

BANDED-TAILED PIGEON (*COLUMBA FASCIATA*) AT LOW ELEVATIONS IN BRAULIO CARRILLO NATIONAL PARK, COSTA RICA

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Paloma Collareja (*Columba fasciata*) a baja altitud en el parque nacional Braulio Carrillo, Costa Rica.

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Band-Tailed Pigeons (*Columba fasciata*) range from Vancouver Island and southwestern British Columbia (Canada), through the mountainous west of the United States, to Mexico, Central America, northern and western South America, and western Argentina (Skutch 1964, 1983). Although, in the northernmost portion of its range, Band-Tailed Pigeons are found at low elevations, in the Tropics, the species occupies mid-elevation and highland habitats, from 1500 m up to the Paramo line (although it descends as low as 910 m in search of food, especially during the dry season, Ridgely 1981, Skutch 1983). In Costa Rica, Band-tailed Pigeons are associated with cloud forests, where they are important dispersers of oak seeds (Skutch 1983, Stiles & Skutch 1989). In Colorado, Band-tailed Pigeons show a high degree of philopatry within the breeding season (92% of 2314 birds were recaptured within 50 km from their previous location), but migrate to Sierra Madre Occidental in Mexico during the winter. Although they are capable of long-dis-

tance migrations, within their tropical grounds, they are restricted to mid-elevations and highland habitats (Skutch 1964) and, once during their breeding season, they are highly localized (Schroeder & Braun 1993). In Costa Rica, we have no detailed records of their seasonal movements.

From 14 to 26 November 2002 (wet-to-dry season transition), I observed Band-tailed Pigeons flying in large flocks, as well as perched on canopy trees, about 30 m in height overlooking the canyon of the Sucio River and around the forest surrounding the Quebrada González Park Ranger Station, Braulio Carrillo National Park, Costa Rica (450–500 m, 10°09'N, 83°56'W). This constitutes the lowest elevation reported for the species in the Tropics (see the revision by Skutch 1964, Slud 1964, Stiles & Skutch 1989). Observations were done while studying the effects of the Guápiles Highway on bird distribution and diversity in that park. This busy highway goes from the capital city of San José to the Caribbean Harbor of

Limón, passing through the National Park over a distance of 25 km. Birds were identified using 28 count points separated by 120 m distributed evenly along two trails situated on the eastern and western sides of the Guápiles Highway, at Quebrada González. El Ceibo/Botarrama trail (east side) contains mostly primary forest between the highway and the River Sucio. Las Palmas trail (east side) maintains old-growth forest along a 1.5-km loop that is bordered by the highway and the Quebrada González River. Both trails face each other on opposite sides of the highway in the vicinity of the park ranger station. A total of 105 individuals were tallied during the census, but it was frequent to observe many more in the area. In flight, Band-tailed Pigeons presented the strong, and almost erratic, flight pattern characteristic of this species in its highland habitat.

Quebrada González maintains climatic conditions typical of the Caribbean slope of Costa Rica (Mean annual precipitation: 4500 mm; temperature range: 22–33°C), with a general weak seasonality, although rains decrease during March and April (peak of the dry season). The area is important as a biological corridor between the lowlands and highlands of the Caribbean Slope. We have observed high rates of bird species turnover from April 2002 to April 2004 (an average of 35% species in common between years and wet and dry seasons, pers. observ.). The topography of the site is very steep, with areas that range from 400 to 1000 m over short distances. This favors species mixing over short differences in elevation.

During November 2002, the weather conditions in the Caribbean slope of the highlands was inclement, and it was likely that Band-tailed Pigeons were pushed out of their normal range due to heavy storms. This demonstrates the necessity of maintaining continuous corridors between mountain peaks and the lowlands, since highland species, e.g.,

White-crowned Manakins (*Pipra pipra*) (Blake & Loiselle 2000), can take refuge in lowland forests to benefit from better climate or seasonal peaks in resource availability. The Braulio Carrillo-La Selva Corridor spans from La Selva Biological Station (30 m) to the summit of Barva Volcano (2900 m). This constitutes the last elevational gradient on the Caribbean side of Central America that is protected. Although species distributions along the gradient most of the time present low values of elevational overlap (Blake & Loiselle 2000), it is clear that a continuous corridor is important, not only for species that actively use the gradient throughout the year (i.e., elevational migrants), but also for more localized species that take refuge along, or forage, in different sections of the gradient infrequently.

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