

ON THE HABITS OF THE QUEO, *RHODINOCICHLA ROSEA*

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TOWARD the end of 1935, I settled down for 18 months of field work near the lower end of the valley of the Río Buena Vista, a tributary of the Río Térraba in the Pacific drainage of southern Costa Rica. My thatched cabin stood close by the rushing torrent, amid small patches of cultivation, bushy pastures, and much resting land covered by dense thickets. On either side of the narrow valley rose steep, forested ridges that swept up to the continental divide in the Cordillera de Talamanca.

As, with the approach of the winter solstice, the days became sunnier and drier, I began to hear, issuing from the dense thickets around me, a bird song of wonderful beauty. It was repeated most frequently in the early morning, and often as I sat at breakfast on my porch the full, clear notes reached me from the thicket across the grassy roadway. The powerful song was so unlike that of any other bird I knew that I could not even surmise the family relationship of its author. For a long while my efforts to glimpse him were vain. The dense verdure at the thicket's edge quite concealed the bird who sang so gloriously within it; and when I tried to force my way through the tangle of bushes bound together by creepers, I inevitably made so much noise that I drove him away.

It was not until, with the advance of the dry season in February, the thickets lost much of their foliage and became more penetrable to vision, that I at last won a glimpse of the secretive musician. After I learned what to look for, I saw him repeatedly. In appearance, he was no less lovely than in voice. He was about 20 cm long, with a broad, rounded tail. All his upper plumage, including the wings and tail, were slaty black, as were his lores and cheeks. Each side of the forehead was broadly red, which color extended along the sides of the head as a narrowing streak that faded to pinkish above the eye, then continued backward to the hind-head as a thin, whitish line. All of his central under parts, from chin to tail coverts, were bright rose-red, which on the sides of the breast was invaded by extensions from the black of the upper parts, forming an incomplete collar. The rather long, stout bill was largely blackish. The female was similar in color pattern to her mate, but the rose-red was replaced by tawny.

When, months later, I learned the name of this puzzling bird and was able to look up its distribution, I found that it has a curiously discontinuous range. It occurs in tropical western México, from Sinaloa to Colima, is absent from southern México and nearly all of Central America, reappears on the Pacific side of southern Costa Rica, and extends through Panamá to Colombia and Venezuela. The forms occurring to the north

and south of the wide hiatus in its distribution are sufficiently different for Ridgway to have classified them as distinct species, although more recently they have been regarded as geographical races of *Rhodinocichla rosea*.

In the Térraba Valley, to which *Rhodinocichla* seems to be confined in Costa Rica, it is far from common. Years ago there was a small colony at Rivas in the lower part of the valley of the Río Buena Vista, around 900 meters (3,000 feet) above sea level. I have heard it in the cane brakes along the Río General, somewhat lower in the same drainage system, and have found it at Buenos Aires de Osa, much farther to the east. But at several intermediate points where I have spent months or years, I have failed to detect the presence of this bird. I have heard it a few times on our farm at Quizzarrá, less than 16 km (10 miles) from the point where I first made its acquaintance and a hundred meters lower, but it does not seem to be resident and to breed here. Yet on this farm and in other localities where I have looked in vain for *Rhodinocichla*, there are large areas of dense thickets much like those in which I first met it. The factors that control the distribution of this bird are puzzling.

Equally perplexing is its classification. It was first placed in the Furnariidae or ovenbirds, where obviously it does not belong, as it is an undoubted Oscine; and since then it has been bandied about among the wrens, the mockingbirds and thrashers, the wood warblers, and the tanagers. According to the family in which it was placed, it has been variously called "Thrush-Warbler," "Wren-Warbler," and, more recently, "Rose-breasted Thrush-Tanager." The difficulty is that, although superficially *Rhodinocichla* resembles a mockingbird or even a wren more than it does a wood warbler or a tanager, it has only nine primaries, like the last-mentioned families, not 10 primaries, as in the thrashers and wrens. From my first acquaintance with it, I tried to learn what affinities were indicated by its habits, and also to find an appropriate English name.

As the dry season advanced, I succeeded in glimpsing *Rhodinocichla* more frequently, not only because the thickets where it dwelt were less densely screened by foliage, but because of the loud, rustling sounds it made while searching among the dry, dead leaves and other litter that now covered the ground. Sometimes I watched it briefly while it flicked aside the crackling, dead foliage with its strong bill, in the manner of the White-breasted Blue Mockingbird (*Melanotis hypoleucus*) of the Guatemalan highlands, of which, despite its very different coloration and habitat, *Rhodinocichla* strongly reminded me. This seemed to be its chief mode of foraging, from which I judged that insects, larvae, worms, and other small creatures that lurk in or beneath the ground litter formed, along with seeds, the bulk of its nourishment. But it was at all times excessively shy, and if it noticed that it was being watched, even from a considerable distance, it promptly

vanished into the depths of the thicket, where it continued industriously to rustle the leaves beyond my view. After the returning rains soaked the ground litter and the limp, dead leaves could be stirred without making a noise, *Rhodinocichla* was much harder to find. I marvelled that a bird so intensely colored, and to judge by its voice so numerous in the neighborhood, could so consistently elude eyes alert to see it.

According to Clark (1913), the food of *Rhodinocichla* includes beetles of at least four species and seeds, especially the gray achenes of a sedge. It also swallows large, irregular grains of sand.

Rhodinocichla appears to remain mated through much if not all of the year, and as in wrens, which likewise maintain pair bonds amid dense vegetation where visibility is narrowly limited, voice seems to be more important than vision in keeping the partners together; hence it is well developed in both sexes and used rather freely. The notes of *Rhodinocichla* are full, mellow, and wonderfully sweet. Its songs are short and varied. Usually they failed to suggest words to me, but once I heard a bird sing distinctly to his mate *Don't you fret, dearie; cheer, cheer, cheerily cheer*. On another occasion one seemed to sing *He gave the merry jump*. Each song was often repeated several times in rapid succession, in the manner of mockingbirds and thrashers. Once, when I sat in a blind amid a thicket, watching a nest of the Variable Seedeater (*Sporophila aurita*), a male sang one of his lovely verses beyond my sight, while his mate, perching in full view, accompanied him with a melodious, liquid refrain that sounded like *witty witty witty witty*. After this outburst of song, both vanished amid the dense vegetation and were not seen again. At another time I watched a pair singing a duet. Although the female's song was much like that of her mate, her voice was not quite so full and strong.

Sometimes I heard these birds uttering alternately two distinct liquid calls, the first of one syllable and the second of two. It was easy to imagine that one member of the pair was calling *gold*, while the second answered *silver*. But since I did not succeed in watching the delivery of these notes, I could not exclude the possibility that both calls were voiced by the same individual.

Often, especially as the long, rainy season drew to a close in December, I found a *Rhodinocichla* perching near the ground in a dense thicket or cane brake, repeating tirelessly a full, sweet-toned, but rather querulous *queo* (or *kweeo*). This liquid call, with its variations *querup* and *quero*, was sometimes given in the morning, but I heard it most frequently late in the afternoon, especially when the sky was clouded over. Pleasant as this utterance was, it was sometimes reiterated until I grew tired of listening to it. This liquid, mournful call was so characteristic of *Rhodinocichla* that it at last suggested a vernacular name for the bird, and thenceforth I knew

it as the Queo. This designation, provided by the bird itself, is not only much briefer but it seems more appropriate than the hyphenated Thrush-Tanager or Thrush-Warbler, and it has the great advantage that it will still be applicable no matter how the problem of the classification of *Rhodinocichla* is finally settled.

Chapman (1938: 115–116) heard on Barro Colorado Island, Panama Canal Zone, almost daily from the end of December to April, apparently the same call, “a loud, rather musical, explosive *chó-ho* uttered continuously every few seconds from the same place for a quarter of an hour or more.” Until he identified the bird he called it “*Chó-ho*.” Chapman also noted a highly ventriloquial, “soft, gently breathed, slightly querulous whistle,” which when imitated appeared to attract the hidden bird, and several times stimulated it “to a display of vocal pyrotechnics.”

The Queo’s breeding season was long. About the middle of February, I found, in the thickets near the Río Buena Vista, a pair accompanied by two juveniles, so recently departed from the nest that the yellow rictus was still clearly evident. Less shy than their parents, they were easier to watch, but they neither foraged for themselves nor were given food in my presence. Their upper plumage was browner than in the adults, the under plumage and superciliary stripes paler red; and the dark collar across the breast, which in the adults was merely suggested by intrusions of the slate color of the sides, was more nearly complete in them.

In the same locality I discovered, on 16 April 1936, the only nest of the Queo that I have seen. It was situated a meter above the ground, among intertangled bushes and vines in a low, dense thicket. On a foundation of coarse sticks was a shallow, well-made bowl composed of the secondary rachises of the twice-compound leaves of the acacialike *Calliandra similis*. There were two white eggs, of which one bore a wreath of blackish scrawls and spots around the thicker end, whereas the other had a few blackish spots scattered at random over the surface, with the exception of the more pointed end. These eggs measured 25.4 by 18.7 and 24.6 by 19.1 mm.

When I first came upon the nest, both parents approached far closer to me than I had ever seen a Queo before, and in their excitement both sang loudly, one in a voice deeper than the other’s, while perching low in the thicket with their bright breasts turned toward me. Through the eggs’ somewhat transparent shells, I could see that embryos were just beginning to form. When I revisited the nest two days later, one egg had vanished, and after three more days the nest was empty. I was intensely disappointed by this loss, which destroyed my hope of making detailed studies. Then and in the following year, I vainly searched for another nest in the same locality.

Clark (1913), who made an anatomical study of *Rhodinocichla*, placed it in the tanager family because of the structure of its bony palate and sternum, and because in bill, wing formula, and tail it resembled *Mitrospingus*, a genus of this family. But one who has had extensive field experience with the Thraupidae finds it difficult to believe that the Queo belongs to this group. No undoubted tanager that I know habitually forages on the ground, flicking aside the litter. None has a song like the Queo's, and in none does the female accompany her mate in a duet. I do not know any tanager that makes a similar foundation of coarse sticks for its nest. According to observations by Paul Schwartz, published by Gilliard (1958: 378), both sexes of *Rhodinocichla* not only build the nest and attend the young but likewise incubate the eggs; the last no male tanager is known to do (Skutch, 1954: 260).

However it may be with its internal structure, in its general aspect (aside from color pattern) the Queo reminds one of a thrasher far more than of a tanager, and when we compare its habits with those of the Mimidae, we find a number of resemblances. Ground foraging and whisking aside fallen leaves are widespread in this family. In the variety and power of its utterances, the Queo resembles the Mimidae, in which song by the female has been reported for several species, including the California Thrasher, *Toxostoma redivivum* (Bent, 1948: 408-409), and the Brown Thrasher, *T. rufum* (Thomas, 1950: 290). In the former, the male and female may join in a duet. The Queo's nest resembles that of *Toxostoma*, *Melanotis* (Skutch, 1950), and other Mimidae. In a number of species of *Toxostoma* both sexes incubate, as in *Rhodinocichla*. On the other hand, certain facts weigh against including this puzzling bird in the Mimidae. The interior of the nestling's mouth is red (as shown in Gilliard's plate 175), although in at least certain genera of the Mimidae, including *Dumetella* and *Melanotis*, it is yellow; and mouth color is a character that varies little within a family. More importantly, *Rhodinocichla* has only nine primaries on each wing, as in tanagers, finches, wood warblers, etc., whereas typical Mimidae have 10 primaries. The loss of a toe would seem to be a more radical evolutionary change than the loss of a feather, yet in a number of woodpeckers, jacamars, and kingfishers the reduction of the number of toes from four to three has not been considered by systematists as adequate ground for the separation of a genus from the family to which it has many close resemblances. Ridgway (1902: 770), who included *Rhodinocichla* among the wood warblers, remarked that "although this genus . . . is very aberrant as a member of the Mniotiltidae, I do not know where else to place it." From my observations on the living bird, I would either place the Queo in the Mimidae or create a separate family for its reception. However, the final solution of this problem must be left to the

systematists. The purpose of the present paper is to record a few field observations on a bird that deserves to be better known, and to point out why, from the point of view of a student of behavior, *Rhodinocichla* should not be included among the tanagers.

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SUMMARY

In Costa Rica the Queo seems to be confined to the Térraba Valley, and even here its distribution is curiously irregular, as it is absent from many localities that support dense, low thickets such as it frequents.

The Queo forages on the ground by whisking aside the litter with its bill. It is most difficult to find except in the dry season, when the fallen leaves rustle as it stirs them. Pairs are maintained through much, if not all, of the year.

The Queo's song is rich, full, and varied. The female's songs are weaker and often simpler than the male's, and she joins her mate in a duet. At the beginning of the dry season, the Queo monotonously repeats the liquid call that suggested its name.

The breeding season extends at least from early January until April. A nest was found one meter up in a dense thicket. The foundation of coarse sticks supported a shallow bowl composed of secondary rachises of the twice-compound leaves of *Calliandra similis*. The two eggs were white with blackish spots and scrawls.

Although *Rhodinocichla* is now usually included in the Thraupidae, in mode of foraging, voice, and nidification it differs greatly from undoubted tanagers. In these points it resembles the Mimidae, from which, however, it differs in having only nine instead of 10 primaries and in other morphological features.

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