

## RANGE EXPANSION OF THE SHINY COWBIRD IN THE DOMINICAN REPUBLIC

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Post and Wiley (1977a) have reviewed the spread of the Shiny Cowbird (*Molothrus bonariensis*) within the last 100 years from northern South America through the Lesser Antilles and into the Greater Antilles as far west as Hispaniola. This species is an obligate brood parasite with a wide host specificity (Friedmann 1963). Its parasitic habits and tolerance for disturbed habitats have facilitated population increases throughout its traditional (South American) range as well as its extended range (Friedmann 1929, Johnson 1967, Post and Wiley 1977a). Here we document further dispersal of cowbirds banded in the Dominican Republic.

We observed and banded cowbirds from October 1976 to October 1978. Additional observations were made in August of 1981 and 1982. Cowbirds were observed in a variety of habitats ranging from mangroves and thorn scrub to the edges of broadleaf forests. Because they feed heavily on rice and grains, most cowbirds were seen in disturbed areas at or near rice fields, pasturelands, and livestock management facilities. We captured cowbirds in mist nets at 3 pig farms within 30 km of Santo Domingo between 10 March and 13 May 1978. In addition to a USF&WS metal band, we attached an orange plastic leg streamer at the time of banding.

Observations and band returns document the spread of the Shiny Cowbird throughout the Dominican Republic and westward from its previously recorded range limits (Fig. 1). By 1973 Dod (*in* Post and Wiley 1977a) found cowbirds as far west as Najayo (22 km SW of Santo Domingo) in the south and Santiago in the north. In 1977 we observed a male cowbird on Saona Island to the south and near Monti Cristi in the extreme northwest. Small- to medium-sized flocks were observed along the north coast in 1981 and 1982. The cowbird's continued spread westward is suggested by the Neiba band recovery some 130 km west of the banding site. Moreover, the collaborator reporting the band conveyed that he had been planting rice in that area for 10 yr and had not observed the species before 1978. He shot the bird because it was new to him. Although yet unreported, cowbirds are probably in Haiti.

Shiny Cowbirds inhabit open country which may extend from coastal areas to high elevations depending on the extent of habitat alteration and animal husbandry practices in such areas (Friedmann 1929, Post and Wiley 1977b). Many of the Dominican Republic's diverse life zones are being altered at an alarming rate, mainly because the country's more than 4 million inhabitants depend on a shifting agriculture subsistence (Organization of American States 1964). We saw extensive clearings at elevations exceeding 1000 m in the Cordillera Central, Sierra de Bauruco, and the Los Haitises limestone karst hills (Fig. 1). As more and

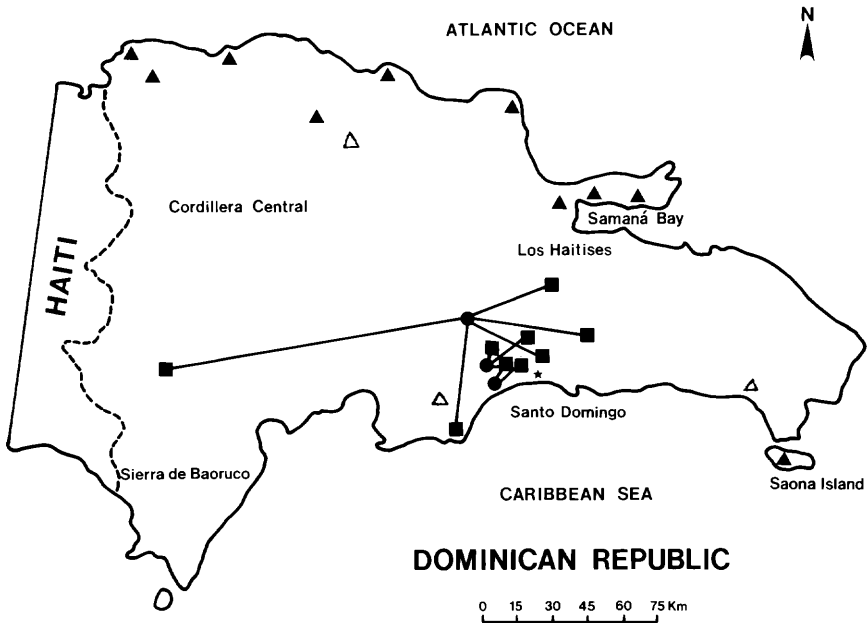


FIGURE 1. Range expansion of the Shiny Cowbird in the Dominican Republic: sightings and reported range as of 1975 ( $\Delta$ ) (after Post and Wiley 1977a); cowbird sightings from 1977-78 and 1981-82 ( $\blacktriangle$ ) east to west: Saona Island, Samaná, Sánchez, Arenoso, Cabrera, Sosúa, José E. Bisonó, Punta Rúcia, Villa Vasquez, Monti Cristi; banding sites ( $\bullet$ ) south to north: Engombe, Santa Marta, Panarama; recovery sites ( $\blacksquare$ ) east to west: Cabreta, Monte Plata, 1 km E of the Capital, 13 km N of the Capital, Villa Mella, La Ciénaga (6 individuals), La Isabela, Nizao, 10 km SE of Neiba.

more land falls under agriculture, cowbirds may spread into the interior mountains.

We banded 196 cowbirds, 78 females and 118 males. Fourteen individuals (7.1%) were recovered at distances up to 130 km ( $\bar{x}$  = 25.8 km) from the banding sites (Fig. 1). A female captured 5 yr after banding only about 5 km from the banding site constitutes our longest reported survival. The second longest reported survival was that of a female recaptured 2 yr after banding also within 5 km of the banding site. Three other birds were recaptured 3, 3, and 18 months after banding within 5 km of their respective banding sites, suggesting that some individuals maintain at least a regional tenacity. This is further demonstrated by a subadult male banded at the Engombe pig farm on 7 August 1982 and released in Santo Domingo 7 km away later the same day. It was the first capture at Engombe the following day. Banded cowbirds dispersed in a northeastern or southeastern direction (Fig. 1). This is not surprising since large expanses of low-lying marshy areas,

conductive to the growing of rice, exist both to the NE (Nagua and Samaná Bay districts) and to the SE (coastal and central lowlands).

The plastic leg streamers were durable. We found streamered cowbirds feeding in the La Ciénaga rice fields 5 months after banding. A male cowbird that was recovered 30 km from its banding site 1.5 yr later still retained its leg streamer, as did the male captured 3 months after banding near Neiba, some 130 km from the banding site.

Observations and banding results suggest that Shiny Cowbirds have an extended breeding season in the Dominican Republic. Although the mean weight of females was 38.2 g ( $n = 54$ ), after 4 April females were captured that weighed as much as 48 g and exhibited distended cloacal areas. A 45-g female trapped on 14 April contained a developed egg lacking only the shell, indicating that many females were ovulating by early April and probably before. We observed adults in association with potential hosts from March to August. We found singing males accompanying females at active colonies of the introduced (African) Village Weaver (*Ploceus cucullatus*) on 22 March 1977 (Punta Rúcia) and on 1 April 1977 (La Jina de Miches). On Saona Island on 16 July 1977 we sighted a singing male at an active weaver colony while its residents were away foraging. In 1978 we observed a female cowbird moving through an active colony of the endemic Palmchat (*Dulus dulus*) at the Panarama pig sty on 29 March and an adult Black-cowled Oriole (*Icterus dominicensis*) feeding a fledgling cowbird at the Engombe sty on 25 April. Later that same year, near Sánchez on 10 July, we observed juvenile cowbirds mixed within flocks of foraging weavers, while adult cowbirds fed separately. Near Nizibón (Miches), on 12 August 1978, we sighted juvenile cowbirds mixed in with foraging weavers while, once again, adult cowbirds fed separately. Cowbird eggs have recently been found in the nests of the Village Weaver, Palmchat, and the Black-cowled Oriole (A. Cruz, pers. comm.).

The weaver is an opportunistic breeder, synchronizing its nestings with maturing rice crops and rainfall (Hall 1970, Da Camara-Smeets 1982). We found active weaver colonies in every month of the year. It would be reproductively beneficial for the parasitic cowbird to extend its breeding season to take advantage of this host year around.

Many other introduced birds are now found on West Indian islands. The House Sparrow (*Passer domesticus*), for example, is well established in the Dominican Republic and is spreading rapidly (pers. obs.). I have found active nests of this species in mid-August. The presence of these exotics, many of which have extended reproductive seasons, may be expediting the spread of the cowbird. In Puerto Rico, cowbirds parasitize many species including the introduced Troupial (*Icterus icterus*) and the Bronze (Hooded) Mannikin (*Lonchura cucullata*) (Cruz, pers. comm.). As more is learned about the Shiny Cowbird's specific host-parasite relations and its reproductive ecology, we will better understand the mechanisms behind its rapid range expansion in the Dominican Republic and elsewhere in the Caribbean area.

## SUMMARY

Band recoveries and observations document the continued range expansion of the Shiny Cowbird (*Molothrus bonariensis*) in the West Indies. Its tolerance for disturbed habitats together with the introduction of exotic host species with extended breeding seasons may be expediting the spread of this generalist and obligate brood parasite in the Dominican Republic and throughout its northern range.

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