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Records of the Shiny Cowbird (*Molothrus bonariensis*) in Jamaica

Catherine Levy



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Abstract The Shiny Cowbird (*Molothrus bonariensis*) is a brood parasite native to South America that has spread across the Caribbean archipelago and North America. The species likely reached Puerto Rico before 1955, the Dominican Republic in 1972, Cuba in 1982, the Bahamas in 1984, and the Florida Keys in 1985. There are conflicting reports about the date of arrival in Jamaica, but the species was not definitively recorded there until 1989. In this paper, I describe observations of the species in Jamaica and document its spread across the island.

Keywords invasive birds, Jamaica, *Molothrus bonariensis*, Shiny Cowbird

Resumen Registros de *Molothrus bonariensis* en Jamaica—*Molothrus bonariensis* es un parásito de cría nativo de América del Sur que se ha extendido por todo el archipiélago del Caribe y América del Norte. La especie probablemente llegó a Puerto Rico antes de 1955, la República Dominicana en 1972, Cuba en 1982, Las Bahamas en 1984 y los cayos de la Florida en 1985. Hay informes contradictorios sobre la fecha de llegada a Jamaica, aunque la especie no fue registrada definitivamente hasta 1989. En este documento, describo las observaciones de la especie en Jamaica y documento su proliferación en toda la isla.

Palabras clave aves invasoras, Jamaica, *Molothrus bonariensis*

Résumé Mentions de Vacher luisant (*Molothrus bonariensis*) en Jamaïque—Le Vacher luisant (*Molothrus bonariensis*) est une espèce parasite des couvées originaire d'Amérique du Sud qui s'est répandue dans la Caraïbe et en Amérique du Nord. L'espèce a probablement atteint Porto Rico avant 1955, la République dominicaine en 1972, Cuba en 1982, les Bahamas en 1984 et les Keys de Floride en 1985. Il existe des données contradictoires sur la date d'arrivée en Jamaïque, mais l'espèce n'a été formellement enregistrée dans ce pays qu'en 1989. Le présent article décrit les observations de l'espèce en Jamaïque et documente sa dispersion à travers l'île.

Mots clés Jamaïque, *Molothrus bonariensis*, oiseaux envahissants, Vacher luisant

Documentation of the spread of the invasive Shiny Cowbird (*Molothrus bonariensis*) throughout the Caribbean is thorough, with the first record being made on Vieques Island in 1860, but the authors considered this early record as “anomalous,” and proposed that the spread of the species across the Greater Antilles began from a population center in the western Virgin Islands and eastern Puerto Rico between 1953 and 1973 (Post and Wiley 1977). They postulate that the species arrived in Puerto Rico before 1955, stating that “during the 1940s few observers were active in Puerto Rico or the Virgin Islands.” The species was first recorded in the Dominican Republic in 1972 (Bond 1973, Latta *et al.* 2006), Cuba in 1982 (Garrido 1984), the Bahamas in 1984 (Baltz 1995), and the Florida Keys in 1985 (Smith and Sprunt 1987). Post and Wiley predicted that the species would quickly colonize the remainder of the Greater Antilles (1977).

Observations Prior to 1989

In Jamaica during the 20th century, apart from a small group of members of the island's Natural History Society, there were few bird watchers and no local researchers studying the avifauna. At this time, information on new species observed on Jamaica was available from reports in the local newspaper, the *Kingston Daily Gleaner* (Lewis 1948), in the *Natural History Society of Jamaica (NHSJ) Notes* (1941–1955), and through ornithologist James Bond's *Birds of the West Indies* editions (Bond 1936–1985) and supplements (Bond 1951–1987). Then, in 1963, May Jeffrey-Smith and Anna Black formed the Gosse Bird Club (later known as BirdLife Jamaica) and began publishing the *Broadsheet*: a compilation of articles, observations, and commentary of Jamaican birds. However, neither the *Kingston Daily Gleaner*, the *NHSJ Notes*, nor Bond list the Shiny Cowbird in Jamaica. No mention of the species appears in the *Broadsheet* until 1989.

May Jeffrey-Smith (1881–1973) was an inveterate Jamaican bird observer who recorded many observations that were published in the *Notes of the Natural History Society* and who later authored *Bird-Watching in Jamaica* (Jeffrey-Smith 1956). The re-

2 Starlight Avenue, Kingston 6, Jamaica; e-mail: bluequit@gmail.com

vised edition of this book was published in 1972 with the following entry (Jeffrey-Smith 1972:161):

COWBIRD: My first close up of this bird was at Rocklands Feeding Station. He looked so sleek and handsome, so well groomed it seemed impossible to associate him with parasitic habits, similar to those of the cuckoo. But alas! his mate does lay her egg in the nest of another bird leaving to this foster-mother her domestic duties; but at least a bird nearer to her own size is victimized.

Is this a record of the Shiny Cowbird in Jamaica? As neither a diagnostic description of the bird nor a date for this observation is provided, I conclude that the observation took place before 1972 but that an unequivocal identification cannot be assigned. In a telephone conversation in 1993 with the owner of the Rocklands Bird Feeding Station, Lisa Salmon (1904–2000), I queried whether Jeffrey-Smith's observation was, indeed, a Shiny Cowbird. While I cannot be sure that her response was accurate, Miss Salmon said she recalled the visit of the Jeffrey-Smith sisters and said that what they saw was an oriole. It seems unusual that both sisters, being avid birdwatchers, would make this misidentification, but without a more detailed description, or a photograph or specimen, the bird cannot be conclusively identified as a Shiny Cowbird. It should be noted that David Lack, an experienced ornithologist, was on sabbatical in Jamaica between October 1970 and July 1971, and did not record this species despite visiting a wide range of natural and human-altered habitats on the island (Lack 1976). Unfortunately, Jeffrey-Smith's possible Shiny Cowbird sighting has been reported in print as the first sighting in Jamaica, and is considered by some to be confirmed (Jaramillo and Burke 1999). No other record of the Shiny Cowbird appeared in print until 1989.

Observations from 1989 to 1998

On 13 and 14 May 1989, while on a visit to the western end of Jamaica, I observed a bird in a cage on the grounds of a hotel in Negril, Westmoreland Parish (Levy 1989). After inquiring into the origin of the individual, I learned that local persons had brought in birds for the aviary. On a visit with Audrey Downer and Lisa Salmon one week later, we confirmed that this individ-

ual was a Shiny Cowbird. It may be assumed that this individual was wild-caught, and probably indicates that the species first entered Jamaica on the western end.

While visiting the island with companions on 30 April 1993, Michel Gosselin of the Canadian Museum of Nature reported that he saw "about half a dozen small blackbirds flying... in small groups of one or two..." at Fisherman's Inn, near Falmouth, Trelawny Parish, and by elimination of other black species, suggested that these were Shiny Cowbirds (M. Gosselin 1993 and pers. comm.). As a result of this report, Dr. Peter Vogel of the University of the West Indies and I visited the area on 2 and 3 July 1993 at the approximate time of day that the birds had been reported, in an attempt to confirm their presence. However, we did not observe any birds that fit that profile. In August of the same year, the Shiny Cowbird was possibly sighted at the southeastern end of the island, in the town of Yallahs, St. Thomas Parish, and later, in June 1994, it was confirmed there (Fletcher 1994). But it was not until March 1994 that Smith (1994) recorded the first definitive observation at the southwestern end of the island, at Elim in St. Elizabeth Parish.

In June and July 1994, during fieldwork in dry forests, Brown and Degia (1994) reported the species in the Hellshire Hills, St. Catherine Parish. In July 1994, Brown (1994) recorded the first observation of a juvenile Shiny Cowbird begging from a Jamaican Oriole (*Icterus leucopteryx*) at Salt Island Creek, Clarendon Parish. In March 1995, Strong (1996) observed the species at Luana Point, St. Elizabeth Parish; in May 1996, Koenig (1996) observed the species near Montego Bay; and in June 1995, Clements (1995) observed the species at Chukka Cove in St. Ann Parish.

Subsequent reports increased, mostly from the south-central sections of the island: in 1995, at New Hall Estate, St. Catherine Parish (McConnell 1995), and in May 1997, I observed two Shiny Cowbird juveniles begging from an adult Jamaican Oriole in my garden in St. Andrew Parish—an urban setting.

While doing fieldwork in St. Catherine Parish in early 1997, Leo Douglas reported many cowbirds from the Mitchell Town area of St. Catherine Parish where locals kept chickens in roughly built chicken coops (L. Douglas pers. comm.). In order to establish confirmation of the species, a small group armed with nets and boxes visited Mitchell Town in 1998 and set up nets on three

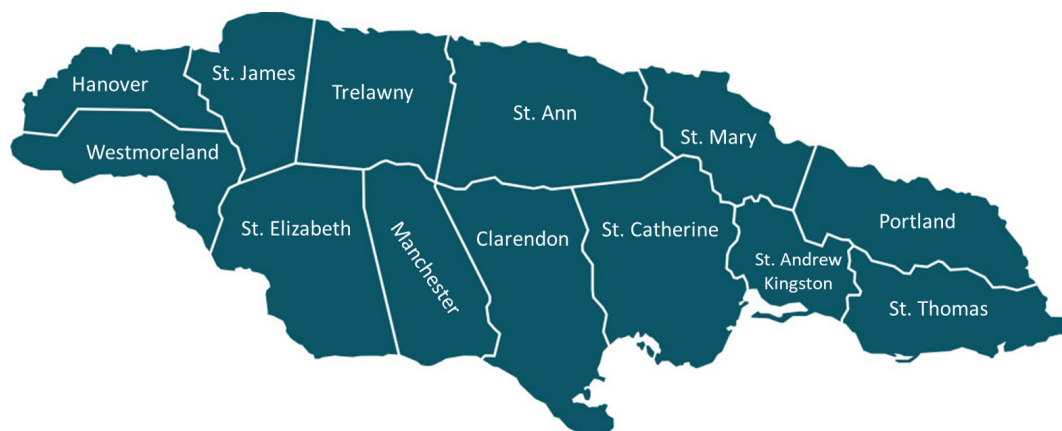


Fig. 1. The Shiny Cowbird has now been observed in all 14 parishes of Jamaica.

sides of a chicken enclosure in an effort to trap the Shiny Cowbirds that were feeding on grain. Ultimately, 18 individuals were trapped (7 males and 11 females) and taken to Kingston where they could be observed and studied. While caged in Kingston, a small baited metal trap was placed on top of the cage; this attracted 10 wild cowbirds that were then removed from the trap and placed within the larger cage. By 2 April, three females had died, and on 14 May an egg was found in the cage. Eventually all captured individuals perished despite having seed and water (Douglas and Levy 1998).

Observations from 1989 to 2015

From 1989 to 2015, the *Broadsheet* received observations from every parish except Portland, Hanover, and St. Mary. While the *Broadsheet* ceased publication in 2015, there were reports of the Shiny Cowbird until the final, 100th issue, when Koenig (2015) reported it from Windsor (Cockpit Country), Trelawny Parish. There are, however, documented eBird observations from the three remaining parishes, a sample of which include Goblin Hill (3 individuals, Lindstad 2012) and Ecclesdown Road (2, Summers 2013; 1, Jakubowicz 2015) in Portland Parish, Windsor Castle (1, Bolton 2005) and Green Castle Estate (4, Hoyer 2010) in St. Mary Parish, and Grand Palladium (4, Poort 2010) in Hanover Parish. Therefore, the Shiny Cowbird has now been reported from all 14 Jamaican parishes (Fig. 1).

However, eBird records of Shiny Cowbirds in Jamaica should be interpreted with caution because checklists are sometimes submitted for observations that have been recorded over a considerable geographic distance and over a period of hours, therefore leaving out the detail necessary to accurately assess exact locations of individual birds.

Nest Parasitism

Although the Shiny Cowbird is known to parasitize many species in the Caribbean (Post and Wiley 1977), only one case of nest parasitism by a Shiny Cowbird in Jamaica has been observed and documented. Davis (2004:9) observed a Jamaican Oriole defending its nest and reported the following:

April 14, 2004. Font Hill Nature Reserve. St. Elizabeth. Species: Jamaican Oriole (*Icterus leucopteryx*) and Shiny Cowbird (*Molothrus bonariensis*). At 6:20 a.m. a loud commotion was heard in a Black Mangrove (*Avicennia nitida*) tree. Observation with binoculars showed a Jamaican Oriole pecking at a bird in its nest. This pecking and squirming continued for about 3 minutes before a female Shiny Cowbird was observed trying to flee from the Oriole's nest. As the cowbird tried to get away, its foot got caught in the threads that make up the nest. The Oriole continued to hammer the Shiny Cowbird with pecks, each peck resulting in agonizing calls from the cowbird. Five minutes after I happened upon the scene, the cowbird managed to flap itself free.

Discussion

Potential Arrival Mediated by Hurricane Activity

In September 1988, Jamaica suffered a devastating blow from Hurricane Gilbert, with wind gusts up to 255 km/hr and baro-

metric pressure of 885 mb. The eyewall of the hurricane moved across the entire island from the southeast to the western end (Fig. 2; Eyre 1989).

Given that hurricane winds rotate counter-clockwise in the Northern Hemisphere (due to the Coriolis effect), and that the distance between Jamaica and Cuba at the nearest point is only ~145 km, it is possible that the Shiny Cowbird arrived on Jamaica in September 1988 due to displacement caused by Hurricane Gilbert. If this was the case, it is not surprising that the species was first observed on the closest part of the island to Cuba—the northwestern edge—as southward-flowing hurricane winds between Cuba and Jamaica could have relocated Shiny Cowbirds most directly to this location. Accounts of unusual bird observations appeared in the *Broadsheet*, and in some cases, alarm was raised about the impacts that hurricanes and Shiny Cowbird parasitism could have on the local avifauna (pers. obs., Wiley 1988). However, hurricanes are not infrequent in the Caribbean, and as Thurber (1980) and Wunderle *et al.* (1992) point out, they may alter the distributions of bird species.

It was 5 yr between the first observation of a caged individual in 1989 at Westmoreland Parish (western Jamaica) and when the species' presence was confirmed in the wild in 1994 at both Elim in St. Elizabeth Parish (western Jamaica) and at Yallahs in St. Thomas Parish (southeastern Jamaica). One pertinent question arises from these observations: between 1989 and 1994, could the species have multiplied and spread to both ends of the island, or was this a case of multiple individuals invading Jamaica?

Another question to consider: to what extent does the Shiny Cowbird parasitize oriole nests, and what other species is it parasitizing in Jamaica? The list of victims reported by Wiley (1988) in Puerto Rico is varied, including kingbirds and other flycatchers, vireos, warblers, and icterids (Wiley 1988). In Jamaica, this would make at least seven endemic species and nine endemic subspecies high-risk targets.

In 1994, the Natural Resources Conservation Authority (NRCA; now integrated into the National Environment and Planning Agency) officially reported that the Shiny Cowbird was present on the island, which prompted the issue of an undated press release entitled *Look Out for Dangerous Birds*. It included the following: "In an effort to protect local species, the NRCA and the Gosse Bird Club will be formulating a plan to curtail the spread of the species and so are asking members of the public and [environmental non-governmental organization] groups in particular to be on the lookout for the cowbird." Unfortunately, there has been no follow-up to this press release, and no attempt has been made to secure information on or to control the spread of the Shiny Cowbird in Jamaica.

Shiny Cowbirds prefer open or semi-open habitats, including lowland forest edge, arid lowland scrub, pasture and agricultural lands (AOU 1998), as well as suburbs, lawns, and bird feeders (pers. obs.). This preference is demonstrated by the locations in Jamaica in which the species has been observed since its first sighting in 1989: coastal areas with mangroves (Yallahs, Font Hill, Old Harbour, and Salt Island Lagoon), dry open areas cleared for agriculture (Luana, Hill Run, Mitchell Town, and Portland Cottage), dry woodland (Portland Ridge, Braziletto Mountains, and Hellshire Hills), and suburbs and lawns (St. Andrew).

The avifauna of Jamaica has no recent history of brood para-

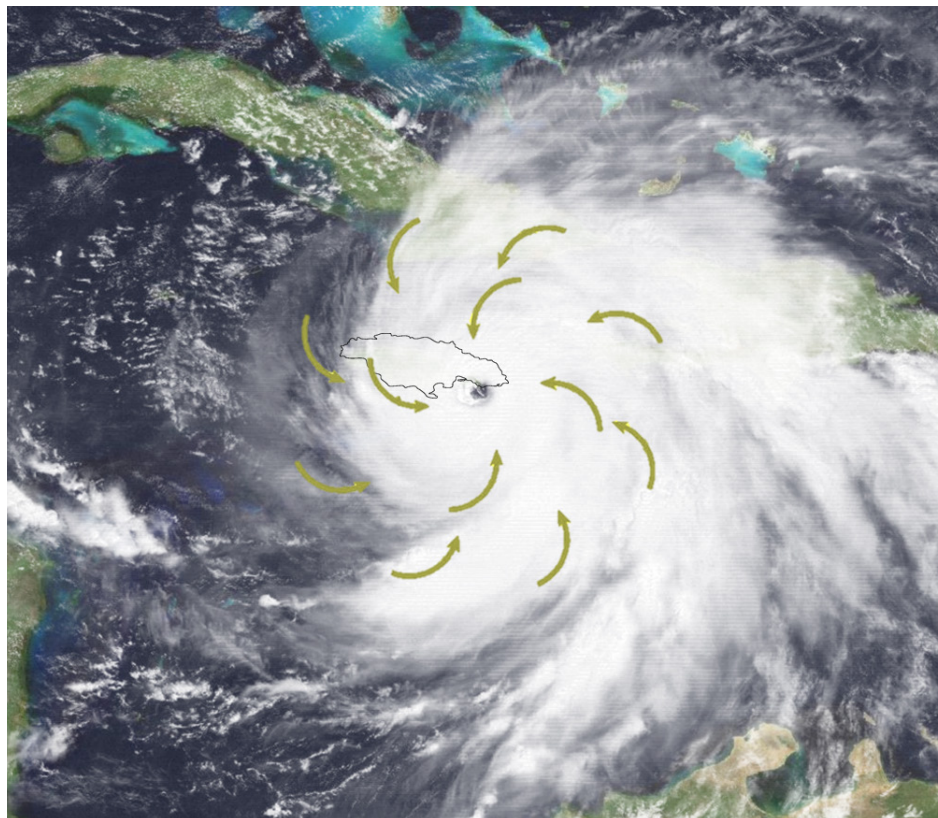


Fig. 2. Satellite imagery of Hurricane Gilbert approaching Jamaica on 12 September 1988 (National Oceanic and Atmospheric Administration 2018). An outline of Jamaica has been superimposed. Arrows were added to indicate typical cyclonic wind directions in the Northern Hemisphere.

sitism (Wiley 1988); therefore, it must be assumed that native species have not developed adaptations to defend against this behavior. Some of the endemic species and subspecies have a wide distribution over dry and wet forest habitats—e.g., the Sad Flycatcher (*Myiarchus barbirostris*)—so it is possible that populations that occur in drier areas might be affected first, as they are more open and easily accessible targets, and some may suffer disastrous reductions in recruitment levels (Wiley and Wunderle 1993).

Conclusion

It is to be hoped that the Shiny Cowbird will not penetrate the forests in which many endemics are found; however, it is important that diligent observations are maintained so that actions can be taken to protect endemic species as rapidly as possible. Removal of the Shiny Cowbird is a costly and unproductive undertaking involving the study of species preferences, data collection for both target species and parasitic species, nest watching, trapping, and potential removal of target species (Post and Wiley 1977). In Puerto Rico, the endemic Yellow-shouldered Blackbird (*Agelaius xanthomus*) was severely parasitized by the Shiny Cowbird, and recovery efforts have been ongoing since 1975 (Wiley *et al.* 1991, Cruz *et al.* 2005). Part of the recovery effort has involved temporarily relocating some Yellow-shouldered Blackbirds to nearby islands while the removal and control of Shiny Cowbirds was undertaken.

It is doubtful that Jamaica has the resources—land, human, or financial—to undertake such an effort. The preservation and

management of undisturbed forest tracts may be the only way to conserve many of the native and endemic species of birds in Jamaica, as larger tracts of forest with less disturbed edges may prevent brood parasitism by Shiny Cowbirds (Robinson *et al.* 1993). Thus, it is imperative that forested areas are protected and maintained. Cutting roadways and paths through forest reserves should be avoided at all costs, as they may provide the avenue for expansion of this destructive invasive species.

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Author Information

2 Starlight Avenue, Kingston 6, Jamaica; e-mail: bluequit@gmail.com

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