

New records and distribution extension of *Buteogallus solitarius* (Aves: Accipitridae) in Venezuela

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ABSTRACT: The Solitary Eagle (*Buteogallus solitarius*) is a poorly known Neotropical raptor and many aspects of its natural history remain unknown. The species is often misidentified and confused with other congeners. In Venezuela, its occurrence, based on voucher specimen and photographic records, is restricted to the Cordillera de la Costa Central. Here we report on four new confirmed records of the Solitary Eagle in Venezuela. These records represent a distribution extension (>160 km) from its previously known geographic range within the country.

KEY-WORDS: Coastal mountain range, Sierra de Portuguesa, Sierra de Perijá, Solitary Eagle.

The Solitary Eagle (*Buteogallus solitarius*) is a large size raptor with a discontinuous distribution from northwest Mexico to northern Argentina (Ferguson-Lees & Christie 2001; Seminario *et al.* 2011). In South America, it has a localized distribution through the Andes (Marquez *et al.* 2005) where its altitudinal distribution has been described between 700 to 2000 m above sea level (Brown & Amadon 1968). In Venezuela, it is distributed in the Guayana Region (Willard *et al.* 1991) and Cordillera de la Costa (Hilty 2003). Nonetheless, the record from Guayana is not reliable because of the lack of information on identifiable field marks. It is considered a rare, local and very uncommon raptor across its distribution and is often misidentified and confused with the similarly plumaged Common Black-Hawk (*Buteogallus anthracinus*) and Great Black-Hawk (*Buteogallus urubitinga*) (Clark *et al.* 2006).

Valid records (museums specimens and/or photographs) of the Solitary Eagle in Venezuela are scarce; only two specimens collected from Aragua State are found in ornithological collections of Venezuelan museums: EBRG (Museo de la Estación Biológica de Rancho Grande) 12.069 from Valle Verde, El Limon; and COP (Colección Ornitológica Phelps) 43.921 obtained at Rancho Grande, Pico Guacamayo. Observational records from the scientific literature have also reported the species for the states of Aragua, Amazonas, Carabobo, and Miranda (Willard *et al.* 1991, Bisbal 1993, Sharpe *et al.* 2001, Hilty 2003). However, these reports do not provide diagnostic characteristics or photographs

to validate the observations. Considering the scarce knowledge on the occurrence of the Solitary Eagle in Venezuela, the four new confirmed records presented here contribute to the knowledge on presence of the species in the country (Figure 1). These records correspond to field observations and, to our knowledge, represent the first photographic records for Venezuela. These location records were documented on the Guiana Shield and in the Cordillera de Los Andes, which is divided in two branches in Venezuela: Sierra de Perijá and Cordillera de Merida (PDVSA 1992). To avoid misidentification, specific determinations were based on Clark *et al.* (2006).

In July 2001, an immature Solitary Eagle (Figure 2A) poached in Santa Rosalia, Bolivar State, Guayana Region (07°28'46" N, -65°39'34" W; 270 m elevation) was confiscated and transported to Zoologico de Las Delicias (Aragua, Venezuela). The eagle had been shot while chasing piglets on a farm in Santa Rosalia. Santa Rosalia is located in the bioregion denominated Piedmont Hill Systems of the Guiana shield and the habitat at this locality is characterized as semideciduous foothill tropophilic forest (see Huber & Alarcón 1988). The wing tips beyond the tail tip, the absence of white barring on the leg feathers, and the occipital cowl diagnosed this bird as a Solitary Eagle. This record from Bolivar State is the southernmost location for the Solitary Eagle in Venezuela, and was found approximately 390 km SE of the previous known area for this species in the Cordillera de la Costa in Venezuela.

A second valid record from Bolivar State was recorded by ornithologist John Kvarnäck, on 23 December 2007. He observed two adult Solitary Eagles in La Escalera, Sierra de Lema (05°57'00" N, -61°25'59" W, 1,100 m elevation), with one of these birds being photographed in-flight (Figure 2B). This record occurred in the Guiana Massif bioregion in an Ombrophile submontane evergreen forest (Huber & Alarcón 1988) approximately 495 km WNW from Santa Rosalia and 205 km to the NW from the only known record in Guyana (O'Shea *et al.* 2007). These were properly identified as Solitary Eagles by the wide wings forming a triangular shape with the bulging secondaries, and the short tail barely protruding past the secondaries; these characteristic can be observed in figure 2B.

On 26 January 2009, a perched adult individual was photographed by ANR (Figure 2C) in Sierra de Perijá, Lajas River Basin, 27 km WNW from Villa del Rosario, Zulia State, Venezuela (10°21'57" N, -72°33'59" W,

1,100 m elevation). This site is located in an ombrophile montane semideciduous seasonal forest (Huber & Alarcón 1988). This bird was identified by the wingtips beyond the tail tip and the absence of narrow white barring on its leg feathers, which is a characteristic of the Great Black-Hawk. This record is approximately 475 km W from the previous known locality in Venezuela, Campamento Palmichal, Carabobo (Bisbal 1993). However, a Solitary Eagle was collected in the Colombian slope of Sierra de Perijá in 1942 (ORNIS) (Marquez *et al.* 2005) with at least one known record from Serrania de Eroca (BioMap Alliance Partners 2006), approximately 62 km SW from our record in Lajas River.

The fourth record occurred on 4 June 2012 in the Sierra de Portuguesa in the Venezuelan Andes, 4 km SSE from Sanare, Lara State, Venezuela (09°42'43" N, -69°39'02", 1,745 m elevation) where we observed and photographed an adult Solitary Eagle soaring (Figure 2D). The habitat at this locality is characterized as ombrophile

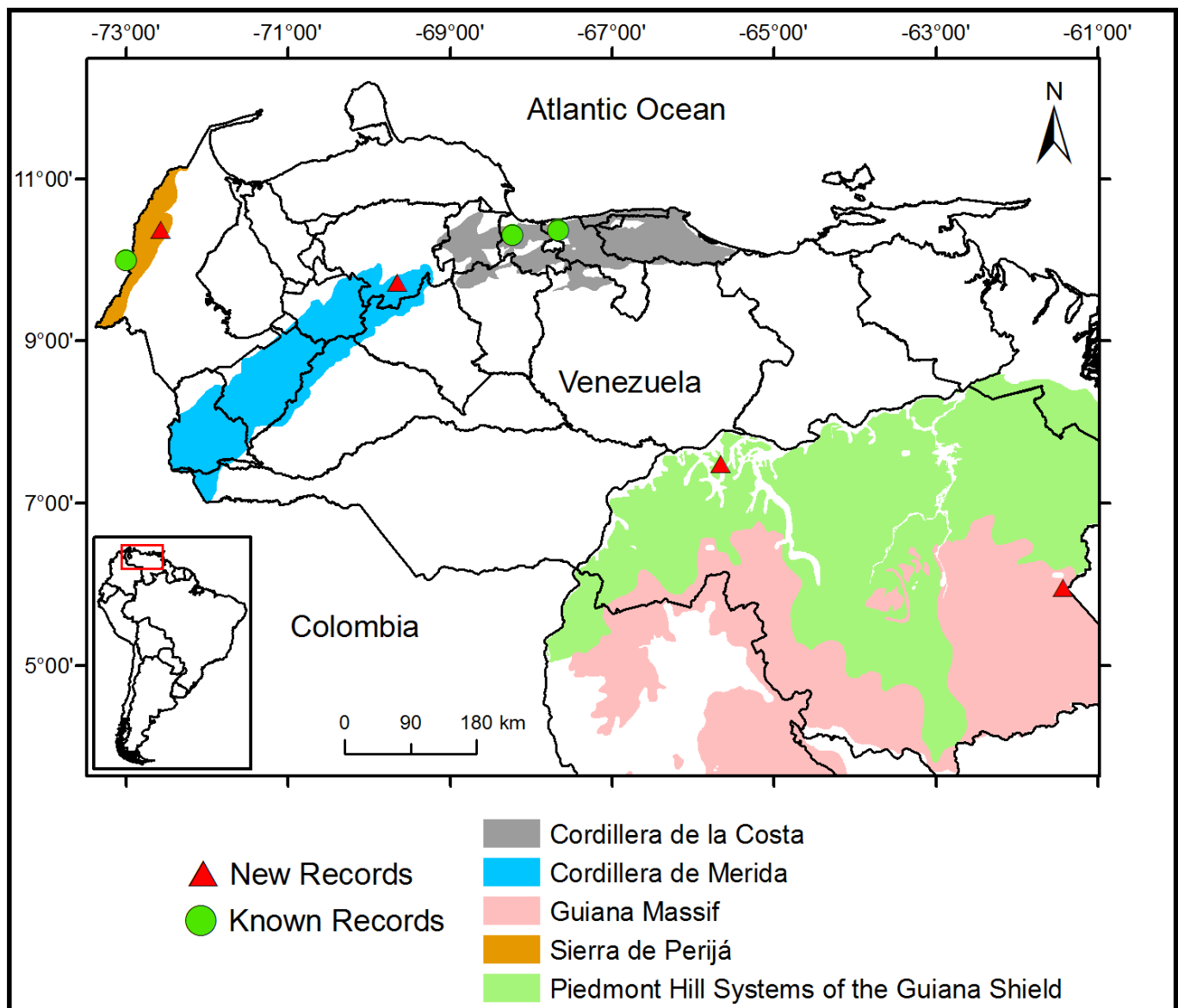


FIGURE 1. New and known records of the Solitary Eagle (*Buteogallus solitarius*) in Venezuela

sub-montane/montane evergreen forest (Huber & Alarcón 1988). Field marks used to identify this eagle were the short squared tail when not fanned and the wide and triangular shaped wings. The nearest known report of this species from this site is approximately 170 km ENE at Campamento Palmichal in Carabobo State, Cordillera de la Costa.

Forest habitats in the Andes where two of these new records occurred are undergoing serious threats of habitat conversion for cattle ranching and agriculture with established pesticide use. The conservation status of the montane forest in Venezuela is critical. Madi *et al.* (2011) reported between 26% and 75% of the original vegetation has been altered through reduction, fragmentation or alteration. The forests of the Lajas River Basin have been

classified as critically endangered; approximately 35% of the area has undergone habitat conversion over the last 15 years (Hernández-Montilla & Portillo-Quintero 2010). This loss and fragmentation of habitat may pose threats to the Solitary Eagle. Protection of habitat where the Solitary Eagle is known to occur is critical for viable populations in Venezuela, where this species is not listed or legally protected.

Given the lack of information on the Solitary Eagle in Venezuela, we recommend careful attention to diagnostic characteristics in the field and proper documentation on locality (i.e., geographic coordinates), elevation, habitat, and behavior in order to distinguish it from other congeners and better understand the species in Venezuela.

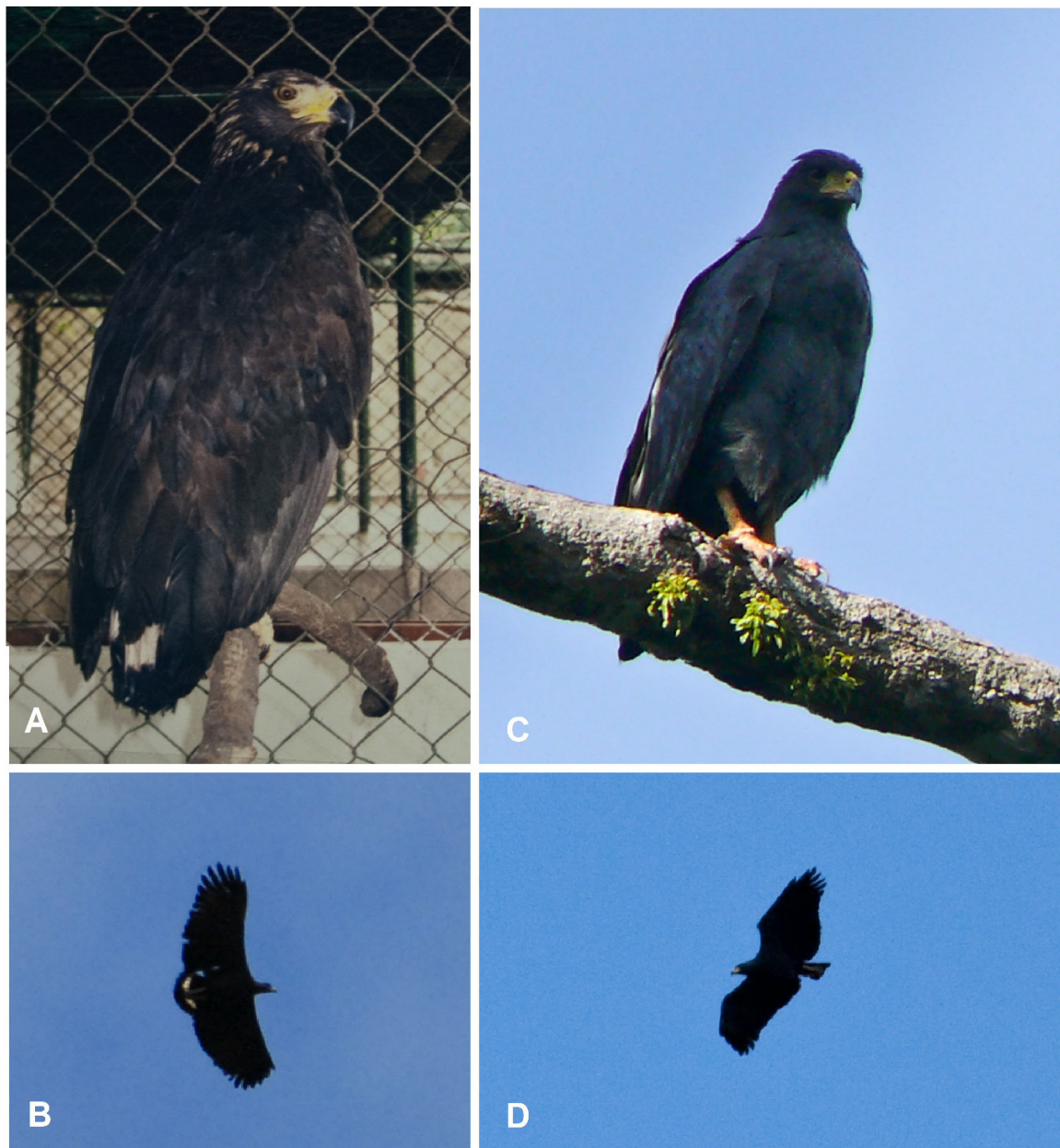


FIGURE 2. Photographic records of the Solitary Eagle (*Buteogallus solitarius*) in Venezuela. (A) eagle poached and rescued in Santa Rosalia, Bolívar; (B) adult sighted at La Escalera, Bolívar by ornithologist John Kvarnäck; (C) adult Solitary Eagle perched in the Sierra de Perijá, Zulia; (D) adult soaring in the Cordillera de Merida, Lara. Photos: A and C: Adrián Naveda-Rodríguez; B: Muse Björklund; D: Gabriela Lugo.

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