

BREEDING OF GLOSSY IBIS *Plegadis falcinellus* IN THE MIXED HERONRY ADJACENT TO SMIR MARSHES, NORTHERN MOROCCO

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Reproduction de l'Ibis falcinelle *Plegadis falcinellus* dans la héronnière mixte près des marais de Smir, Nord du Maroc. L'Ibis falcinelle *Plegadis falcinellus* aurait niché dans le Nord-Ouest du Maroc et probablement jusqu'à Essaouira (Mogador) à la fin du XIX^e siècle. Près d'un siècle après, l'espèce s'est reproduite à Oued Massa en 1994 et probablement aussi dans la palmeraie de Marrakech au début des années 1980. Le 1^{er} mai 2011, l'un de nous (R.E.) a découvert une colonie reproductrice d'Ibis

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falcinelle dans une héronnière mixte près des marais de Smir (région de Tétouan, Nord-Ouest du Maroc). Le recensement de cette colonie réalisé le 7 mai a conduit à un chiffre minimal de 90 nids occupés, chacun contenant entre 3 et 4 poussins. Un ibis bague au stade « poussin » dans la Petite Camargue en France fut observé dans la colonie. L'installation de l'Ibis falcinelle dans la héronnière

de Smir pourrait être une conséquence de l'augmentation de la population de l'espèce en Méditerranée occidentale, en particulier dans le Parc de Doñana (Sud de l'Espagne) et de l'expansion qui s'en est suivie dans le reste de la zone (Algérie, France, Portugal) et jusqu'en Bretagne (MARION & MARION, 2011).

Mots clés: *Plegadis falcinellus*, Reproduction, Colonie, Recensement, Statut, Smir, Maroc.

Key words: *Plegadis falcinellus*, Breeding colony, Census, Status, Smir, Morocco.

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INTRODUCTION

Moroccan wetlands have suffered greatly throughout the second half of the twentieth century. Recent assessment showed that wetland habitats have been lost at an alarming rate; for instance, some 25% of the wetland area had been destroyed only in twenty years period (1978-99) with some wetland types lost at even a higher rate (GREEN *et al.*, 2002). These changes have negatively affected breeding birds (including

some globally and/or regionally threatened taxa) to the point that some species ceased to breed in Morocco (e.g. Northern Pintail *Anas acuta* and Greater Flamingo *Phoenicopterus roseus*); others have just returned to breed after several decades of absence (e.g. White-headed Duck *Oxyura leucocephala*), while others at last have severely declined to the point near local extinction (e.g. Ferruginous Duck *Aythya nyroca*, Eurasian Bittern *Botaurus stellaris*) (THÉVENOT *et al.*, 2003; QNINBA & EL AGBANI, 2009).

Nevertheless, in the first decade of 21st century, ornithological surveys have showed a turnover of many wetland-dependent species in a number of Moroccan wetlands which have led to range expansion of many species, some of which breed for the first time in Morocco and in Africa: Black-headed Gull *Chroicocephalus ridibundus* with first recorded breeding in Morocco and Africa was at Barrage Al Massira in 2002 (RADI *et al.*, 2004a; THÉVENOT *et al.*, 2004) then at lower Loukkos marshes in 2008 (QNINBA *et al.*, 2008) and later colonised two other wetlands (own observations in 2011), Great Black-backed Gull *Larus marinus* breeding at Khnifiss Lagoon since 2008 for the first time in Africa (JÖNSSON, 2011) and the breeding of Black Tern *Chlidonias niger* at Barrage Al Massira in 2008 (RADI *et al.*, 2008) constitutes the first record for Morocco and the second for Africa after the breeding recorded at lake Sejoumi in Tunisia in 1991 (ISENMANN *et al.*, 2005). Other species have returned (recolonised) to breed after decades of local extinction as breeders. On a smaller scale, several bird species were recorded breeding in some wetlands for the first time: six new species for Smir wetland (AMEZIAN *et al.*, 2007; EL AGBANI *et al.*, 2009), three new species for lower

Loukkos marshes (QNINBA *et al.*, 2008, AMEZIAN *et al.*, 2009), eight new species for lower Tahadart (QNINBA *et al.*, 2009), and four species for Sebkhia Zima (RADI *et al.*, 2004b; M. RADI *pers. comm.*). Most of these range expansion events has been summarised by QNINBA & EL AGBANI (2009). These breeding observations have been mainly associated with improvement in the local conditions of the wetland concerned in some cases, e.g. creation of new habitats as in the case of Smir (AMEZIAN *et al.*, 2007) and global or regional breeding range expansion in some other cases (QNINBA & EL AGBANI, 2009).

In the same context, a breeding colony of Glossy Ibis *Plegadis falcinellus* was discovered in Smir heronry in northern Morocco in spring 2011. This paper relates this discovery and briefly discusses the chances of colonisation of other wetlands and conservations issues that faces the species and Moroccan wetlands in general.

RESULTS

Status of Glossy Ibis in the Western Mediterranean

The Glossy Ibis has a wide breeding distribution which ranges from southern Europe, Africa and Madagascar to Central and South Asia, Philippines, New Guinea and Australia. In the New World, it breeds along the Atlantic coast of North America and in West Indies (MATHEU & DEL HOYO, 1992).

In the Western Mediterranean, the Glossy Ibis has experienced a marked expansion of its breeding range during the last two decades. The species first started to recolonise southern mainland Italy (BRICHETTI, 1986) and Sardinia (GRUSSU, 1987) during the 1980s. After decades of absence, the species recolonised Doñana, Ebro delta and other Iberian sites since 1994 (FIGUEROLA *et al.*, 2004; EQUIPA ATLAS 2008). A rapid increase in population size as a result of wetland management has been observed in Doñana during the last decade (SANTORO *et al.*, 2010). The species recolonised the Camargue in southern France first in 2006 (KAYSER *et al.*, 2006) and the population has increased exponentially since then (KAYSER *et al.*, 2009).



In Algeria, Glossy Ibis had not bred for nearly a century, and it was not until 1998 that the species started to breed again, first at Lake Tonga (BELHADJ *et al.*, 2007) and later in at least four sites (BOUCHEKER *et al.*, 2009). In Tunisia, Glossy Ibis has probably bred once in Kelbia/Sousse in 1990, but no breeding have been recorded since then (ISENMANN *et al.*, 2005).

In Morocco, the species is said to have bred commonly in the north-west of the country, and probably further south to Mogador (Essaouira) in late 19th century (*in* THÉVENOT *et al.*, 2003). More recently the species has bred at Oued Massa in 1994 (ROUSSEAU, 1994), and breeding also suspected in a marshy palmgrove in Marrakech in early 1980s (*in* THÉVENOT *et al.*, 2003).

Breeding in Smir heronry

The Smir heronry lies on the Mediterranean coast of the Tangier Peninsula (FIG. 1), between the town of M'diq and the former estuary of Oued Smir



FIG. 2.— Glossy Ibises at Smir heronry (Photo: Rachid EL KHAMLIHI). *Ibis falcinelles dans la héronnière de Smir.*

(now Marina Kabila). It is installed on dune vegetation which is composed mainly of tamarisk *Tamarix* sp., Phoenician Juniper *Juniperus phoenicea* and Lentisk *Pistacia lentiscus* (EL AGBANI *et al.*, 2002). The national road N° 13 linking M'diq and Sebta/Ceuta separates the heronry from Smir wetland. It is located on a private property, thus well protected. The Cattle Egret *Bubulcus ibis* pioneered this breeding colony in the 1960s along with Black-crowned Night Heron *Nycticorax nycticorax* and Little Egret *Egretta garzetta* (THÉVENOT *et al.*, 2003). However, this colony was deserted in the 1970s and 1980s (PINEAU & GIRAUD-AUDINE, 1979; THÉVENOT *et al.*, 2003). Eurasian Spoonbill *Platalea leucorodia* has bred in this colony continuously since its installation there in 1994 (EL AGBANI *et al.*, 2002, THÉVENOT *et al.*, 2003, pers. obs.).

On 1st May 2011, one of us (R.E.) visited Smir wetland and was able to count (from the road) 7 nests of Glossy Ibis in the mixed heronry. A week later (7 May), he has been able to obtain a “permission” to study the breeding colony from close range. At least 90 occupied nests



FIG. 3.— Camargue-ringed Glossy Ibis at Smir heronry on 7 May 2011 (Photo: Rachid EL KHAMLIHI). *Ibis falcinelle bagué en Camargue dans la héronnière de Smir le 7 mai 2011.*

were counted, each with 3 or 4 chicks; nest height ranged between 60cm and 5m. A French-ringed adult bird was photographed on nest; the bird was ringed on 11 June 2008 as a nestling at Buisson Gros - Marais / Petite Camargue, France (white PVC ring (A51) on the right leg and a metal one on the left leg). On 8 May 2011 we all returned to the colony, we were allowed in for a few minutes which was enough to see the density of the nests and the extent to which the nests of different species were "packed" in a small area.

The breeding of the Glossy Ibis has been suspected in Smir marshes during the last four years, as birds stayed there late in the season, but this has never been confirmed. Displaying individuals were also recorded at Oued Massa by I. CHERKAOUI and A. ELBANAK (pers. comm.) on 24 April 2011. Based on the increased importance of the wintering population in lower Loukkos and the presence of the species nearly throughout the year, QNINBA *et al.* (2008) has already predicted the breeding of Glossy Ibis in lower Loukkos marshes.

Due to the high productivity of Glossy Ibis in Doñana (SANTORO *et al.*, 2010) and the geographical proximity of the latter to Smir, we assume that most founding individuals of Smir colony originate from Doñana. The presence of a French-ringed bird in the breeding colony indicates that founding birds originated from other colonies as well, and confirms that different populations in the Western Mediterranean function as a metapopulation with regular interchanges of individuals (SANTORO *et al.*, 2010; SAMRAOUI *et al.*, 2011).

Given the successful breeding this year (e.g. over 100 birds almost exclusively juveniles seen at once feeding at Oued Martil some 14km from Smir on 12 June 2011, more than 120 birds seen during half an hour going back and forth from a feeding area near Oued El Maleh some 10km from Smir on 11 June 2011), the security of the breeding site and the availability of feeding sites (Smir marshes, Oued El Maleh and Oued Martil), we expect that this colony will grow significantly during next years. We also expect that this new colony will most likely act as a source for the future colonisation of other wetlands in Morocco. If disturbance is

properly dealt with, the species stands great chances to colonise the nearby lower Loukkos marshes which otherwise has all requirements for a successful breeding.

Moroccan wetlands are facing great challenges now more than at any time in the past. A number of sites - including Smir wetland - are currently under threat from various sources such as drainage, pollution, over-grazing, tourism development, urbanism, infrastructure (roads, railways...), and most likely from climate change as well (prolonged drought, unpredictability of wet/dry cycles). Such threats are very likely to undermine the importance of these sites and their breeding and/or wintering bird populations unless proper conservation measures are implemented urgently.

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