird Observer's* department head for cover art and as the president of Bird Observer of Eastern Massachusetts. Ted wishes to thank Bruce M. Beehler and John C. Kricher for reading earlier drafts of the manuscript. The common names used in this article follow *Birds of New Guinea* (Beehler et al. 1986).