Article

Systematics and distribution of the giant fossil barn owls of the West Indies (Aves: Strigiformes: Tytonidae)

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Abstract

After reviewing the systematics and distribution of the extinct West Indian taxa of Tytonidae (*Tyto*) larger than the living barn owl *Tyto alba* (Scopoli), we reached the following conclusions: (1) the species *T. ostologa* Wetmore (1922) is the only giant barn owl known so far from Hispaniola; (2) *T. pollens* Wetmore (1937) was a somewhat larger and even more robust representative of *T. ostologa* known from the Great Bahama Bank and Cuba; (3) the very rare species *T. riveroi* Arredondo (1972b) is here synonymized with *T. pollens*; (4) the smallest taxon of these giant barn owls is *T. noeli* Arredondo (1972a), which is widespread and abundant in Quaternary deposits of Cuba and is here reported for the first time from two cave deposits in Jamaica; (5) the only large barn owl named so far from the Lesser Antilles is *T. neddi* Steadman & Hilgartner (1999), which is here synonymized with *T. noeli*; (6) a new taxon from Cuba, *T. cravesae* new species, which in size approached the linear dimensions of *T. ostologa*, is named and described herein.

Key words: Giant Tytonidae, distribution, fossil birds, systematics, *Tyto*, West Indies

Introduction

The West Indies (in which we include the Bahamas), in particular the Cuban archipelago, was inhabited during part of the Quaternary by a diverse array of large predatory birds (Arredondo 1976; Olson 1978; Olson & Hilgartner 1982; Arredondo 1984; Arredondo & Olson 1994; Steadman & Hilgartner 1999; Arredondo & Arredondo 2002a, 2002b; Suárez & Emslie 2003; Suárez 2004a; Suárez & Olson 2007; Olson 2008; Suárez & Olson 2009) adapted for feeding on an equally diverse assemblage of endemic mammals (see Allen 1942; Angerbjörn 1985; Woods 1990; Alcover *et al.* 1998; MacPhee & Iturralde-Vinent 2000; White & MacPhee 2001; Dávalos 2004; Silva Taboada *et al.* 2008) and other vertebrates. Many of these species, both prey and predator, are now extinct (Olson 1978; Morgan & Woods 1986; Alcover & MacMinn 1994; Turvey 2009).

Among the nocturnal raptors were several species of barn owls (Tytonidae: *Tyto* Billberg) that were much larger than any extant form of the genus (for a summary see Steadman & Hilgartner 1999). We use the term "giant" to signify that all of these species were much larger than any extant species of Tytonidae although in weight there are a number of extant species of Strigidae that are larger than any of the West Indian barn owls would have been. Contrary to what has been written in some popular sources, none of these owls were flightless or even approaching flightlessness in their morphology.

Five species of these large barn owls have been named to date (Brodkorb 1971; Arredondo 1976; Olson 1978; Olson & Hilgartner 1982; Cuello 1988; Steadman & Hilgartner 1999). The systematics of this group of raptors began with the description of *Tyto ostologa* Wetmore, from Quaternary cave deposits in north-central Haiti, Hispaniola (Wetmore 1922). Additional specimens of that taxon were later collected at the type locality and nearby caves above L'Atalaye (Wetmore & Swales 1931) and in other parts of the island, including the Dominican Republic (Steadman & Hilgartner 1999). Following this discovery, *Tyto pollens* Wetmore was described as a species even larger than *T. ostologa*, from cave deposits thought to have come from the island of Great Exuma in the Bahamas (Wetmore 1937) but later determined to have come from Little Exuma (Hecht 1955). Years later,