

# THE BIRDS OF THE ISTHIMUS OF PANAMA

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The long, narrow Panamanian Isthmus is definitely tropical in the variety of its birds, with 865 species recorded within the limits of its 29,306 square miles, and the seas adjacent. The number may not seem impressive until it is recalled that in the vast region of North America north of México only 800 living kinds are known. The overall relationship of the resident Panamanian avifauna is to southern Central America and northern South America, in particular to Costa Rica on the west and Colombia to the south. In the latter, with sixteen times the land area and far greater expanse in the higher elevations, 1,592 species of birds, or less than twice the number in Panamá, are recorded.

In the Panamanian list 145 kinds are migrant visitors that come annually in their escape from northern winter. Part of these are birds of passage through Panamá, to and from wintering grounds in South America, but many remain to add their number for a period of months to the population of the resident avifauna. In addition to those from the north, there are at least six kinds that arrive annually in June or July as migrants from southern South America in escape from the southern winter season. Two of these are species of swallows that may appear in considerable number.

Other than the migrants and a few casual visitors, there are 670 species of birds that are definitely resident on the Isthmus. Aside from aquatic species and others of wide distribution, few of these appear northern in origin. The exceptions include the meadowlark, pipit, and grasshopper sparrow of the savannas; the junco on the Chiriquí volcano; the hairy woodpecker

of the western mountains, the mourning dove, and the red-tailed hawk. Ancestral stock of the others appears mainly of tropical origin. Numerous kinds of the resident birds found in the tropical zone range widely throughout the lowlands on both Caribbean and Pacific sides of the isthmus, wherever the habitat is favorable. Their main restriction toward general range is found in the open savannas of the western half on the Pacific side. Here true forest species are absent because of the lack of tree-covered habitat. The mountainous areas of the western half mark the southern terminus of the great ranges of the north that begin in North America and continue through Central America. Near the Costa Rican boundary the highest mountain in the Republic, the great Volcán Barú (the Chiriquí Volcano), rises in an isolated peak to 3,475 meters. On its temperate zone summit range five species of birds not found elsewhere in Panamá: a hummingbird (*Selasphorus flammula torridus*), a wren (*Thryorchilus browni browni*), the sooty robin (*Planesticus nigrescens*), the large-footed finch (*Pezopetes capitalis*), and the Irazú junco (*Junco vulcani*). These directly, or as closely related subspecies, occur also on the high volcanoes nearby in Costa Rica.

To the east there are limited, less elevated areas in eastern Chiriquí and Veraguas that have birds of the subtropical zone, some of them continuing as far as Cerro Campana, which rises abruptly to a thousand meters from the central lowland area where the Panama Canal crosses between the two oceans. In these lower mountains there is a highly interesting avifauna of 20 or more species related to those of southern Central America.

Beyond the Canal Zone in eastern Panamá the highlands are less elevated and are not continuous. Adjacent to the Colombian border Cerro Pirre and the Serranía de Tacarcuna rise as mountainous islands, outliers of the northern Andean chain which terminates in Colombia.

In the subtropical zone of Chiriquí, numerous kinds of birds are like those of adjacent Costa Rica. Some of these species occur also on Cerro Pirre and Tacarcuna in Darién, though usually differing sufficiently to be recognized as separate subspecies. There are also others allied to those of Colombia, a

number of them differing also at the subspecific level. As especially interesting there may be mentioned the Tacarcuna wood quail (*Odontophorus dialeucos*), found through a space of a few kilometers along the slopes of Tacarcuna, and several small flycatchers and some others that barely enter Panamá on the higher slopes of these eastern mountains.

Of peculiar occurrence in the lowlands to the east of the Canal Zone is a small flycatcher, the pied water-tyrant (*Fluicicola pica pica*). This is found locally in a limited area on the marshy coastal lands from the lower Río Juan Díaz east for about 35 kilometers to near the Río Bayano, only ranging inland for 5 kilometers or so from the sea. The occurrence in this limited area on the northern shore of Panamá Bay marks an isolated colony of a species that ranges widely in northern and eastern South America, the nearest known being along the Río Sinú in northwestern Colombia, distant about 400 kilometers.

The Pearl Islands in the Gulf of Panamá have an abundance of birds, including one outstanding anomaly in a small ant-bird (*Formicivora grisea alticincta*) recorded from the five major islands of the group and restricted in range to them, being recorded nowhere on the mainland of the isthmus. Its nearest relative is the closely similar subspecies *Formicivora grisea hondae* of northwestern Colombia.

The race of the Cholibá screech owl, recorded in this archipelago, on Rey and Pedro González islands, is another interesting anomaly as it differs from the subspecies (*Otus choliba luctisonus*) widespread along the Pacific slope of Panamá. The birds of the Pearl Islands have larger size and darker coloration, in this resembling the race (*Otus choliba crucigerus*) of the upper and middle Magdalena valley of northwestern Colombia.

As the Bay and Gulf of Panamá are relatively shallow, these islands may be supposed to have had direct land connection when the sea was lowered in Pleistocene time. The ancestral ant-birds and the owls that seem to have Colombian affinities may have become established at that period.

Of interest also in this eastern area of Panamá is a hummingbird (*Goldmania violiceps*) restricted to the subtropical zone of four of the mountain tops. Another (*Goethalsia bella*), lives

only on the ridge of Cerro Pirre. A number of other kinds of birds related closely to those of Colombia are found, especially on Pirre and Tacarcuna.

Two of the Panamanian islands that lie off the western half of Panamá are especially interesting. Escudo de Veraguas, with an area of about 5 square kilometers, distant only 18 kilometers off the base of the Valiente Peninsula in the Province of Bocas del Toro, was named by Columbus on his fourth voyage in 1502, as its shape suggested a shield. Among the birds, a subspecies of manakin (*Manacus vitellinus amittinus*), and one of a bay wren (*Thryothorus nigricapillus odicus*), are generally similar to races of the adjacent mainland, but differ significantly in their larger size, and also in their color. A hummingbird, *Amazilia handleyi*, is more remarkable. It is a distinct species related to the common, widely distributed Rieffer's hummingbird, but decidedly darker in color and somewhat more than 16 per cent larger. Its bulk among its smaller relatives is impressive. A distinct species of small mammal, a spiny rat (genus *Hoplomys*) is also found only on Escudo.

The island is located on a submarine bank, where the surrounding sea is shallow, separated from the adjacent mainland by a narrow trench with a depth of 24 to 35 fathoms. It may be assumed that during the late Pleistocene, when sea-level was low, it was part of the mainland. At this time the parent stock of these birds may have become resident, to be isolated later with return of the ocean waters.

Isla Coiba, in the Pacific off the western end of the isthmus, is also interesting. It is a large island over 35 kilometers long by 21 wide, with a semicircular bay indenting much of the eastern side. It lies 25 kilometers off the coast of Veraguas, separated by a channel from 40 to 55 fathoms deep. It is, thus, fairly remote, with no indication of connection with the mainland at any recent period. Birds are abundant, so that my list for a five-week intensive survey, aided by two competent assistants, included 133 species. Of this total 36 kinds were migrants, and three others were casual wanderers from the mainland, leaving 94 considered to be normal residents. In these, eight major families, common and widely distributed on

the mainland, were not represented, *i.e.*, tinamous, currasows, trogons, motmots, jacamars, puffbirds, toucans, and wood-hewers. Several others had minor representation of only one or two species.

The island is well-watered, covered by great forests rising from coastal mangroves and shrubs bordering the beaches to inland stands of trees from 100 to 200 feet tall. Until recently there were few clearings.

One of the bird species, small, slender, the only representative of the tropical ovenbird family on the island, the rusty spinetail, *Cranioleuca vulpina dissita*, has its closest relative in southeastern Colombia and the Orinoco valley of Venezuela, 1200 to 1500 kilometers distant. The only other member of the genus in Panamá, found in the subtropical zone of Chiriquí, is of another species. Twenty-one of the other resident birds of Isla Coiba differ from the species elsewhere in Panamá in being darker colored. One of these, a small dove, *Columbigallina talpacoti nesophila*, is like the population of the Pearl Islands, differing, as stated, from the mainland population in its darker coloration. Another, a flycatcher, *Elaenia flavigaster subpagana*, darker than the population of the Panamanian mainland, in this, resembles the race of Costa Rica. The remaining nineteen all are darker when compared to their counterparts in mainland Panamá.

As an interesting variation in habit, the barred ant-shrike, the only species of its family on this island, always a bird that lives in thickets on the mainland, on Coiba ranges also in the sun, but in the top of the tree crown of the heavy stand of forest, high above the ground.

Further additions to the list of 865 species now recorded on the Isthmus may be expected in birds that range the sea, especially in the Gulf of Panamá. There are certain to be others in the forests of the high mountains in northwestern Bocas del Toro, and probably also in the Serranía de Tabasará in eastern Chiriquí. Others are to be expected in the ranges in Darién that mark the international boundary with Colombia.

The future of the native species of the Panamanian avifauna is uncertain. With steady growth in population, the demand for more land for human use increases annually, leading to

constant encroachment on the forests. Certain of the birds adjust to this, and continue in scattered tree shelter, or in areas recovered by second growth. Many of the true forest birds, however, are few in number and, with loss of their primitive cover, disappear. To save them it is important to establish reserves under national care where no cutting is permitted so that these remnants of the original avifauna may be preserved from total loss.