

**3819: ON THE PRESENCE AND BIOLOGY OF THE BARN OWL *Tyto alba detorta* ON SANTA LUZIA, CAPE VERDE ISLANDS**

*Sur la présence et la biologie de l'Effraie des clochers *Tyto alba detorta* sur l'île de Santa Luzia, Cap Vert.*

*La découverte d'un nid de ce strigidé avec 2 jeunes de 25-30 jours, en octobre 1999, constitue la première preuve de nidification de cette espèce à Santa Luzia. La biologie de reproduction de l'Effraie est bien connue et la date estimée de ponte à Santa Luzia (deuxième quinzaine du mois d'août) constitue la donnée la plus précocce pour le Cap Vert. Les très nombreux restes osseux trouvés dans le nid indiquent une activité prédatrice très ancienne. Durant cette longue période, des proies comme *Tarentola gigas* et *Macrosclincus coctei*, de nos jours apparemment éteintes dans cette île, ont été remplacées par d'autres (*Tarentola caboverdiana* et *Mus* sp.) actuellement très communes. Plusieurs couples d'Effraies des clochers doivent habiter l'île, d'après la disponibilité en sites favorables et l'abondance de nourriture.*

Ever since the first reliable mention of the existence of the Barn Owl *Tyto alba detorta* (= *T. detorta*, sensu HAZEVOET, 1995) in the Cape Verde Islands (BOLLE, 1856), the present sparse knowledge of its biology, ecology, distribution, etc., is based—save for a few exceptions (e.g. NAUROIS, 1982)—on isolated data that appear in general works (cf. BANNERMAN & BANNERMAN, 1968; HAZEVOET, 1995). The actual status (breeding or presence) assigned to the species on the different islands is nearly always attributed to casual observations which sometimes refer back to the middle of the last century (Table I). Up to now, observations are still lacking for the islands of Santa Luzia and Sal which NAUROIS (1982) considered as probably being the only ones in the Archipelago that do not offer suitable habitat for the Barn Owl. In this note, for the first time information is presented referring to the presence of *T. alba* on Santa Luzia. A case of confirmed breeding is described, and furthermore, data are provided that indicate the possibility that nesting has regularly occurred on the island since remote times.

Santa Luzia (18° 52', 18° 60' N; 24° 41', 24° 48' W), uninhabited since the sixties of the last century, is the smallest (35 km<sup>2</sup>) and one of the most arid islands of the Archipelago. Among its most distinctive geomorphological characteristics, one can cite the stony plains, sand dunes and the small mountain massifs which surpass 300 m a.s.l. (maximum height 395 m). The vegetation is composed of halophytic, psammophile and xerophytic communities in which mem-

bers of the *Caryophyllaceae*, *Chenopodiaceae*, *Zygophyllaceae*, *Frankeniaceae* and *Poaceae* families predominate. For further information concerning the geography, vegetation and fauna of this island, we recommend the publications of SCHLEICH & WUTTKE (1983), DINIZ & MATOS (1994) and HAZEVOET (1995).

On the 20<sup>th</sup> October 1999, during the course of a vertebrate fauna survey on Santa Luzia, which formed part of the *Cabo Verde Natura 2000* project, a nesting cavity of *T. alba* was located approximately at 150 m a.s.l. in Ribeira dos Penedos, a site localized between the hills of the central region. The cavity which was emplaced in a vertical rock wall barely 4 m above the walking surface, contained at least 2 chicks which were estimated as being 25-30 days old. Just below the spot where the owlets were situated, there was a crevice, several meters long and perpendicular to the base of the wall, which was practically blocked up with bone remains, product of a prolonged deposition of pellets. This accumulation of bones reveals a substitution of prey species with the passage of time. Amongst other examples, *Tarentola gigas* (Reptilia: Gekkonidae) and *Macrosclincus coctei* (Reptilia: Scincidae), both currently considered extinct on the island, appear in the inferior levels as habitual and occasional prey items respectively, but are gradually replaced by *Tarentola caboverdiana* and *Mus* sp. (Mammalia: Rodentia) when passing to the superficial layer where the latter comprise practically the totality of recent captures.

On the basis of the age calculated for the chicks on Santa Luzia, one can deduce that egg laying commenced during the second half of August and thus, slightly outside the previously known breeding period for Cape Verde, September-May (NAUROIS, 1982; HAZEVOET, 1995; SIVERIO *et al.*, 2004). It is interesting to note that while this laying date constitutes the earliest (without disregarding the fact that it may just be an unusual case) registered so far in the Archipelago, the latest date refers to March and precisely to the islet of Branco (3 km<sup>2</sup>) which is just 7.5 km away and the nearest location to Santa Luzia where *T. alba* is known to breed (cf. NAUROIS, 1969; 1982). This late date on Branco, referring to the sixties of the last century (TABLE I), has suggested that—in response to food availability—the breeding period is adjusted to that of certain Procellariiformes (NAUROIS, 1969); as similarly could be the case on Ilhéu Grande (Ilhéus do Rombo), where GENIEZ & LÓPEZ-JURADO (1998) found a recently occupied nest around the middle of July. On Santa Luzia, where small colonies of seabirds are still to be found (J.A. MATEO, pers. obs.), the observed breeding season broadly

**TABLE I.** - Status, N: nesting, P: present and S: subfossil, of the Barn Owl *Tyto alba* on each of the Cape Verde Islands, and years of the first ( $Y_1$ ) and last ( $Y_2$ ) reliable records for the respective categories shown. The asterisk (\*) indicates that posteriorly there are only records of presence, and the hyphen (-) that no further information exists.

*Statut, N : nicheuse, P : présente, S : subfossile, de l'Effraie des clochers Tyto alba, dans chaque île du Cap Vert. Dates des premiers ( $Y_1$ ) et derniers ( $Y_2$ ) enregistrements vérifiés. L'astérisque (\*) signale que postérieurement il n'y a que des données de présence. Le trait d'union (-) signale qu'il n'y a pas d'information.*

ISLANDS AND ISLETS	STATUS	$Y_1$	$Y_2$	SOURCE
Santo Antão	N	2004	-	D. TRUJILLO <i>et al.</i> ( <i>in litt.</i> )
São Vicente	P	1921	1988	HAZEVOET (1995)
<b>Santa Luzia</b>	<b>N</b>	<b>1999</b>	<b>-</b>	<b>Present study</b>
Branco	N	1965	-	NAUROIS (1969)
Raso	P	1898	1965	SALVADORI (1899), NAUROIS (1969)
São Nicolau	P	1852	2006	BOLLE (1856), D. TRUJILLO <i>et al.</i> ( <i>in litt.</i> )
Sal	S	1990	-	BOESSNECK & KINZELBACH (1993)
Boavista	N	2000	2001	SIVERIO <i>et al.</i> (2004)
Maio	N	2000	2005	SIVERIO <i>et al.</i> (2004), DEMEY (2005)
Santiago	N	1897	?	ALEXANDER (1898), HAZEVOET (1995)
Fogo	P	1989	2005	HAZEVOET (1995), R. BARONE ( <i>in litt.</i> )
Ilhéu Grande (Rombo)	N	1997	-	GENIEZ & LÓPEZ-JURADO (1998)
Brava	N	1963	*	NAUROIS (1969), FRADE (1976)*

coincides with that of the remaining islands where the chicks are reared successfully as a result of the increase in trophic resources associated with the summer and autumn monsoonic rains (cf. NAUROIS, 1982). It is to be expected that some other pairs exist on Santa Luzia, both as a consequence of the apparent food abundance (J.A. MATEO, pers. obs.) and the existence of similar mountain massifs, the most favourable habitat for *T. alba* in this limited insular environment.

Barn Owls can show an amazing fidelity to their breeding sites whilst these are not destroyed or the food supply does not diminish in the neighbouring surroundings. In this context, there is evidence that reveals a continuous occupation being maintained throughout several centuries (cf. SHAWYER, 1987). Furthermore, on one of the eastern Canary Islands, it is known that this nocturnal bird of prey was using the same volcanic tube from the Holocene (CASTILLO *et al.*, 2001) upto the latter years of the last century (D. TRUJILLO *in litt.*).

On the basis of what has been observed in the deposition of the bones of prey, the use of the cavity on Santa Luzia, with periods of desertion or not, could date back to a distant past. At the moment in the absence of material dating (LÓPEZ-JURADO *et al.*, *in prep.*), the complete lack of remains of *Mus* sp. in the lower levels supports the probability that these captures were made before the establishment of stable human settlements in the Archipelago. The recent appearance on Santa Luzia of remains of

*Macroscincus coctei* in a scat of a feral cat is indicative that this reptile could still be alive (MATEO *et al.*, 2004). If this is in fact so, its absence amongst the present day prey items of *T. alba* infers the existence of a very small and highly localized population.

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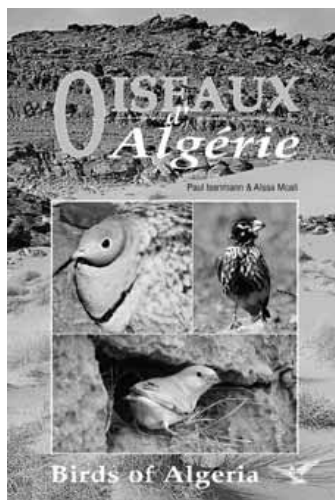
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