

The Journal of Caribbean Ornithology

RESEARCH NOTE

Vol. 28:11–14. 2015

History of the Spotted Rail (*Pardirallus maculatus*) in Jamaica with first photographic documentation of breeding

Gary R. Graves Vaughan A. Turland Catherine Levy



Photo: Wolde Kristos

History of the Spotted Rail (*Pardirallus maculatus*) in Jamaica with first photographic documentation of breeding

Gary R. Graves¹, Vaughan A. Turland², and Catherine Levy³

Abstract The Spotted Rail (*Pardirallus maculatus*) was presumed extinct in Jamaica for most of the period between its discovery by W.T. March in 1863 and its rediscovery in 1977 in the Upper Morass of the Black River system, St. Elizabeth Parish. An individual salvaged in 1987 in Mandeville, Manchester Parish, is the sole modern specimen from Jamaica and the only recent record away from the Black River. Populations of unknown size occur in both the Upper (~1,760 ha) and Lower Morasses (~6,075 ha) of the Black River. Evidence of breeding was reported from the Upper Morass in 2012 and photographic documentation of juvenile rails was obtained in 2014.

Keywords Black River Morass, Jamaica, *Pardirallus maculatus*, St. Elizabeth Parish, Spotted Rail, West Indies, W.T. March

Resumen Historia de *Pardirallus maculatus* en Jamaica con el primer registro fotográfico de su reproducción—*Pardirallus maculatus* estaba considerada extinta en Jamaica en la mayor parte del período entre su descubrimiento por W.T. March, en 1863, y su redescubrimiento en 1977 en Upper Morass, en el sistema del Black River, distrito de St. Elizabeth. El único espécimen moderno de Jamaica es un individuo rescatado en 1987 en Mandeville, en el distrito Manchester y es el único registro lejos del sistema del Black River. Existen poblaciones de tamaño desconocido tanto en el Upper (~1 760 ha) como en el Lower Morasses (~6 075 ha) del Black River. Se ha registrado evidencia de cría en el 2012 en el Upper Morass y se ha obtenido evidencia fotográfica de juveniles de esta especie en el 2014.

Palabras clave Black River Morass, Caribe Insular, Jamaica, *Pardirallus maculatus*, St. Elizabeth Parish, W.T. March

Résumé Historique du Rôle tacheté (*Pardirallus maculatus*) en Jamaïque et première documentation photographique de la nidification—Le Rôle tacheté (*Pardirallus maculatus*) a été considéré comme éteint en Jamaïque pendant la majeure partie de la période comprise entre sa découverte par W.T. March en 1863 et sa redécouverte en 1977 dans les marais d'Upper Morass du système de la Black River, St. Elizabeth Parish. Un individu trouvé en 1987 à Mandeville, Manchester Parish, est le seul spécimen récent de la Jamaïque et la seule mention récente à distance de la Black River. Des populations de taille inconnue sont présentes dans les marais de l'Upper Morass (~1 760 ha) et du Lower Morass (~6 075 ha) de la Black River. Une preuve de nidification a été signalée dans l'Upper Morass en 2012 et des photographies d'individus juvéniles ont été prises en 2014.

Mots clés Antilles, Black River Morass, Jamaïque, *Pardirallus maculatus*, Rôle tacheté, St. Elizabeth Parish, W.T. March

The Spotted Rail (*Pardirallus maculatus*) is locally distributed in marshes, wet savannahs, and rice fields from Mexico and the Greater Antilles south to Argentina (American Ornithologists' Union 1998). The rail is an uncommon permanent resident in Cuba (Watson 1962, Garrido and Kirkconnell 2000) and a rare locally-distributed resident in Hispaniola (Dod 1980, Keith *et al.*

2003). Its status in Jamaica has been confused by the accounts of earlier workers and by the paucity of peer-reviewed documentation of recent sight records (Levy 1994). Here we review the history of *P. maculatus* in Jamaica and present the first photographic evidence of breeding on the island.

Pardirallus maculatus was unknown to early naturalists in Jamaica (Sloane 1725, Browne 1756, Gosse 1847). It was discovered in Jamaica by W.T. March of Spanish Town, St. Catherine Parish (March and Baird 1864:69):

RALLUS ? VIOLACEUS.—I have often seen this species in the ferry lagoon, but never succeeded in procuring a specimen. The habits appear to be very similar to those of the preceding. In February, 1863, Mr. Colchester obtained one, a female, from the same locality. The

¹Department of Vertebrate Zoology, MRC-116, National Museum of Natural History, Smithsonian Institution, P.O. Box 37012, Washington, DC 20013, USA; and Center for Macroecology, Evolution and Climate, University of Copenhagen, 2100 Copenhagen Ø, Denmark; e-mail: gravesg@si.edu. Full list of author information is available at the end of the article.



Fig. 1. Wetland habitat of Spotted Rail in the Upper Morass of the Black River, St. Elizabeth Parish, Jamaica.

dimensions and description given by the collector are, length $11 \frac{1}{4}$ inches, expanse $15 \frac{5}{8}$; bill $1 \frac{3}{4}$, middle toe $1 \frac{15}{16}$. The general plumage olive black, with olive brown wing coverts and spotted all over with white; iris red; bill pea green, orange at the base; legs rosy pink; gizzard muscular, and contained water snails with their shells.

Ferry Lagoon presumably refers to the estuary at the mouth of the Ferry River, St. Catherine Parish. March's description of plumage and bill color is clearly referable to *P. maculatus*. Recognition that *Rallus ? violaceus* was a synonym of *P. maculatus* first appeared in a general reference book (Newton and Newton 1881). However, both the original report (March and Baird 1864) and the Newton brothers' emendation were overlooked in other annotated checklists of Jamaican birds published between 1890 and 1930 (Scott 1892, Field 1894, Bangs and Kennard 1920, Danforth 1928). Likewise, comprehensive checklists of birds of the West Indies (Cory 1888, Maynard 1898) and the general catalogue of birds in the British Museum (Sharpe 1894) listed Cuba as the only location for *P. maculatus* in the Greater Antilles. Unattributed references to *P. maculatus* in Jamaica reappeared in two brief quotes by Outram Bangs (Bangs and Peck 1908, Bangs 1913). In the first, Bangs and Peck (1908:40) commented, "A rail of this sort [*P. maculatus*] occurs in Cuba and in Jamaica, but just what these island birds are like remains to be seen." Bangs (1913:90) later changed his interpretation, "The Spotted Rail of Jamaica has undoubtedly become extinct, without a single example having been preserved, so far as I am aware." The grounds for Bangs' claim of extinction are unknown. Nevertheless, his wording was paraphrased in a series of subsequent compilations

(Barbour 1923, Bond 1936, Ridgway and Friedmann 1941, Bond 1956, Lack 1976).

All modern Jamaican records of *P. maculatus*, except for one salvaged at Mandeville, Manchester Parish, originate from the wetlands of the Black River Morass in St. Elizabeth Parish. The Black River system north of highway A2 is known as the Upper Morass. The Upper Morass (~1,760 ha) constricts and funnels into the Lower Morass (~6,075 ha) at Lacovia, with the Black River being the main arterial conduit (Azan and Webber 2007). Marsh vegetation in the Upper Morass is dominated by *Cladium jamaicense*, *Phragmites australis*, *Sagittaria lancifolia*, and *Typha domingensis* (Fig. 1; Azan and Webber 2007). The first sighting from the Upper Morass was reported on 15 April 1977 (Keith 1979). A specific locality was not mentioned but vehicle access is limited to a few roads that cross the area (Azan and Webber 2007).

A cluster of five sightings between 26 October 1982 and 10 January 1983 was reported from the upper Middle Quarters River and near Salt Spring Bridge in the Lower Morass (unpublished report by Sören Svensson, 1983, Ornithological survey of the Negril and Black River Morasses, Jamaica. Appendix VI in Environmental feasibility study of peat mining in Jamaica).

The only Jamaican specimen (Institute of Jamaica catalogue number 376) was salvaged on 4 April 1987 in Mandeville (Downer 1987). Although Downer's account (1987) implied that the rail had collided with a glass window, Ann Haynes-Sutton (pers. comm.) recently recalled that the window had wooden louvers. They believed that the rail had struck an elevated electrical wire. The rail was prepared as a museum skin by Audrey Downer who noted its sex (one testis observed), weight (123 g), and empty



Fig. 2. Spotted Rails photographed in the Upper Morass of the Black River, St. Elizabeth Parish, Jamaica: (top) adult photographed on 1 March 2012 (Wolde Kristos, RAJ Tours); (bottom) juvenile photographed on 28 February 2014 (Alexander "Sandy" Darling).

stomach. Downer speculated that rice cultivation in the nearby Upper Morass was contributing to the comeback of *P. maculatus* in Jamaica but she also suggested that the rail could have been a transient from Cuba because it struck the north side of the house. However, it is more likely that the rail was dispersing southeastward from the Upper Morass, which actually lies northwest of Mandeville.

Four sightings were reported during the 1990s from the Upper Morass, two in February 1994 from an unspecified location (Downer et al. 1994), and another at Elim on 1 March 1994 (Smith 1994). An editorial note in the same issue of the Gosse Bird Club Broadsheet suggested that all three sightings referred to the same individual. A fourth sighting, also at Elim, was reported on 9 December 1996 (Sladen 1997).

After a lengthy hiatus, *P. maculatus* was reported near Barton Isle, Upper Morass (18°5.84'N; 77°42.92'W), where two adults were sighted in mid-February 2012 and a singleton was observed on 19 February, photographed on 29 February and 1 March (Fig. 2, top; Turland 2012), and observed again on 7 March 2012 (Turland and Turland 2012). As many as two adults and two juveniles were reported during July 2012 (Turland and Turland 2012). A pair of adults was sighted in the same area on 17 February 2013 (Turland and Turland 2013) and at least one was sighted on 13 April 2013 by Veda Tate and Dion Powell.

The first photographic documentation of breeding in Jamaica was obtained on 28 February 2014 when Veda Tate and Alexander "Sandy" Darling observed a juvenile *P. maculatus* in the Upper Morass (Fig. 2, bottom). Juveniles of *P. maculatus* may be distinguished from adults in having unbarred sooty-olive plumage and dusky bill and legs (Dickerman and Parkes 1969). An adult and juvenile were observed in the same locality on 14 March 2014 by Veda Tate and Vaughan Turland.

Geographic and intra-population variation of juvenal plumage of *P. maculatus* are poorly understood (Dickerman and Parkes 1969, Dickerman and Haverschmidt 1971). Dickerman and Haverschmidt (1971) described three distinctive color phases of juvenal plumage that appear only weakly linked with geography. The Jamaican juvenile (Fig. 2, bottom) corresponds to the "dark phase" which was first identified in populations of *P. maculatus insolitus* from Mexico (Dickerman and Parkes 1969). Dark phase juveniles were later detected in nominate populations (*P. m. maculatus*) from Surinam and Brazil where juveniles in the "pale phase" and "barred phase" have also been collected (Dickerman and Haverschmidt 1971).

The relationships of Greater Antillean populations of *P. maculatus* to those of the mainland are uncertain. The Cuban population (*P. m. inoptatus*) was thought to be morphologically distinctive (Bangs 1913) but Watson (1962) found that the diagnostic characters cited by Bangs were of little use in separating Cuban specimens from those collected in Trinidad and South America. The subspecies of the Hispaniolan and Jamaica populations has never been determined. However, the Jamaican juvenile photographed in the Upper Morass (Fig. 2, bottom) possessed undertail coverts that are extensively tipped with creamy white as in *P. m. maculatus* of South America. In contrast, the undertail coverts of the juvenal plumage of *P. m. insolitus* from Veracruz and Oaxaca (Mexico) are uniformly sooty-gray. The juvenal plumage of the Cuban and Hispaniolan populations has not been described.

The conservation status of *Pardirallus maculatus* in Jamaica has yet to be determined but the breeding population must be relatively small owing to the area of available habitat.

Acknowledgments

We thank Robert Behrstock and Ann Haynes-Sutton for comments on the manuscript. Graves thanks the Alexander Wetmore

and James Bond funds of the Smithsonian Institution for funding fieldwork in Jamaica and the Smoketree Trust for support.

Author Information

¹Department of Vertebrate Zoology, MRC-116, National Museum of Natural History, Smithsonian Institution, P.O. Box 37012, Washington, DC 20013, USA; and Center for Macroecology, Evolution and Climate, University of Copenhagen, 2100 Copenhagen Ø, Denmark; e-mail: gravesg@si.edu; ²P.O. Box 774, Content Property, Santa Cruz, St. Elizabeth, Jamaica, West Indies; e-mail: v.turland@gmail.com; ³2 Starlight Avenue, Kingston 6, Jamaica, West Indies; e-mail: bluequit@gmail.com

Literature Cited

- American Ornithologists' Union. 1998. Check-list of North American Birds. 7th edn. American Ornithologists' Union, Washington, DC.
- Azan, S., and D. Webber. 2007. The characterization and classification of the Black River Upper Morass, Jamaica, using the three-parameter test of vegetation, soils and hydrology. *Aquatic Conservation: Marine and Freshwater Ecosystems* 17:5–23.
- Bangs, O. 1913. New birds from Cuba and the Isle of Pines. *Proceedings of the New England Zoological Club* 4:89–92.
- Bangs, O., and F.H. Kennard. 1920. A list of the birds of Jamaica. Government Printing Office, Kingston, Jamaica.
- Bangs, O., and M.E. Peck. 1908. On some rare and new birds from British Honduras. *Proceedings of the Biological Society of Washington* 21:43–46.
- Barbour, T. 1923. The birds of Cuba. *Memoirs of the Nuttall Ornithological Club* 6:1–141.
- Bond, J. 1936. Birds of the West Indies. Academy of Natural Sciences, Philadelphia.
- Bond, J. 1956. Check-list of Birds of the West Indies. 4th edn. Academy of Natural Sciences, Philadelphia.
- Browne, P. 1756. The Civil and Natural History of Jamaica. Printed for the author, and sold by T. Osborne and J. Shipton, London.
- Cory, C.B. 1888. The birds of the West Indies, including the Bahama Islands, the Greater and Lesser Antilles, excepting the islands of Tobago and Trinidad (continued). *Auk* 5:48–82.
- Danforth, S.T. 1928. Birds observed in Jamaica during the summer of 1926. *Auk* 45:480–491.
- Dickerman, R.W., and F. Haverschmidt. 1971. Further notes on the juvenal plumage of the Spotted Rail (*Rallus maculatus*). *Wilson Bulletin* 83:444–446.
- Dickerman, R.W., and K.C. Parkes. 1969. Juvenal plumage of the Spotted Rail (*Rallus maculatus*). *Wilson Bulletin* 81:207–209.
- Dod, A.S. 1980. First records of the Spotted Rail (*Pardirallus maculatus*) on the island of Hispaniola. *Auk* 97:407.
- Downer, A. 1987. Spotted Rail. *Gosse Bird Club Broadsheet* 49:12.
- Downer, A., R. Sutton, and A. Sutton. 1994. Spotted Rail. *Gosse Bird Club Broadsheet* 62:20.
- Field, G.W. 1894. Notes on the birds of Port Henderson, Jamaica, West Indies. *Auk* 11:117–127.
- Garrido, O.H., and A. Kirkconnell. 2000. Field Guide to the Birds of Cuba. Comstock Publishing Associates, New York.
- Gosse, P.H. 1847. The Birds of Jamaica. Bentley, Wilson, and Fley, London.
- Keith, A. 1979. Birding itinerary for trip to Jamaica, April 8 to 17, 1977. *Gosse Bird Club Broadsheet* 33:2–3.
- Keith, A.R., J.W. Wiley, S.C. Latta, and J.A. Ottenwalder. 2003. The Birds of Hispaniola: Haiti and the Dominican Republic. *British Ornithologists' Union Checklist Series* 21.
- Lack, D. 1976. Island Biology, Illustrated by the Land Birds of Jamaica. University of California, Berkeley, CA.
- Levy, C. 1994. The Spotted Rail *Pardirallus maculatus* in Jamaica. *El Pitorre* 7(3):2–3.
- March, W.T., and S.F. Baird. 1864. Notes on the birds of Jamaica. *Proceedings of the Academy of Natural Sciences of Philadelphia* 16:62–72.
- Maynard, C.J. 1898. A Catalogue of the Birds of the West Indies. C. J. Maynard, Newtonville, MA.
- Newton, A., and E. Newton. 1881. List of the birds of Jamaica. Pp. 103–117 in *The Handbook of Jamaica for 1881*. Government Printing Establishment, Kingston, Jamaica.
- Ridgway, R., and H. Friedmann. 1941. The Birds of North and Middle America. Part 9. U.S. National Museum Bulletin 50.
- Scott, W.E.D. 1892. Observations on the birds of Jamaica, West Indies. II. A list of the birds recorded from the island, with annotations. *Auk* 9:9–15.
- Sharpe, R.B. 1894. Catalogue of the Fulicariae (Rallidae and Heliornithidae) and Alectorides (Aramidae, Eurypygidae, Mesitidae, Rhinocetidae, Gruidae, Psophiidae, and Otidae) in the Collection of the British Museum. Trustees of the British Museum, London.
- Sladen, F. 1997. Spotted Rail. *Gosse Bird Club Broadsheet* 68:28.
- Sloane, H. 1725. A Voyage to the Islands of Madera, Barbadoes, Nieves, St. Christophers, and Jamaica; with the Natural History of the Herbs and Trees, Four-Footed Beasts, Fishes, Birds, Insects, Reptiles, & c. of the Last of Those Islands. Vol. 2. Printed by B.M. for the author, London.
- Smith, D. 1994. Spotted Rail. *Gosse Bird Club Broadsheet* 62:20.
- Turland, C., and V. Turland. 2012. Spotted Rail *Pardirallus maculatus*. *Birdlife Jamaica Broadsheet* 96:25.
- Turland, C., and V. Turland. 2013. Spotted Rail *Pardirallus maculatus*. *Birdlife Jamaica Broadsheet* 97:20.
- Turland, V. 2012. Spotted Rail *Pardirallus maculatus*. *Birdlife Jamaica Broadsheet* 95:22.
- Watson, G.E. 1962. Notes on the Spotted Rail in Cuba. *Wilson Bulletin* 74:349–356.

Cite this article as:

Graves, G.R., V.A. Turland, and C. Levy. 2015. History of the Spotted Rail (*Pardirallus maculatus*) in Jamaica with first photographic documentation of breeding. *Journal of Caribbean Ornithology* 28:11–14.