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## New winter distributional records for Swainson's Warbler (*Limnothlypis swainsonii*) in the Dominican Republic

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*Photos: Gary Graves and Justin Proctor*

## New winter distributional records for Swainson's Warbler (*Limnothlypis swainsonii*) in the Dominican Republic

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**Abstract** We document three new regions of occurrence for Swainson's Warbler (*Limnothlypis swainsonii*) in the Dominican Republic. All encounters were of individuals captured in mist nets. Three birds were mist-netted in montane broadleaf forests: two in Sierra Martin Garcia at elevations of 1,100 m in March 2004 and one in Sierra de Bahoruco Oriental at 1,000 m elevation in March 2007. A fourth Swainson's Warbler was mist-netted in lowland, broadleaf rainforest of Los Haitises National Park near sea level in January 2007. This individual was the first among the 20 records known for Hispaniola to have been encountered in a habitat other than montane wet broadleaf forest. We suggest that the species' distribution and habitat selection on Hispaniola may be more flexible than previously believed. A more thorough census of appropriate habitat using vocal playbacks could reveal the full distribution and overwinter density of Swainson's Warbler on Hispaniola.

**Keywords** cloud forest, *Limnothlypis swainsonii*, Neotropical migrant, rainforest, Swainson's Warbler, winter distribution

**Resumen** Nuevos registros de distribución invernal de *Limnothlypis swainsonii* en la República Dominicana—Documentamos tres nuevas regiones de ocurrencia de *Limnothlypis swainsonii* en la República Dominicana. Todos los registros fueron de individuos capturados en redes de niebla. Tres de estos individuos fueron capturados en bosques mesófilos montanos: dos en Sierra Martin García, a alturas de 1100 m, en marzo de 2004; uno en Sierra de Bahoruco Oriental, a 1000 m de altura, en marzo de 2007. Un cuarto individuo fue capturado en un bosque lluvioso mesófilo de tierras bajas en el Parque Nacional Los Haitises, aproximadamente a nivel del mar, en enero de 2007. Este individuo fue el primero entre los 20 registros conocidos para La Española que ha sido encontrado en un hábitat diferente a un bosque húmedo mesófilo de montaña. Sugerimos que la distribución de la especie y la selección de hábitat en La Española pueden ser más flexibles que lo que anteriormente se pensaba. Un censo más minucioso del hábitat adecuado, utilizando llamadas de reclamo, pudiera revelar toda la distribución y densidad de *Limnothlypis swainsonii* durante la temporada invernal en La Española.

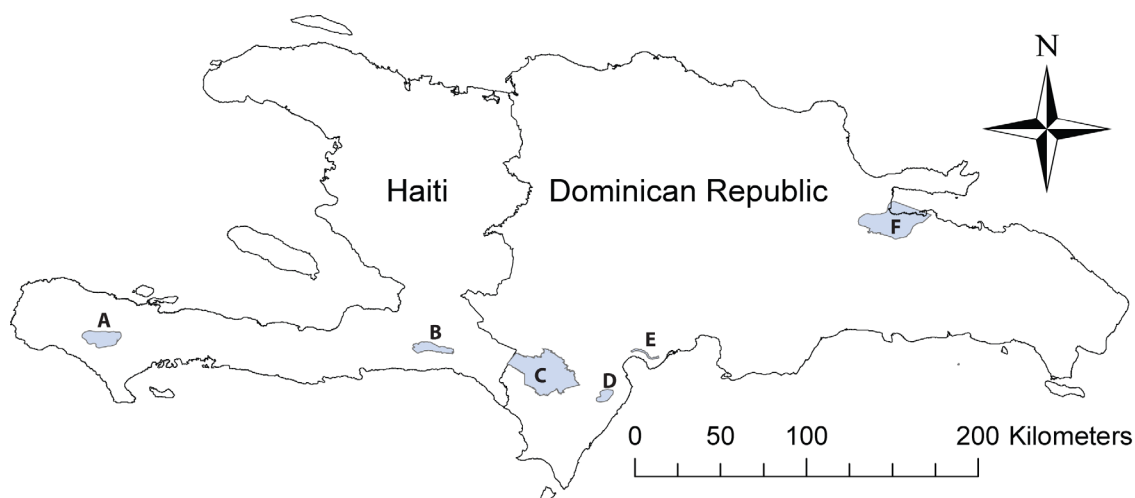
**Palabras clave** bosque lluvioso, bosque nublado, distribución invernal, *Limnothlypis swainsonii*, migrantes neotropicales

**Résumé** Nouvelles mentions de distribution hivernale de la Paruline de Swainson en République Dominicaine—Nous présentons trois nouvelles régions où se rencontre la Paruline de Swainson (*Limnothlypis swainsonii*) en République Dominicaine. Toutes les mentions proviennent d'individus capturés au filet japonais. Trois oiseaux ont été capturés dans les forêts de feuillus ombrophiles de montagne: deux individus dans la Sierra Martin Garcia à 1100 m d'altitude en mars 2004, un individu dans la Sierra de Bahoruco Oriental à 1000 m d'altitude en mars 2007. Un quatrième Paruline de Swainson a été capturée en forêt de feuillus ombrophile de plaine, dans le parc national de Los Haitises à une altitude proche du niveau de la mer, en janvier 2007. Cet individu était le premier, parmi les 20 mentions connues sur Hispaniola, rencontré dans un habitat autre que la forêt de feuillus ombrophile de montagne. Nous suggérons que la répartition de l'espèce et la sélection de l'habitat sur l'île d'Hispaniola puissent être plus larges qu'on ne le croyait auparavant. Un recensement plus complet dans les habitats appropriés en utilisant un dispositif de repasse audio pourrait révéler la distribution complète et la densité hivernale de la Paruline de Swainson sur Hispaniola.

**Mots-clés** distribution hivernale, forêt ombrophile de montagne, forêt ombrophile de plaine, *Limnothlypis swainsonii*, migrants néotropicaux, Paruline de Swainson

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Swainson's Warbler (*Limnothlypis swainsonii*) winters regularly in the Bahamas, islands of the Greater Antilles, and along the Yucatan Peninsula, and it is found irregularly or as a vagrant in the Lesser Antilles and as far south as Venezuela (Anich *et al.* 2010). Prior to 1997, although the species had been documented



**Fig. 1.** Regions of occurrence for Swainson's Warbler on Hispaniola. See Table 1 for region descriptions.

on Puerto Rico, Jamaica, and Cuba, it was unknown on Hispaniola. Since then, however, surveys have shown the species to be a regular winter resident in wet broadleaf montane forests of both the Dominican Republic and Haiti, including the Sierra de Bahoruco (Rimmer and McFarland 1998), the Massif de La Hotte (Rimmer *et al.* 2005), and the Massif de La Selle (Rimmer *et al.* 2010). Swainson's Warbler occurs in a wider range of habitats on other islands of the Greater Antilles, including dry subtropical forests on Puerto Rico (Faaborg *et al.* 2007), and mangrove (*Rhizophora*), dry limestone forests, second-growth scrub, and shade coffee (*Coffea* sp.) plantations on Jamaica (Wunderle and Waide 1993, Strong and Sherry 2001). On both Cuba and Jamaica, the species is documented in wet broadleaf forests similar to the known habitat of occurrence on Hispaniola (Graves 1996, Kirkconnell *et al.* 1996).

Swainson's Warbler is likely to go undetected in parts of its winter range due to its infrequent vocalizing, retiring habits, and choice of densely-forested undergrowth (Anich *et al.* 2010). Investigations into the species' winter distribution in the Blue Mountains of Jamaica detected 5 to 10 times more individuals using playback of conspecific vocalizations than by traditional survey techniques (Graves 1996). A better understanding of this shy and retiring species' population density and distribution is warranted, particularly given that wintering populations of

Swainson's Warbler may be vulnerable to the intense development and habitat-alteration pressure on tropical forest habitat that currently exists in both Latin America and the Caribbean (Graves 1996, Anich *et al.* 2010).

Here we report three new geographic locales for Swainson's Warbler in the Dominican Republic, two in wet broadleaf montane forest, and one in lowland rainforest. The rainforest sighting represents a new habitat for the species on Hispaniola.

## Results and Discussion

### Sierra Martin Garcia

From 27 March to 2 April 2004 and 24 February to 26 February 2007, we conducted fieldwork in northwestern Sierra Martin Garcia (Fig. 1, Table 1). Situated on a peninsula of the island's south-central coast, this mountain range has received little scientific attention and there is scant published information describing its flora and fauna. Most of Sierra Martin Garcia is officially protected within the Dominican national park system, but its boundaries are poorly defined, and enforcement of regulations is inconsistent. We operated 10 12-m mist nets in remnant cloud forest at a site locally referred to as "Charco Frio." This area was at an elevation of ~1,100 m above sea level (asl), and the site itself was situated in a small depression that retained standing water much of the year. The forest here was relatively

**Table 1.** Confirmed regions of occurrence for overwintering Swainson's Warbler on Hispaniola.

Fig. 1 Symbol	Geographic Region	Habitat	Understory Density <sup>a</sup> (stems/ha)	Elevation (m)	Geographic Location
A	Massif de la Hotte	Wet montane broadleaf	13,365 ± 1,664	1,800	18°19'40"N, 74°01'44"W
B	Massif de la Selle	Wet montane broadleaf	Not quantified	1,800	18°34'84"N, 72°28'13"W
C	Sierra de Bahoruco	Wet montane broadleaf	11,820 ± 2,963	1,800	18°12'17"N, 71°31'55"W
D	Sierra de Bahoruco Oriental	Wet montane broadleaf	Not quantified	1,000	18°06'11"N, 71°11'18"W
E	Sierra Martin Garcia	Wet montane broadleaf	5,698 ± 1,124	1,200	18°22'04"N, 71°59'03"W
F	Los Haitises	Lowland rainforest	2,020 ± 274	50	19°05'29"N, 69°38'15"W

<sup>a</sup>from Townsend *et al.* 2011

undisturbed compared to surrounding areas, most of which had been exposed to long-term slash-and-burn shifting agriculture, and was considered an important resource for local inhabitants concerned with providing a watering hole for their free-roaming cattle. The habitat was wet montane broadleaf forest, with common trees including *Ocotea oligoneura*, *Dendropanax arboreus*, *Dryepetes lateriflora*, *Erythroxylum areolatum*, *Piper amalago*, *Garrya fadyenii*, *Beilschmeidia pendula*, *Wallenia laurifolia*, *Coccoloba diversifolia*, *Fuertesia domingensis*, *Chrysophyllum oliviforme*, and *Ceiba pentandra* (Gross *et al.* 1990). The forest was characterized by a moderately dense understory and nearly complete canopy cover ~8–10 m high (Townsend *et al.* 2011). We operated mist nets for three consecutive days from sunrise to sunset, checking for captures at 30-min intervals, and during 2004 fieldwork in Sierra Martin Garcia, we netted two Swainson's Warblers (Appendix 1). On our 2007 expedition to this area, none were encountered.

### Sierra de Bahoruco Oriental

From 27 February to 3 March 2007, we conducted fieldwork in Sierra de Bahoruco Oriental (Fig. 1, Table 1). This area is characterized by primary and secondary wet broadleaf forest with a moderately dense understory of shrubs, vines, and tree ferns. We operated 5–10 mist nets at a site known locally as “El Cachote,” at an elevation of ~1,100 m asl. Mist-netting protocols were similar to that described for Sierra Martin Garcia (above) and one individual was captured here in 2007 (Appendix 1).

### Los Haitises National Park

During 27–30 January 2007, we mist-netted at sites in Los Haitises National Park (Fig. 1, Table 1), a forested lowland area along the eastern coast of Hispaniola. The forest here is primarily second-growth lowland rainforest with an open understory (Townsend *et al.* 2011). Remnant agroforestry plantings and abandoned, regenerating agricultural clearings are present throughout the area. Each day we operated 5–10 mist nets in an area known locally as “Bosque Humedo” at elevations of 5–15 m asl. Mist-netting protocols were again similar to those described for Sierra Martin Garcia (above), and one Swainson's Warbler was captured here (Appendix 1).

### Site Comparisons

The Swainson's Warblers captured in Sierra Martin Garcia and Sierra de Bahoruco Oriental occurred in wet montane broadleaf forest, as had all previous records of Swainson's Warbler (Appendix 1). Compared to the other wet montane broadleaf sites where Swainson's Warbler had been encountered on Hispaniola, the understory vegetation of Sierra Martin Garcia contained about half the density of vines and small trees (Table 1). The individual captured in Sierra de Bahoruco Oriental occurred in similarly open understory, but density was not quantified at this site. The Swainson's Warbler netted at Los Haitises National Park occurred in a new habitat for the species on Hispaniola: lowland rainforest, which had a far lower density of understory vegetation than the montane sites (Table 1). Documentation of Swainson's Warbler in this forest type opens the possibility that the species is more flexible in its habitat selection and more widespread on the island than previously believed. Through-

out its wintering range, the species occupies a broad range of habitats that include dry lowland forests, mangroves, and agroforestry (Anich *et al.* 2010). On Hispaniola, however, Swainson's Warbler has never been documented in these habitats, despite extensive mist-netting and observational work in these habitat types (Wunderle and Latta 1996, Latta *et al.* 2003).

We also did not capture any Swainson's Warblers during mist-netting expeditions to other areas of Hispaniola with seemingly appropriate wet forest habitat. Our extensive netting efforts in the north-central Cordillera Septentrional between 2000 and 2010 (hundreds of net hrs), and our netting efforts, which were similar to those described in this paper, in the centrally-located Cordillera Central (2004, 2007) and the south-central Sierra de Neiba (2003, 2004) did not yield any Swainson's Warbler captures. However, a lack of mist net captures does not necessarily indicate the species' absence from these areas. Swainson's Warbler is notably difficult to detect during the winter period, and passive mist-netting has been shown to be a poor indicator of true densities (Graves 1996, Strong 2000). The species is thought to be territorial during winter, and surveys using active playback of conspecific vocalizations in Jamaica detected far more overwintering Swainson's Warblers than did silent, passive surveys (Graves 1996). The intra-season and inter-annual recapture of several banded Swainson's Warblers in identical locations on Hispaniola (Appendix 1) suggests that the species is also territorial on Hispaniola. It is possible that a concerted effort using vocal playbacks in appropriate habitat in the areas where mist-netting failed to detect Swainson's Warblers would reveal a wider distribution for this species on Hispaniola than is currently known. We recommend that future studies utilize a more targeted survey protocol (Graves 1996) to better delineate this species' winter distribution and density across the island of Hispaniola.

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**Appendix 1.** Swainson's Warblers captured in mist nets on the island of Hispaniola between 1997 and 2013.

Swainson's Warbler Captures	Date	Geographic Region
1 <sup>a,b</sup>	10 November 1997	Sierra de Bahoruco
2 <sup>a</sup>	9 March 1998	Sierra de Bahoruco
3 <sup>c</sup>	25 January 2000	Sierra de Bahoruco
4	31 January 2001	Sierra de Bahoruco
5	12 February 2002	Sierra de Bahoruco
6	2 February 2003	Sierra de Bahoruco
7 <sup>d</sup>	8 February 2004	Massif de la Hotte
8 <sup>d</sup>	9 February 2004	Massif de la Hotte
9 <sup>d</sup>	10 February 2004	Massif de la Hotte
10 <sup>d</sup>	12 February 2004	Massif de la Hotte
11 <sup>d</sup>	14 February 2004	Massif de la Hotte
12 <sup>e</sup>	31 March 2004	Sierra Martín García
13 <sup>e</sup>	1 April 2004	Sierra Martín García
14 <sup>f</sup>	31 January 2005	Massif de la Selle
15	4 February 2006	Massif de la Hotte
16	5 February 2006	Massif de la Hotte
17	7 February 2006	Massif de la Hotte
18 <sup>e</sup>	29 January 2007	Los Haitises
19 <sup>e</sup>	1 March 2007	Sierra de Bahoruco Oriental
20	22 February 2013	Massif de la Hotte

<sup>a</sup>Rimmer and McFarland 1998

<sup>b</sup>This individual was recaptured in the same area on 7 March 1998 and 12 November 1998.

<sup>c</sup>This individual was recaptured in the same area 12 February 2002 and 4 February 2003.

<sup>d</sup>Rimmer et al. 2005

<sup>e</sup>This study

<sup>f</sup>Rimmer et al. 2010

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