

Barahona, 13.5 km SW Barahona (SBH 102665); *Typhlops pusillus*, Dominican Republic, Azua, 18 km NNW Azua (SBH 160284); *Typhlops schwartzi*, Dominican Republic, El Seibo, Nisibón (SBH 192458); *Typhlops sulcatus*, Dominican Republic, Pedernales, SW of Enriquillo (SBH 102438); *Typhlops syntherus*, Dominican Republic, Pedernales, SW of Enriquillo (SBH 102437); *Typhlops titanops*, Dominican Republic, Pedernales, 20 km N Pedernales (SBH 160293). Jamaica: *Typhlops jamaicensis*, St. Mary, 6.2 km W Oracabessa (SBH 172445). Philippines: *Typhlops luzonensis*, Negros Island, Negros Oriental Province, Valenica Municipality, Bong Bong Barrio, Camp Lookout (SBH 194117). Mainland: *Leptotyphlops*, Trinidad (SBH 175446); *Liotyphlops albirostris*, Venezuela, Caracas (SBH 172151).

Colubridae (Xenodontinae). Bahamas: *Alsophis vudii*, New Providence, Sandy Port (SBH 192985). Cuba: *Arrhyton dolichura*, Havana, National Botanical Garden (SBH 172601); **Arrhyton landoi* #1, Guantánamo Bay U.S. Naval Station (SBH 161893-95, SBH 161985); *Arrhyton landoi* #2, Guantánamo, 3.5 km E Tortuguilla (SBH 191258); *Arrhyton procerum*, Matanzas, Playa Giron (SBH 191526); *Arrhyton supernum* #1, Guantánamo, SW slope of El Yunque de Baracoa (190230); *Arrhyton supernum* #2, Guantánamo, Monte Libano, ca. 20 km SSE La Tagua (SBH 191153); *Arrhyton taeniatum*, Guantánamo Bay U.S. Naval Station, ca. 0.2 km E Windmill Beach (SBH 171002); *Arrhyton tanyplectum*, Pinar del Río, 4 km NW San Vicente (SBH 191492); *Arrhyton vittatum*, Pinar del Río, Cueva de San Miguel (SBH 191491), *Antillophis andreaei*, Pinar del Río, Soroa (SBH 172603); *Alsophis cantherigerus*, Pinar del Río, 2.0 km W Vinales (SBH 172602). Hispaniola: *Antillophis parvifrons protenus*, Dominican Republic, Barahona, 19.5 km SW Barahona (SBH 103086); *Darlingtonia haetiana*, Haiti, Grande'Anse, ca. 2–3 km S Castillon (SBH 103806-10); *Hypsirhynchus ferox*, Dominican Republic, Barahona, vicinity of Barahona (SBH 101393); *Hypsirhynchus scalaris*, Haiti, Grande'Anse, 7.2 km S Roseaux (SBH 191992); *Ialtris dorsalis* #1, Haiti, Grande'Anse, ca. 3 km N Bois Sec (SBH 103702); *Ialtris dorsalis* #2, Haiti, Grande'Anse, 7.5 km N Beaumont (SBH 192360); *Uromacer catesbyi* #1, Dominican Republic, Monte Plata, 2.8 km N Yamasa (SBH 101397); *Uromacer catesbyi* #2, Dominican Republic, La Altagracia, 4.4 km W Cana Honda (SBH 192456); *Uromacer frenatus frenatus*, Haiti, Grande'Anse, ca. 6 km E Jeremie (SBH 104668); *Uromacer oxyrhynchus*, Dominican Republic, La Altagracia, 4.4 km W Cana Honda (SBH 192457). Jamaica: *Arrhyton callilaemum*, St. Mary, 2.9 km N Port Maria (SBH 172463); *Arrhyton funereum*, St. Mary, Port Maria, 2.9 km N Port Maria (SBH 172462); *Arrhyton polylepis*, Portland, 0.3 km S Alligator Church (SBH 101581). Lesser Antilles: *Alsophis antiquae*, Antigua, Great Bird Island (SBH 192790); *Alsophis antillensis*, Montserrat (SBH 192791). Puerto Rico: *Arrhyton exiguum*, 1.9 km NE Vista Alegre (SBH 160050); *Alsophis portoricensis*, 1.5 km W Playa de Tamarindo (SBH 160062). Mainland: *Dipsas catesbyi*, Peru, Pasco, 1.5 km NW Cacazu (SBH 171139); *Leptodeira* sp., Panama (LM1145); *Liophis cabella*, Peru, Pasco, Oxapampa (SBH 171143); *Liophis melanostigma*, Brazil, São Paulo, Boraceia (LM 904); *Oxyrhopus leucomeles*, Peru, Pasco, Oxapampa (SBH 171142); *Thamnodynastes* sp., Peru, Madre de Dios, Tambopata Reserve (LM 1104); *Xenodon severus* (RH 68185).

12 The Historic and Prehistoric Distribution of Parrots (Psittacidae) in the West Indies

Matthew I. Williams and David W. Steadman

Abstract — If not for human impact, three genera of psittacids (*Ara*, *Aratinga*, and *Amazona*) would be represented today throughout the Greater and Lesser Antilles. The Cayman Islands and Bahamas are the only regions lacking evidence of *Ara* and *Aratinga*. Guadeloupe is the only island with possible evidence for the occurrence of a fourth genus, *Anodorhynchus*. The growing body of information from paleontology, zooarchaeology, and post-Columbian history further suggests that multiple sympatric species of *Amazona* were widespread. In the other two genera, a single species was typically confined to one major island or a cluster of nearby islands. We suggest that as many as 50 to 60 endemic species of psittacids would occupy the West Indies in the absence of human influence, as compared to the 12 species (3 of *Aratinga*, 9 of *Amazona*) that survive today.

INTRODUCTION

Parrots (Order Psittaciformes, Family Psittacidae) are one of the most successful groups of land birds on tropical islands. In the West Indies, indigenous species of parrots (usually endemic to a single island or island cluster; see Snyder et al., 1987) are or were represented by three genera: *Ara* (macaws), *Aratinga* (parakeets), and *Amazona* (amazons or simply “parrots”). A fourth genus, *Anodorhynchus*, also may have occurred, but the evidence currently available is inadequate to support that hypothesis. The goal of this chapter is to review briefly the past distribution of psittacids in the West Indies during the historic era (the past 500 years) and especially prehistoric times (i.e., pre-Columbian). Our geographical coverage includes the entire West Indian faunal region (see map in Raffaele et al., 1998:12). Excluded, therefore, are Trinidad, Tobago, Margarita, Aruba, Bonaire, Curaçao, and other smaller islands off the northern coast of South America. The avifaunas of these islands have only a minor West Indian influence. We do not include introduced populations, whether of species that are indigenous on other West Indian islands (such as the populations of *Aratinga chloroptera* introduced to Puerto Rico and Guadeloupe; see Raffaele et al., 1998:308) or of various non-West Indian psittacids that have been released over the past century in the Bahamas, Cayman Islands, Jamaica, Hispaniola, Puerto Rico, Virgin Islands, Guadeloupe, Dominica, Martinique, Barbados, and perhaps elsewhere.

We believe that all of the certain or possible extinctions of indigenous West Indian psittacids are anthropogenic. Some of these losses clearly occurred in historic times, such as that of *Ara tricolor* in Cuba and Isla de Pinos (Isla de la Juventud). Other losses are more likely to have occurred during prehistoric human occupation of the islands (see Keegan, 1994, 2000, for a review of West Indian prehistory). In some cases we cannot be certain if the population in question was indigenous or had been transported by prehistoric peoples to the island. Such uncertainty is removed when fossils document the presence of a species before the arrival of people, as on Barbuda (see below). While acknowledging the inter-island exchange of psittacids by Amerindians at European contact (see Oviedo, 1959; Wilson, 1990), we believe it likely that most or all West Indian islands did sustain their own sets of indigenous, if not endemic, species of macaws, parakeets, and parrots.

We hope that this chapter will help keep alive the memory of extirpated populations or species of West Indian psittacids among those who study extant Antillean birds. With the blending of ornithology and birdwatching over the last decade or two, interest has waned in species that no longer can be seen with binoculars. Most of the species listed in Tables 1 to 4 are seldom mentioned in the ornithological literature, with Snyder et al. (1987) and Butler (1992) being conspicuous and important exceptions. The validity of some of the names or records is difficult to evaluate based on evidence in hand; we cannot be certain that every one of these species existed, although we are confident that most of them did.

Our compilation of distributional data on parrots is in some measure a response to the close of the Bondian era in West Indian ornithology. Bond (1971, and various "checklists" such as those in 1950 and 1956) often ignored prehistoric and early historic records in compilations of the West Indian avifauna. Many living species of Antillean birds were also lumped with little justification by Bond. Raffaele et al. (1998) has recognized once again many of these endemic species, although we would like to point out that even this excellent new standard reference for the modern distribution of West Indian birds gives very little indication of the extent to which species of birds, parrots and otherwise, have been lost since human arrival in the Antilles. Some appreciation for these losses can be gleaned from Olson (1978, 1982), Steadman et al. (1984a), and Pregill et al. (1994).

BRIEF SPECIES ACCOUNTS

All West Indian species of psittacids are listed in Tables 1 to 4, proceeding west to east in the Greater Antilles and north to south in the Lesser Antilles (Figure 1). Our brief species accounts will cover only extinct species, extirpated populations, or prehistoric records of extant populations. The current distribution and status of extant forms are summarized in Snyder et al. (1987), Butler (1992), and Raffaele et al. (1998); the former two papers also review historical distributions. Our primary contribution here is to summarize the prehistoric records, several of which have not been published before. A dagger (†) indicates an extinct taxon. We will name the extinct, undescribed species from archaeological and paleontological sites in a separate publication. Synonyms for genera are from Ridgway (1916).

MACAWS (*ARA*)

West Indian synonyms *Anodorhynchus* (in part), *Arara*, *Macrocerus*, *Psittacus*, *Sittace*

No species of macaws (*Ara* spp.) still exist anywhere in the West Indies (Table 1). Only one species of *Ara*, the Cuban *A. tricolor*, is known from whole specimens (Walters, 1995). Evidence for the others comes from prehistoric bones or from written accounts of the 17th through 19th centuries. We believe that each Greater Antillean and Lesser Antillean island once sustained one or two indigenous if not endemic species of *Ara*. Macaws survived into historic times on at least Cuba, Isla de Pinos, Jamaica, Hispaniola, Guadeloupe, Dominica, and Martinique, although the species-level systematics of these macaws often is poorly resolved, as detailed below.

†*Ara tricolor* (Bechstein, 1811) — Cuban Macaw

According to Bangs and Zappety (1905), the last known pair of Cuban macaws was shot in 1864 at La Vega on the Zapata Peninsula. Gundlach (in Cory, 1886; Greenway, 1958) believed that *A. tricolor* persisted in the swamps of southern Cuba in 1876. Wetmore (1928) identified a carpometacarpus from an undated cave deposit in Cuba as *A. tricolor*. There are skins of *A. tricolor* in the British Museum and Liverpool Museum (Salvadori, 1891, 1906b; Walters, 1995), but no modern skeletal specimens of *A. tricolor* exist. Wetmore's identification was based on extrapolation from skins and the relative size of the carpometacarpus in living species of macaws; the fossils were larger than those in *A. severa*, a relatively small species of *Ara*.

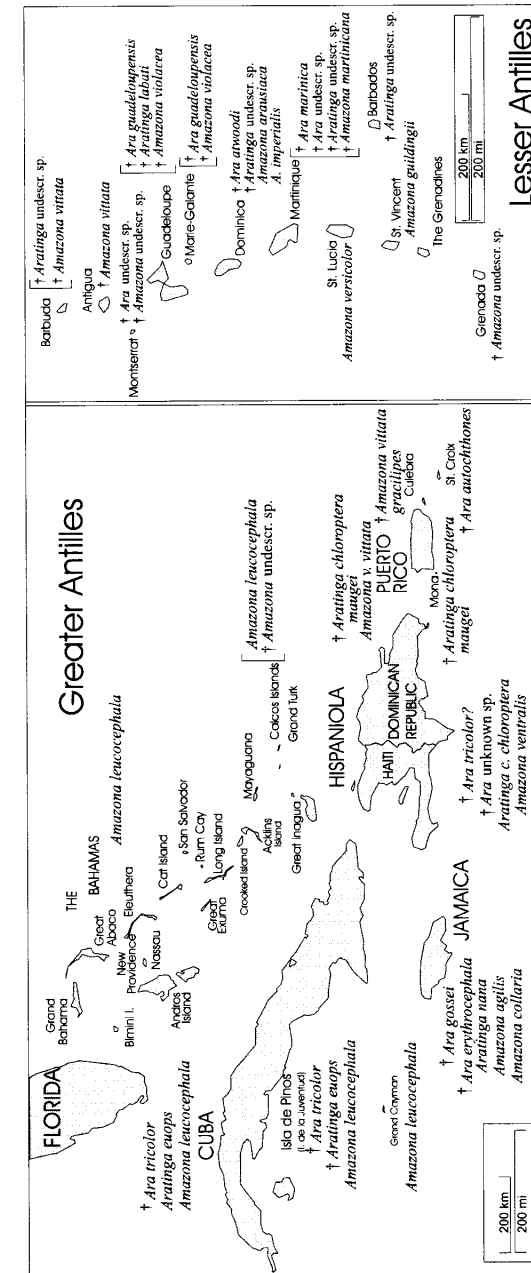


FIGURE 1 The past and present distribution of macaws (*Ara*), parakeets (*Aratinga*), and parrots (*Amazona*) in the West Indies. † = extinct species, subspecies, or population. Based on data in Table 4.

TABLE 1
Prehistoric, Historic, and Modern Records of *Ara* in the West Indies

Species	Island	Prehistoric	Historic	Present Status
† <i>Ara tricolor</i>	Cuba	Carpometacarpus from Ciego Montero cave — Wetmore, 1928	Last recorded in 1864 — Salvadori, 1906a; Ridgway, 1916:136–137; Snyder et al., 1987	Extinct
† <i>A. tricolor</i>	Isla de Pinos	—	Last recorded in 1860s — Bangs and Zappey, 1905	Extinct
† <i>A. tricolor</i> *	Jamaica	—	Clark, 1905d	Extinct
† <i>A. gossei</i>	Jamaica	—	Salvadori, 1906a; Rothschild, 1905, 1907; Ridgway, 1916:137–138; Wetmore, 1937; Snyder et al., 1987.	Extinct
† <i>A. erythrocephala</i>	Jamaica	—	Rothschild, 1905, 1907; Ridgway, 1916:140; Wetmore, 1937; Snyder et al., 1987	Extinct
† <i>A. erythrura</i> *	Jamaica?	—	Salvadori, 1906a; Rothschild, 1907; Ridgway, 1916:125; Wetmore, 1937	Extinct
<i>A. tricolor?</i> and/or † <i>Ara</i> unknown sp.	Hispaniola	—	Clark, 1905d; Wetmore and Swales, 1931; Snyder et al., 1987; Raffaele et al., 1998	Extinct
† <i>A. autochthones</i>	St. Croix	Tibiotarsus from Amerindian midden — Wetmore, 1937; Olson, 1978; Wing, 1989	—	Extinct
† <i>Ara</i> undescr. sp.	Montserrat	Coracoid from Trants site — this chapter	—	Extinct
† <i>A. guadeloupensis</i>	Guadeloupe	—	Clark, 1905a; Salvadori, 1906a; Ridgway, 1916:131–132; Wetmore, 1937; Snyder et al., 1987; Butler, 1992	Extinct
† <i>Ara</i> cf. <i>guadeloupensis</i>	Marie Galante	Ulna from Folle Anse site — this chapter	—	Extinct
† <i>A. atwoodi</i>	Dominica	—	Clark, 1905a; Wetmore, 1937; Snyder et al., 1987; Butler, 1992	Extinct
† <i>A. martinica</i> * and/or † <i>Ara</i> undescr. sp.	Martinique	—	Rothschild, 1907; Ridgway, 1916:125; Wetmore, 1937; Snyder et al., 1987; Butler, 1992	Extinct
† <i>Anodorhynchus purpurascens</i> *	Guadeloupe	—	Salvadori, 1906a; Rothschild, 1907; Ridgway, 1916:119; Wetmore, 1937	Extinct
† <i>A. martinicus</i> *	Martinique	—	Rothschild, 1905; Salvadori, 1906a	Extinct

Note: † = Extinct species; * = validity of species, or of the species on this particular island, needs to be corroborated and may be doubtful; these records, therefore, are not included in Table 4.

The juvenile plumage of *Ara tricolor* may have been predominantly green, which might account for several early reports of *A. militaris* on Cuba and Jamaica (Clark, 1905d). The overall plumage pattern of *A. tricolor* suggests that its nearest mainland relative may be *A. macao*, the Scarlet Macaw. The distribution of red and blue in the plumage is similar, as is the presence of a white facial patch that is featherless except for small crescentic lines of tiny red feathers. *Ara tricolor* differs from *A. macao* in that it lacks the yellow shoulder patch, has an all-black bill, and is much smaller. The modern range of *A. macao* is in lowland forest from southern Mexico through Central America to much of tropical South America. Among Caribbean islands it has been recorded, but is not currently resident, on Trinidad, a continental rather than oceanic island (French, 1991:183). Thus the modern range of *A. macao* encompasses much of the western and southern margins of the Caribbean Sea.

†*Ara gossei* (Rothschild, 1905) — Gosse's Macaw

Found in "the mountains" of Jamaica, one specimen was shot about 1765 near the Montego Bay area (Gosse, 1847). The fate of this specimen is unknown, but Greenway (1958:318) reported that "Such a bird was described by a Dr. Robinson, who saw a stuffed specimen." No exact date was given for Dr. Robinson's report. *Ara gossei* probably looked very similar to *A. tricolor*. The major difference was in the forehead, described as yellow in *A. gossei* and red in *A. tricolor*. Robinson described the preserved specimen as: "forehead, crown, and back of neck bright yellow; sides of face around eyes, anterior and lateral part of the neck, and back a fine scarlet; wing coverts and breast deep sanguine red; winglet [sic] and primaries an elegant light blue; basal half of the upper mandible black, apical half ash colored; lower mandible black; tail and feet were missing" (Greenway, 1958:318).

†*Ara erythrocephala* (Rothschild, 1905) — Red-headed Green Macaw

Greenway (1958:320) called this an "almost mythical bird" given the circumstances surrounding its description. *Ara erythrocephala* was said to have been found in the mountains of Trelawney and St. Anne's parishes, Jamaica (Rothschild, 1905). The head was red, the body bright green, and the wings and greater coverts blue. The tail was scarlet and blue on top, whereas the tail and wings were intense orange-yellow underneath (Rothschild, 1905; Salvadori, 1906a; Greenway, 1958). Snyder et al. (1987) suggested that *A. erythrocephala* may represent *A. militaris* or *A. ambigua*, both Central American species. Especially given that two endemic species of *Amazona* occur in Jamaica, we see no reason why multiple species of *Ara* could not also have inhabited this large island of diverse habitats.

†*Ara erythrura* (Rothschild, 1907) — Red-tailed Blue-and-Yellow Macaw

Rothschild (1907:53) named *Ara erythrura* from the report of two large, blue and yellow parrots observed by a Reverend Comard of Jamaica in the early 1800s. Greenway (1958:319) regarded Rothschild's description of *A. erythrura* as not credible because it was based on de Rochefort (1658), who had not visited Jamaica but "seems to have taken his account from du Tertre." Greenway (1958:319) suggested that, if anything, *A. erythrura* is a synonym of *A. martinica*, a poorly documented form supposedly from Martinique (see below).

†*Ara tricolor?* or †*Ara* unknown sp. — Hispaniolan Macaw

Among the three species of psittacids noted by Casas (1876) on Hispaniola at the end of the 1400s was a macaw that differed from those on other islands in that it had a white forehead, not red as is seen in *Ara tricolor*. Macaws were said to have been common formerly in Hispaniola but rare by 1760 (Clark, 1905d). Buffon (1779 [not seen by us; in Greenway, 1958]) reported a macaw on the south coast of Hispaniola. Gosse (1847) mentioned that a small macaw reported to be *A. tricolor*

was found on Haiti, although he himself had not seen it. He suggested that it represented a species of *Ara* other than those already known from Cuba and Jamaica (from Rothschild, 1905).

†*Ara autochthones* (Wetmore, 1937) — St. Croix Macaw

A tibiotarsus excavated from a prehistoric archaeological site on St. Croix is the basis for *Ara autochthones* (Wetmore, 1937). This bone was from an adult-sized, immature individual intermediate in size between *A. macao* and *A. severa* and slightly larger than in *A. tricolor*. Olson (1978) confirmed that the tibiotarsus is of an immature macaw and is not referable to any living species, noting further that *A. autochthones* was not necessarily indigenous to St. Croix because prehistoric West Indian peoples were known to keep and trade live psittacids, a particular concern with material excavated from a cultural site. Wing (1989) also suggested that *A. autochthones* may have been traded to St. Croix. While this is possible, there also is no reason why St. Croix could not have sustained an indigenous species of *Ara*, especially given the substantial evidence of indigenous macaws in both the Greater and Lesser Antilles.

†*Ara undescribed sp.* — Montserrat Macaw

A nearly complete coracoid from the Trants archaeological site on Montserrat represents a small, presumably undescribed species of *Ara*. The specimen is smaller than in *A. ararauna* and larger than in *A. severa* or *A. manilata*, although closer in size to the last two. This specimen was recovered from excavations at Trants by D. R. Watters subsequent to the recovery of numerous bird bones from this rich site reported by Steadman et al. (1984b) and Reis and Steadman (1999).

†*Ara guadeloupensis* (Clark, 1905a) — Guadeloupe Macaw

This species was superficially similar to *A. macao*, but smaller and with the tail entirely red (Salvadori, 1906a). du Tertre (1654; in Clark, 1905a) gave the following description: “the head, neck, underparts, and back are flame color. The wings are a mixture of yellow, azure, and scarlet. The tail is wholly red, and a foot and a half long.” The tail in *A. guadeloupensis* was much larger than in *A. tricolor*, a relatively small macaw with a tail length of ~12 in. (290 to 305 mm; Ridgway, 1916:136), although Greenway (1958:318) incorrectly claimed that *A. guadeloupensis* had a shorter tail than *A. tricolor*. Labat (1742:II:211) observed a macaw on Guadeloupe with similar plumage, stating further that the macaws and parrots of Guadeloupe were generally larger than those from other islands, although the parakeets were smaller.

du Tertre (1654:294) mentioned that this species was long-lived (“live longer than a man”) but that they were “almost all subject to a falling sickness.” Thus perhaps a disease outbreak, combined with hunting pressure, could account for the extinction of *A. guadeloupensis*. Macaws were becoming rare in the Lesser Antilles (and presumably throughout the West Indies) even in the 1700s (Clark, 1905a).

We find no evidence for the suggestion by Clark (1905a) that *A. guadeloupensis* also occurred on Dominica and Martinique. Based on what is attributed to Labat (Clark, 1905a:269), it would seem more likely that the Lesser Antillean macaws were endemic to each island or set of nearby islands.

Christopher Columbus reported red parrots that were called “Guacamayos” by the Caribs on Guadeloupe (Clark, 1905a). Because these Caribs were able to tell Columbus the direction of the mainland, Greenway (1958:319) suggested that the parrots could have been imported to Guadeloupe. We admit this possibility, but see it as no more likely than that they were indigenous.

de Rochefort (1658) mentioned three plumage patterns for macaws of the Lesser Antilles but, being pre-Linnean, did not refer to any binomial or other diagnostic names. The first had a pale yellow head, back, and wings, with the tail entirely red [*Ara?*]. In the second the whole body was flame and the wings were yellow, blue, and red [*A. guadeloupensis*]. The third pattern was “a mixture of red, white, blue, green, and black with a body size similar to a pheasant (*Phasianus colchicus*) [similar to *A. macao?*].”

†*Ara cf. guadeloupensis* — Marie Galante (Guadeloupe?) Macaw

An ulna from the Folle Anse archaeological site on Marie Galante represents a species of *Ara* that most likely, although far from certainly, is from *A. guadeloupensis*, an extinct species for which no skeletal (or skin) specimen exist. This ulna is slightly smaller than that in *A. macao*, and substantially smaller than that in *A. ararauna*.

†*Ara atwoodi* (Clark, 1908) — Dominica Macaw

Thomas Atwood (1791) noted a macaw from Dominica that was larger than the two local species of parrots (*Amazona arausiaca*, *A. imperialis*) and in great abundance. This species was said to have green and yellow plumage “with a scarlet coloured fleshy substance from the ears to the root of the bill.” The “chief feathers” of the wings and tail were scarlet as well. While macaws are characterized by their patch of bare skin on the face, no extant macaw (or other described extinct macaw) has a red facial patch (Clark, 1908).

†*Ara martinica* (Rothschild, 1905) — Martinique Macaw

Greenway (1958:319) and Snyder et al. (1987) both suggested that this putative species likely pertained to *A. ararauna*, a mainland species that could have been traded to Martinique. Snyder et al. (1987) noted, however, that an unnamed and poorly known but distinctive macaw once lived on Martinique.

MACAWS (*ANODORHYNCHUS*)

†*Anodorhynchus purpurascens* (Rothschild, 1905) — Guadeloupe Violet Macaw

Rothschild (1905) based his description on a paper by de Navaret (1838), which neither Greenway nor we were able to locate. Greenway (1958:320) and Snyder et al. (1987) suggested that the species was based on either a poor description of *Amazona violacea* (now extinct but formerly found on Guadeloupe) or of the Brazilian *Anodorhynchus leari*, which must have been imported to Guadeloupe. The plumage was described as entirely violet, which suggests a species of *Anodorhynchus*.

†*Anodorhynchus martinicus* (Rothschild, 1905) — Martinique Macaw

Rothschild (1905) described this species from an account by Bouton (1635, which we have not seen) of a macaw on Martinique that was blue above with orange underparts. Salvadori (1906a) regarded *Anodorhynchus martinicus* to be based on *Ara ararauna*. We regard both supposed species of *Anodorhynchus* in the Lesser Antilles as requiring further corroboration.

PARAKEETS (*ARATINGA*)

West Indian synonyms *Conurus*, *Euopsitta*, *Psittacara*, *Psittacus*

Parakeets (*Aratinga*) are long-tailed, often rather small psittacids that are proportionally similar to macaws of the genus *Ara*. Modern records of West Indian forms of *Aratinga* are confined to the Greater Antilles (Table 2). According to Clark (1905b) the West Indian parakeets were too small to attract much attention from early writers and, as a result, the accounts of *Aratinga* from the 17th and 18th centuries are brief and often lack in diagnostic information.

Aratinga euops (Wagler, 1832) — Cuban Parakeet

The Cuban parakeet, which still exists on Cuba itself, was once abundant on Isla de Pinos, where it was bordering on extirpation a century ago (Bangs and Zappey, 1905) and was lost shortly thereafter.

TABLE 2
Prehistoric, Historic, and Modern Records of *Aratinga* in the West Indies

Species	Island	Prehistoric	Historic	Present Status
<i>Aratinga euops</i>	Cuba	—	Ridgway, 1916:160–161	Threatened
† <i>A. euops</i>	Isla de Pinos	—	Extirpated ca. 1900 — Bangs and Zappey, 1905; Marien and Koopman, 1955; Snyder et al., 1987	Extinct
<i>A. nana</i>	Jamaica	—	Ridgway, 1916:174–175	Common
<i>A. chloroptera chloroptera</i>	Hispaniola and offshore islands	—	Ridgway, 1916:153–154	Locally common but declining
† <i>A. chloroptera maugei</i>	Puerto Rico and Mona	—	Last specimen 1892, believed to be extinct shortly thereafter; perhaps extant on Mona in 1905 — Clark, 1905c; Salvadori, 1906a; Ridgway, 1916:155, Rothschild, 1905; Marien and Koopman, 1955; Snyder et al., 1987	Extinct
† <i>Aratinga</i> undescr. sp.	Barbuda	Palatine — Pregill et al., 1994; sternum — this chapter	—	Extinct
† <i>A. labati</i>	Guadeloupe	—	Already rare before 1760 — Rothschild, 1905; Salvadori, 1906; Ridgway, 1916:175; Snyder et al., 1987	Extinct
† <i>Aratinga</i> undescr. sp.	Dominica	—	No description, exterminated before 1878 — Clark, 1905b, 1911; Snyder et al., 1987; Butler, 1992	Extinct
† <i>Aratinga</i> undescr. sp.	Martinique	—	Clark, 1905b, 1911; Snyder et al., 1987; Butler, 1992	Extinct
† <i>Aratinga</i> undescr. sp.	Barbados	—	Clark, 1905b, 1911; Snyder et al., 1987; Butler, 1992	Extinct

Note: Subspecies follow Ridgway (1916); † = extinct species, subspecies, or population.

†*Aratinga chloroptera maugei* (Souancé, 1856) — Puerto Rican/Mona Parakeet

Compared to *Aratinga c. chloroptera*, this extinct form (recognized as a full species in Raffaele et al., 1998) was smaller, with a darker-colored bill, lighter red under primary coverts, and completely green lesser primary coverts (Ridgway, 1916:155). Only three specimens of *A. c. maugei* exist, all from Mona, the last collected in 1892 (Greenway, 1958:321). It was lost from Puerto Rico in the late 1800s. Rothschild (1905) regarded *A. c. maugei* as still living on Mona, whereas Bond (1950) reported that *A. c. maugei* probably was gone from Mona.

†*Aratinga* undescr. sp. — Barbudan Parakeet

A quadrate of a very large, undescribed species of *Aratinga* was reported from Barbuda II, a paleontological cave locality on the east coast of Barbuda, by Pregill et al. (1994). Larger than in any extant species of *Aratinga*, this quadrate also represented the first specimen of *Aratinga* from

anywhere in the Lesser Antilles. A sternum of *Aratinga* recently discovered in the Vertebrate Paleontology collections at the Florida Museum of Natural History, from the nearby site of Barbuda I, is also very large and must be from the same extinct species.

†*Aratinga labati* (Rothschild, 1905) — Guadeloupe Parakeet

Thought to be endemic to Guadeloupe, *Aratinga labati* was named by Rothschild (1905) based on a description by Labat (1742:II:211). *Aratinga labati*, for which no specimen exists, was small and green overall, with a small patch of red on the crown and a pale bill (Clark, 1905b). Greenway (1958:322) believed that the species probably existed because du Tertre (1654:299, 1667:251) mentioned a third species of parrot on Guadeloupe that was “all green and big as magpies.” Hughes (1750) also noted a small, green “Parakite” [sic] on Guadeloupe.

†*Aratinga* undescr. spp. — Dominica, Martinique, and Barbados Parakeets

Known only from early travelers’ accounts (summarized in Clark, 1905b; Snyder et al., 1987), distinctive forms of parakeets once occurred on these three islands and undoubtedly all other islands in the Lesser Antilles.

PARROTS OR AMAZONS (AMAZONA)

West Indian synonyms *Androglossa*, *Chrysotis*, *Oenochrus*, *Onochrus*, *Psittacus*.

***Amazona leucocephala hesternia* (Cory, 1886) — Cayman Parrot**

This subspecies has been extirpated in historic times on Little Cayman Island (Bradley 1995). It survives on Cayman Brac.

***Amazona leucocephala bahamensis* (Bryant, 1867) — Rose-throated (Bahamas) Parrot**

Fossils and historic records indicate that this species, now restricted in the Bahamas to Abaco and Great Inagua, was once widespread in the island group, including the Turks and Caicos Islands (Brodkorb, 1959; Olson and Hilgartner, 1982; Carlson, 1999; Table 3, this chapter). Columbus noted flocks of parrots that would “obscure the sun” in the Bahamas (Dunn and Kelley, 1989:105).

†*Amazona* undescr. sp. — Turks and Caicos Parrot

This extinct parrot is known only from a palatine and scapula from the Coralie archaeological site on Grand Turk, where it was sympatric with the smaller *A. leucocephala* (Carlson, 1999).

†*Amazona vittata gracilipes* (Ridgway, 1915) — Culebra Parrot

This endemic subspecies perished sometime early this century, but we have been unable to find any details.

†*Amazona vittata* — Barbuda (Puerto Rican) Parrot

A nearly complete rostrum is from Barbuda I, an undated (but almost certainly precultural) paleontological cave locality on Barbuda. We recently discovered this specimen, collected in 1962, in the Vertebrate Paleontology collections at the Florida Museum of Natural History. It agrees with the rostrum of modern *Amazona vittata* from Puerto Rico.

TABLE 3
Prehistoric, Historic, and Modern Records of *Amazona* in the West Indies

Species	Island	Prehistoric	Historic	Present Status
<i>Amazona leucocephala bahamensis</i>	Abaco, Bahamas	—	—	Common
	Great Inagua, Bahamas	—	—	Common
† <i>A. leucocephala bahamensis</i>	Crooked Island, Bahamas	Premaxilla — Wetmore, 1938; Olson and Hilgartner, 1982	—	Extinct
	New Providence, Bahamas	Tarsometatarsus, radius — Brodkorb, 1959; ulnae, radius, carpometacarpus, femur, tarsometatarsi — Olson and Hilgartner, 1982	—	Extinct
	Acklins, Bahamas	Todd and Worthington, 1911	—	Extinct
	Long, Bahamas	—	Bond, 1956	Extinct
	Fortune, Bahamas	—	Bond, 1956	Extinct
	Grand Turk, Bahamas	Six bones — Carlson, 1999	—	Extinct
† <i>Amazona</i> undescr. sp.	Grand Turk, Bahamas	Palatine, scapula — Carlson, 1999	—	Extinct
<i>A. leucocephala leucocephala</i>	Cuba	—	—	Locally common
<i>A. leucocephala palmarum</i>	Isla de Pinos	—	—	Low but recovering
<i>A. leucocephala caymanensis</i>	Grand Cayman	—	—	Common
<i>A. leucocephala hesternia</i>	Cayman Brac	—	—	Common
† <i>A. leucocephala hesternia</i>	Little Cayman	—	Bradley, 1995	Extinct
<i>A. collaria</i>	Jamaica	—	Ridgway, 1916:267–269; Pregill et al., 1991	Locally common and widespread
<i>A. agilis</i>	Jamaica	—	Ridgway, 1916:262–263; Pregill et al., 1991	Threatened but locally common
<i>A. ventralis</i>	Hispaniola, Grande Cayemite, Gonâve, Saona, Beata	—	Ridgway, 1916:265–267	Uncommon, local
<i>A. vittata vittata</i>	Puerto Rico	—	Ridgway, 1916:263–265	Endangered
† <i>A. vittata gracilipes</i>	Culebra	—	Ridgway, 1916:265; Snyder et al., 1987	Extinct
† <i>A. vittata</i>	Barbuda	Rostrum — this chapter	—	Extinct
	Antigua	Two bones (as <i>Amazona</i> sp.) — Steadman et al., 1984a, Pregill et al., 1988; as <i>A. vittata</i> — Pregill et al., 1994	—	Extinct
† <i>Amazona</i> undescr. sp.	Montserrat	Humerus — Reis and Steadman, 1999; coracoid, humerus, ulna, femur — this chapter	—	Extinct

TABLE 3 (continued)
Prehistoric, Historic, and Modern Records of *Amazona* in the West Indies

Species	Island	Prehistoric	Historic	Present Status
† <i>A. violacea</i>	Guadeloupe	—	Rare in 18th century — Clark, 1905c; Ridgway, 1916:224; Olson, 1978; Snyder et al., 1987; Butler, 1992	Extinct
† <i>Amazona</i> cf. <i>violacea</i>	Marie Galante	Tibiotarsus — this chapter	—	Extinct
<i>A. arausiaca</i>	Dominica	—	Ridgway, 1916:229–232; Butler, 1992	Endangered
<i>A. imperialis</i>	Dominica	—	Ridgway, 1916:222–224; Butler, 1992	Endangered
† <i>A. martinicana</i>	Martinique	—	Ridgway, 1916: 231; Olson, 1978; Snyder et al., 1987; Butler, 1992	Extinct
<i>A. versicolor</i>	St. Lucia	—	Ridgway, 1916:227–229; Butler, 1992	Rare
<i>A. guildingii</i>	St. Vincent	—	Ridgway, 1916:225–227; Butler, 1992	Rare
† <i>Amazona</i> undescr. sp.	Grenada	—	Butler, 1992	Extinct

Note: Subspecies follow Ridgway (1916); † = extinct species, subspecies, or population.

†*Amazona vittata* — Antigua (Puerto Rican) Parrot

Two bones were reported from the Indian Creek and Mill Reef archaeological sites on Antigua as *Amazona* sp. (Steadman et al., 1984a; Pregill et al., 1988). In Pregill et al. (1994) these bones were identified more precisely as *A. vittata*. While it has been suggested that this parrot may have been brought to the island by early human colonizers (Steadman et al., 1984a), the precultural fossil from Barbuda shows that this species is indigenous to Barbuda and therefore, presumably, to Antigua as well. It is possible that this species or species-complex once ranged from the northern Lesser Antilles to Puerto Rico.

†*Amazona* undescribed sp. — Montserrat Parrot

This small species is about the size of *Amazona ventralis* or *A. agilis*, smaller than all other West Indian species of *Amazona*. It is represented by five specimens (coracoid, two humeri, ulna, and femur) from the Trants archaeological site on Montserrat. One of the humeri was reported as *Amazona* sp. (smaller than any living Lesser Antillean species) by Reis and Steadman (1999). The other four specimens have come to light only recently, and demonstrate that an undescribed, extinct species of *Amazona* once inhabited Montserrat.

†*Amazona violacea* (Gmelin, 1788) — Guadeloupe Parrot

Although specimens are lacking, the early descriptions and observations of *Amazona violacea* (summarized in Greenway, 1958:222, 328; Snyder et al., 1987; Butler, 1992) provide a solid basis for believing that this large species did indeed exist but has been extinct since the early 1700s.

†*Amazona* cf. *violacea* — Guadeloupe Parrot?

A tibiotarsus from the Folle Anse archaeological site on Marie Galante represents a large species of *Amazona*. The fossil is much larger than in *A. arausiaca*, and most similar to that in *A. imperialis*,

TABLE 4
Summary of Distribution of West Indian Psittacids on Major Islands or Island Groups

Island	<i>Ara</i>	<i>Aratinga</i>	<i>Amazona</i>	Number of Genera/Species
Bahamas	—	—	<i>leucocephala</i> , undescr. sp.	1/2
Cuba	† <i>tricolor</i>	<i>euops</i>	<i>leucocephala</i>	3/3
Isla de Pinos	† <i>tricolor</i>	† <i>euops</i>	<i>leucocephala</i>	3/3
Cayman Islands	—	—	<i>leucocephala</i>	1/1
Jamaica	† <i>gossei</i> † <i>erythrocephala</i>	<i>nana</i>	<i>agilis</i> , <i>collaria</i>	3/5
Hispaniola	† <i>tricolor?</i> and/or †unknown sp.	<i>c. chloroptera</i>	<i>ventralis</i>	3/3
Puerto Rico	—	† <i>chloroptera maugei</i>	<i>v. vittata</i>	2/2
Mona	—	† <i>chloroptera maugei</i>	—	1/1
Culebra	—	—	† <i>vittata gracilipes</i>	1/1
St. Croix	† <i>autochthones</i>	—	—	1/1
Barbuda	—	†undescr. sp.	†cf. <i>vittata</i>	2/2
Antigua	—	—	†cf. <i>vittata</i>	1/1
Montserrat	†undescr. sp.	—	†undescr. sp.	2/2
Guadeloupe	† <i>guadeloupensis</i>	† <i>labati</i>	† <i>violacea</i>	3/3
Marie Galante	†cf. <i>guadeloupensis</i>	—	†cf. <i>violacea</i>	2/2
Dominica	† <i>atwoodi</i>	†undescr. sp.	<i>arasiaca, imperialis</i>	3/4
Martinique	† <i>martinica</i> and/or †undescr. sp.	†undescr. sp.	† <i>martinicana</i>	3/4
Barbados	—	†undescr. sp.	—	1/1
St. Lucia	—	—	<i>versicolor</i>	1/1
St. Vincent	—	—	<i>guildingii</i>	1/1
Grenada	—	—	†undescr. sp.	1/1

Note: † = Extinct species, subspecies, or population.

but with a slightly shorter overall length. The modern avifauna of Marie Galante shares many species with nearby Guadeloupe, so it is possible that the prehistoric tibiotarsus represents *A. violacea*, a large species known historically but now extinct (see above).

†*Amazona martinicana* (Clark, 1905c) — Martinique Parrot

Extinct since the 18th century, this large species was rather similar to *A. violacea* and the other very large Lesser Antillean species of *Amazona*, such as *A. arasiaca* (Ridgway, 1916:231; Greenway, 1958:328).

?*Amazona versicolor* (Müller, 1776) — St. Lucia Parrot

A psittacid carpometacarpus from the Grand Anse archaeological site on St. Lucia is too fragmentary to be referred a genus. It is similar in size to the carpometacarpus in both *Ara severa* (extralocal) and *Amazona versicolor*, which is endemic to St. Lucia where it survives in low numbers (Keith, 1997).

†*Amazona undescribed* sp. — Grenada Parrot

This apparently large species is poorly known from a description by du Tertre (1667), as mentioned by Snyder et al. (1987) and Butler (1992).

CONCLUSIONS

Although many distributional gaps remain, the overall conclusion from the data presented is that at least one species in each of the three widespread West Indian psittacid genera (*Ara*, *Aratinga*, *Amazona*) once occurred on each major island in the Greater and Lesser Antilles (Table 4). In the Bahamas and Cayman Islands, only *Amazona* is known. Extinct are all species of West Indian macaws (*Ara* spp.), Lesser Antillean parakeets (*Aratinga* spp.), and parrots (*Amazona* spp.) between Puerto Rico and Dominica. The various extinctions probably occurred in prehistoric as well as historic times. Sympatric congeneric pairs of species may have occurred, at least locally, in *Amazona* and perhaps in *Ara*. Details of many of the species-level issues remain unresolved, although this situation can be improved through additional historical, zooarchaeological, and paleontological research on the fascinating but badly fragmented psittacid fauna of the West Indies. In the absence of both prehistoric and historic human impact, perhaps 50 to 60 species of macaws, parakeets, and parrots would inhabit the West Indies today. At least three fourths of these species already are gone.

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