

OBSERVATIONS OF THE PALE-EYED BLACKBIRD IN SOUTHEASTERN PERU¹

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Abstract. We report the first known nest of the Pale-eyed Blackbird (*Agelaius xanthophthalmus*) and describe the behavior of breeding and nonbreeding pairs at Cocha Cashu, Manu National Park, Peru. Birds traveled as pairs within limited areas, whether or not they were breeding. During incubation, which is performed only by the female, the male typically remains near the nest and the birds are in regular vocal contact by means of frequent duets. Its monogamous social system is similar to that of other marsh-nesting species in its clade.

Key words: *Agelaius xanthophthalmus*, foraging behavior, nests, Pale-eyed Blackbird, social organization.

First described only 30 years ago (Short 1969), the Pale-eyed Blackbird (*Agelaius xanthophthalmus*) remains poorly known. The species has been observed in only a few localities in eastern Ecuador and Peru and extreme northern Bolivia, and is apparently confined to emergent vegetation on the edges of oxbow lakes. Parker (1982) described a few behavioral observations, and recordings are available of one of its vocalizations (Hardy et al. 1998). Here we describe the first known nest of this species and report our behavioral observations of breeding and nonbreeding birds.

METHODS

We observed blackbirds from dugout canoes anchored near their feeding and breeding sites because the beds of emergent herbaceous vegetation in which they foraged and nested could not be observed from the lake shores.

STUDY SITE

The all-black, monomorphic Pale-eyed Blackbird (hereafter "blackbird") is a regular inhabitant of the marshes bordering oxbow lakes in southeastern Peru. We studied these blackbirds from 2 to 18 November 1999 at two oxbow lakes—Cocha Cashu and Cocha Totorá—in Manu National Park, Departamento de Madre de Dios. We observed blackbirds at floating mats

dominated by herbaceous vegetation. Floating mats are restricted to three places on Cocha Cashu, all in embayments at the ends of arms of the lake. Two of them harbored single pairs of blackbirds, whereas the third, the smallest of the three, had many small bushes and vines, but lacked blackbirds. In contrast, Cocha Totorá has extensive beds of floating vegetation, including substantial areas dominated by herbaceous vegetation. Nonetheless, we found only one pair of blackbirds on the lake. Although not all areas that superficially appeared to be suitable blackbird habitat were occupied, all three sites with blackbirds were dominated by tall coarse grasses (mostly *Panicum grande*) and had relatively few vines and small shrubs.

Water levels in some oxbow lakes can change dramatically within a few hours. For example, on 17 November, 117 mm of rain fell at the Estacion Biologica Cocha Cashu. The next day, water levels of Cocha Totorá, which is directly coupled to the Rio Manu, were about 60 cm higher than they had been the previous week. Water levels rose only about 20 cm on Cocha Cashu, which lacks a direct connection to the river.

RESULTS

FORAGING

Blackbirds foraged mostly low in the vegetation, primarily in areas dominated by *Panicum*. They used the full array of foraging movements typical of icterines. They gaped into sheathing bases of grass leaves and clumps of dead leaves, and they gleaned insects from surfaces of leaves. They used their bills to grasp leaves and pull them toward their body, then held the leaves in their feet while probing them with their bills. They perched readily between upright stems with their legs splayed out to either side. During days with termite emergences, they frequently sallied to capture the slow-flying individuals.

NEST AND EGGS

On 3 November, we found a nest with one egg on Cocha Cashu. A second egg appeared on 4 November, completing the clutch. The nest, an open cup, was located at the lakeside edge of a large bed of emergent vegetation. It was in a clump of *Panicum grande* but

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was supported primarily by stems of *Ludwigia leptocarpa* (Onagraceae), a sturdy, somewhat viny broad-leaved herb. When we found it, and during most of the incubation period, the nest was about 45 cm above water level.

The nest was constructed entirely of strips of dead leaves ranging in width between 0.2 and 0.6 cm. Some of them were shredded, separating the dorsal and ventral leaf surfaces. Most of the fragments in the nest were leaves of *Panicum grande*, *Heliconia metalica* (Heliconiaceae), and *Mikania* sp. (Asteraceae), and strips of the pinna of *Sheelea cephalotes* (Arecaceae). The cup, which had a diameter of about 7 cm, was not lined with finer materials. The outer borders of the nest were spread out into the surrounding vegetation. No strands were woven around stalks. The beige color of the nest contrasted strikingly with the green vegetation in which it was placed, but it was low enough in the vegetation to be poorly visible from above. When we visited the nest on 17 November, immediately after the heavy rain, we found it down in the water. There was no sign of either eggs or newly hatched nestlings. Thus, either the storm or a predator could have been responsible for its demise.

The background color of the eggs was a pale, bluish white. The blunt end was solid dark brown. Scattered brown blotches were spread over the surface of the egg, decreasing in density toward the pointed end.

ROLES OF THE SEXES

Between 4 and 12 November, we observed activities around the nest for approximately 7 hr, mostly during morning hours. The female alone incubated the eggs. We observed neither courtship feeding nor feeding of the incubating female by the male. Nonetheless, the male typically perched near the nest while the female was incubating, and he often moved closer to the nest when she left to forage, often perching directly above it. His attentiveness to the nest appeared to decrease as incubation progressed; that is, he often foraged at some distance from the nest while the female was absent. The female's incubation and foraging bouts were of highly varied duration. Her periods on the nest ranged from 6 to 53 min ($n = 10$, spread over 3 days); periods off the nest ranged from 5 to 18 min.

VOCALIZATIONS

As previously reported, individuals of both sexes regularly give a "check" call similar to but less emphatic than the comparable call of the Red-winged Blackbird (*Agelaius phoeniceus*). The call is uttered both when perched and in flight. The female used the call primarily while flying; she did not utter it while incubating. Typically, only a few consecutive "checks" were given, but the male sometimes uttered a long series of checks uninterrupted by other vocalizations. The "check" appears to be a contact rather than an alarm call, as the birds were silent when we approached the nest. However, no predators appeared overhead during our observations.

The songs, which are relatively simple and given with no movement or feather erection other than a slight spreading of the tail and raising of the head, were uttered by both sexes. The "chee song," which to our ears sounds similar to the song on the Hardy et

al. (1998) tape, is a loud, fairly rapid, slightly harsh series (3–6, usually 5) of notes on the same pitch, and was uttered both perched and in flight. The "tew song," a slightly more deliberate and "pure" series of notes (typically 3, but occasionally up to 8), was uttered by both sexes. The female used it most frequently when calling from the nest. The "trill" is a rapid series of notes that may be loud or soft. Both sexes gave it perched or in flight; the female used it most frequently while incubating. The male regularly trilled when the female approached him. The "chees" and "tews" were occasionally combined into composite songs initiated with a "chee" followed by a "tew" at a significantly lower pitch.

The guarding male and the incubating female were in regular vocal contact. The most common pattern consisted of three-part duets. The most frequent sequence began with a "chee" or "tew" from the male, followed by a "trill" from the incubating female, and a final "tew" from the male. However, we noted a number of sequences, including an initiating "trill" from the male, followed by a "tew" from the female. Three of the 23 sequences we noted were initiated by a "trill" from the incubating female; occasionally the male did not utter a terminal call.

SOCIAL ORGANIZATION

As noted by previous observers, Pale-eyed Blackbirds appear to live as pairs, both during breeding and non-breeding periods. The two non-nesting pairs traveled together and maintained regular vocal contact even though they did not perform coordinated duets. We were able to relocate them in the same patches of marsh on different days.

DISCUSSION

Recent evidence strongly suggests that the North American and South American species currently assigned to the genus *Agelaius* are members of two distinct lineages (Lanyon 1994). The South American members currently assigned to the genus, and other species in the same clade (*Xanthopsar* and *Pseudoleistes*), breed in or adjacent to marshes (Jaramillo and Burke 1999). The common ancestor of the clade of icterines that includes both the North and South American species is believed to have been monogamous (Searcy et al. 1999), a trait retained in the Pale-eyed Blackbird, its sister species, Unicolored Blackbird (*Agelaius cyanopus*), and its close relative, the Yellow-winged Blackbird (*A. thilius*) (Orians 1985). The habitat patches in which the Pale-eyed Blackbird breeds are typically no larger than the territory of a single pair or, at most, a few pairs. Therefore, retention of a monogamous, territorial system is expected.

The Pale-eyed Blackbird is typical of icterines in that the male neither incubates nor feeds the incubating female (Orians 1985). We were unable to determine the male's role in care of nestlings and fledglings, but expect that males are regular provisioners of offspring, as they are in other socially monogamous icterines (Orians 1985).

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SOCIALITY AND FORAGING BEHAVIOR OF THE CERULEAN WARBLER IN VENEZUELAN SHADE-COFFEE PLANTATIONS¹

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Abstract. We examined the use of Venezuelan shade-coffee plantations by the Cerulean Warbler (*Dendroica cerulea*) and other Neotropical migrants. Cerulean Warblers were commonly observed as pairs in mixed-species flocks. Average (\pm SE) flock size was 13 ± 2 species with 22 ± 3 individuals. Average flock territory size was 2.5 ± 0.2 ha. No differences were detected in foraging behavior (maneuvers, location, or success) among adult males, adult females, and immature birds. Adult males were often observed visiting flowers of canopy trees. The results of this study indicate that shade coffee plantations may provide suit-

able wintering habitat for Cerulean Warblers although comparisons with other habitats are needed.

Key words: *Cerulean Warbler, Dendroica cerulea, foraging behavior, mixed-species flocks, Neotropical migrants, shade coffee plantations, Venezuela.*

The North American population of Cerulean Warblers (*Dendroica cerulea*) is declining faster than that of any other species of wood-warbler (Robbins et al. 1992, Sauer et al. 1997). Despite the growth of research efforts on the breeding grounds, little has been published on their wintering habits and habitats (Robbins et al. 1992, Parker 1994).

Cerulean Warblers winter on the eastern slope of the Andes Mountains of South America. Individuals have most often been observed within a narrow elevation range of 500–2,000 m (Robbins et al. 1992), although they have been sighted at over 3,000 m (J. Jones, pers. observ.). This elevation range corresponds with the

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