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Intruders on Yellow-eyed Junco territories.—Yellow-eyed Juncos (*Junco phaeonotus*) are "apparently monogamous" and defend Type A territories within which all feeding, mating, and nesting activities occur (Hinde 1956). Both sexes chase same-sex adult conspecifics from the territory (Moore 1972, pers. obs.). Consequently, only male and female territory holders should be captured in local mist nets. However, we have captured 47 intruding adults since 1984. Here we examine the identity of these 47 birds, the conditions under which they were captured, and their status.

We have color banded Yellow-eyed Juncos in and around Rustler Park (31°55′N, 109°17′W) in southeastern Arizona since 1984. The study site (elevation 2560 m) is comprised of forest with little understory, areas of bracken fern (*Pteridium* sp.), short grass meadows, rocky outcroppings, and talus slopes. The predominant tree species are *Pinus ponderosa, P. strobiformis,* and *Pseudotsuga menziesii* (see Balda 1967 for a complete description of the study site).

We color banded nestlings 6–10 days after hatching. At this time we mist-netted territory holders, color banded unmarked adults, and replaced worn bands on banded adults. When capturing adult juncos at an active nest (172 occasions involving 144 nests) we erected 1–2 mist nets for 10–30 min within 1 m of the nest site. When capturing adults away from nest sites (90 occasions involving 58 territories, as part of on-going studies, Weathers and Sullivan 1989), we erected 5–8 mist nets on the territory for 1–4 h.

Since the end of the 1985 breeding season, we have routinely used playback tapes when capturing both male and female adult juncos. Tape recordings of local birds were played for 30 sec–1 min intervals near the mist nets. We alternated tapes of male song, nestling distress calls, female chipping, and fledgling begging until the desired bird was captured. If the desired bird was not captured within 3–5 min, we turned off the tape player, waited for approximately 10 min, then played the tapes again. If we still failed to capture the desired bird, we waited for 10–60 min and played the tapes a third time.

Captured adults were assigned to one of four categories: (1) territory owners, (2) intruding neighbors (birds from adjacent territories), (3) intruding local residents (territory holders from the local population but not neighbors), or (4) intruding wandering birds (unbanded birds not seen again during the breeding season). Because the status of this last group was unknown, they could not be classified as floaters (Smith 1989) and instead were referred to as wandering birds. During the first year of this study, many of the local territory holders were not banded. We therefore excluded from the analysis of territorial status the three intruders captured in 1984.

The rate of intruder capture did not vary significantly among years ($\chi^2 = 4.54$, df = 5, $P > 0.05$; Table 1). Therefore, data from multiple years were combined in the following analyses.

The majority of intruders were males (41/47, 87.2%; Table 1). Wandering males represented 54.6% of the intruders captured. Local residents represented 11.4% of the intruders captured and were also exclusively male. Neighbors represented 35% of the intruders captured and consisted of three females and 12 males (Table 1). There was no significant association between a bird's status and whether it was captured at or away from a nest site (for both wandering and local resident males compared to neighbors, $\chi^2 = 0.05$ with continuity correction , df = 1, $P > 0.05$; for wandering males compared to neighbors, $\chi^2 = 0.02$ with continuity correction, df = 1, $P > 0.05$; Table 1).

Intruders were captured at nest sites in 21/122 (17.2%) netting attempts using playback calls while none was captured in 50 netting attempts without playback calls. Intruders were captured away from nest sites in 17/53 (32.1%) netting attempts using playback calls and in 9/37 (24.3%) netting attempts without playback calls. We were more likely to capture intruders when we used playback calls (38/175, 21.7%) than when playback calls were not used (9/87, 10.3%; $\chi^2 = 5.12$, df = 1, $P < 0.01$). We were also more likely to capture intruders away from nest sites (26/90, 28.9%) than at active nests 21/172, 12.2%; $\chi^2 = 11.17$, df = 1, $P < 0.01$).

Playback calls attract adult Yellow-eyed Juncos. This was especially noticeable when we were capturing adults at active nests, as we did not capture intruders at nest sites without playback calls. When nestlings are being fed, the nest site is the center of adult activity and may be the most heavily defended area in the territory. In addition, because we used fewer nets for shorter periods at nest sites, intruders would be less likely to encounter nets at a nest site than away from a nest site.

Although the majority of captured intruders were male, males juncos do not appear to be less wary or more attracted to playback calls than females. We used playback calls to capture resident juncos at 73 nests for blood sampling. On our first attempt, we captured both the male and female at 47 nests, only the female at 11 nests, and only the male at 15 nests ($\chi^2 = 0.75$, $P > 0.05$).

Yellow-eyed Juncos may "intrude" upon other juncos' territories for a variety of reasons related to their sex, territorial status, and mating status. In many passerines, conspecific intruders have been shown to be floaters (Smith 1978, 1989; Beletsky and Orians 1987), sexually mature birds prevented from breeding by the territorial behavior of other birds (Brown 1964). Unmated males, whether they possess a territory or not, may be searching for a territorial opening following the death of a resident male (indicated by the lack of a resident male, an unusual song on the territory, female chipping, or nestling distress calls). This population is slightly male biased because females experience higher predation rates during incubation and brooding than do their mates (Sullivan 1989). On three occasions, we observed a previously unmated male establish residence within 24 hours of the death of the original territory holder. One of these birds had been caught at two other territories prior to gaining a territory with a mate.

The mating status of wandering males was unknown, but based on the sedentary behavior of mated male juncos, they were probably unmated. Three of the local resident intruders

TABLE 1
SUMMARY OF CAPTURE RECORDS

Year	Mist net[a] location	Netting attempts	Intruders captured	Wanderers[c]	Local[b,d] residents	Neighbors[b,e]
1984	NS	27	0	—	—	—
	ANS	13	3 ♀	?	?	?
1985	NS	23	0	—	—	—
	ANS	25	7	3 ♂	1 ♂, 1 ♀	2 ♂**
1986	NS	34	3	3 ♂	—	—
	ANS	23	9	5 ♂	2 ♂, 1 ♀	1 ♂*
1987	NS	4	0	—	—	—
	ANS	7	2	2 ♂	—	—
1988	NS	46	9	5 ♂	4 ♂	—
	ANS	12	3	1 ♂	2 ♂	—
1989	NS	38	9	4 ♂	2 ♂,* 1 ♀	2 ♂
	ANS	10	2	1 ♂	1 ♂	—

[a] NS = nest site; ANS = away from nest site.
[b] Each * indicates one unmated male.
[c] Wanderers = Unbanded birds not seen again during the breeding season.
[d] Local residents = Territory holders from the local population but not from adjacent territories.
[e] Neighbors = Birds from adjacent territories.

held a territory but never had a mate during the breeding season. Two other local resident intruders were probably unmated. One of the neighboring male intruders was unmated throughout the breeding season. This bird was captured on two neighboring territories during the breeding season.

Both mated and unmated males may enter another bird's territory to attempt extra-pair copulations (Gowaty 1985). At the present time, we have no data on the frequency of extra-pair copulations in this population.

Mated neighboring birds may also enter a territory to investigate unfamiliar male songs (Weeden and Falls 1979). Additionally, neighbors may investigate disturbances, either to prevent predation on their own young or to assist their neighbors. Banding data indicate that siblings tend to establish territories near each other and that over 40% of the birds with one or more siblings in the breeding population share a territory boundary with at least one sibling (Sullivan, unpubl. data).

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Variable first prebasic primary molt in Rio Grande and Merriam's Wild Turkeys.—Gallinaceous birds typically retain the juvenal ninth (JIX) and tenth (JX) primary wing feathers during the first prebasic molt (Petrides 1945, terminology follows Humphrey and Parkes 1959). However, not all Wild Turkeys (*Meleagris gallopavo*) retain JIX and JX during this molt. Some retain only JX (reviewed by Lewis 1967), and in 21% of 125 Florida Wild Turkeys (*M. g. osceola*), all 10 juvenal primaries were molted (Williams and Austin 1970, 1988). Leopold (1943) suggested that Wild Turkeys were genetically predisposed to retain both JIX and JX, whereas domestic turkeys retained only JX. He further suggested that the frequency of this extended primary molt indicated the degree of cross-breeding between wild and domestic turkeys. Stable frequencies could be maintained if this molting characteristic had neutral selective value. Alternatively, Williams and Austin (1988) hypothesized that the first prebasic molt among wild birds varied in a genetically controlled manner along a north-south gradient related to climate. They predicted that more northerly populations would exhibit progressively higher frequencies of retention of both JIX and JX.

We examined patterns of first prebasic molt among winter-caught yearling (referred to as juveniles by some authors) Rio Grande (*M. g. intermedia*) and Merriam's (*M. g. merriami*) Wild Turkeys. Here we report our findings and discuss their relevance to the two stated hypotheses. Previous studies of first prebasic molt in Wild Turkeys primarily examined the Eastern (*M. g. silvestris*) and Florida subspecies.