
NEW RECORD OF THE BLACK STORK (*CICONIA NIGRA*) FROM NORTH-EAST OF ALGERIAN SAHARA

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ABSTRACT: We observed for the first time the presence of the black stork (*Ciconia nigra*) at Lake Ayata in Oued Righ wetland complex (North-East of Algerian Sahara). This Passage visitor species was not recorded only a few times in all of Algerian wetlands since fifty years ago. We can consider this region as a new stopover in North Africa, which was not mentioned previously. It is very important that these aquatic ecosystems can benefit from enhancement through the development of an adequate national management.

KEY WORDS: The black stork, oued righ, passage visitor, wetlands, stopover

The Black Stork (*Ciconia nigra*) is a shier species which prefers wilder country with extensive forests, marshes, and isolated crags. It is a rare bird throughout its range, may migrate alone or in smaller groups, but can be seen with other large migrants, wintering in Africa and returning quite late in spring. (Hume & Gavira, 2002). This species is a rather shy, solitary, vulnerable to human disturbances and avoids its habitation (Kahl, 1987).

His population has the widest geographical range of any species in the stork family of Ciconiidae (Grzimek, 1972), it found throughout the Palearctic, from Spain to China during the nesting season. In autumn, *Ciconia nigra* individuals migrate to South Africa and India to overwinter (Perring, 1990; Sibley & Monroe, 1990; Thompson, 1964). This population is geographically separate from a much larger one in Central and Eastern Europe (Cramp & Simmons, 1977). The totality of the breeding population migrates in winter to tropical Africa (Snow & Perrins, 1998).

The European population has suffered considerable decrease throughout its range; particularly in west Europe along the 20th century (Del Hoyo et al., 1992). It has declined in Greece and occupies the south western quadrant of the Iberian Peninsula in both Portugal and Spain (Cano Alonso et al., 2006). This species is currently evaluated as Least Concern in the IUCN Red List of Threatened Species (Birdlife International, 2000; Baillie et al., 2004) but it is listed as an endangered species in the Red Data Book of threatened vertebrates (Karandinos, 1992).

These studies aim to highlight the ecological importance of lake Ayata in Oued Righ complex for waterbirds, we present a preliminary data on the ecology of this species.

MATERIALS AND METHODS

Study area

The Oued Righ valley is a large oasis that stretches from the Saharan Atlas Mountains in the north to Touggourt City in the south (Nouidjem et al., 2012), it has a great biological diversity due to their size, salinity and substrate (Bensaci et al., 2013), Many habitat types (Salt ponds and brackish lake) with different morphological characteristics were distinguished in the wetland complex of Oued Righ (Nouidjem et al., 2015), this Ramsar sites of international importance are exploited as wintering grounds, stopover during migration journeys and breeding sites for several waterbirds species. They are regularly visited by ornithologists for bird counting and monitoring.

The lake Ayata ($33^{\circ}29'32.44''\text{N}$ and $5^{\circ}59'31.55''\text{E}$) in Oued Righ valley, located near the municipality of Djamaa- El Oued province. It has an average depth of 80 cm and is practically in water throughout the year (Fig. 1).

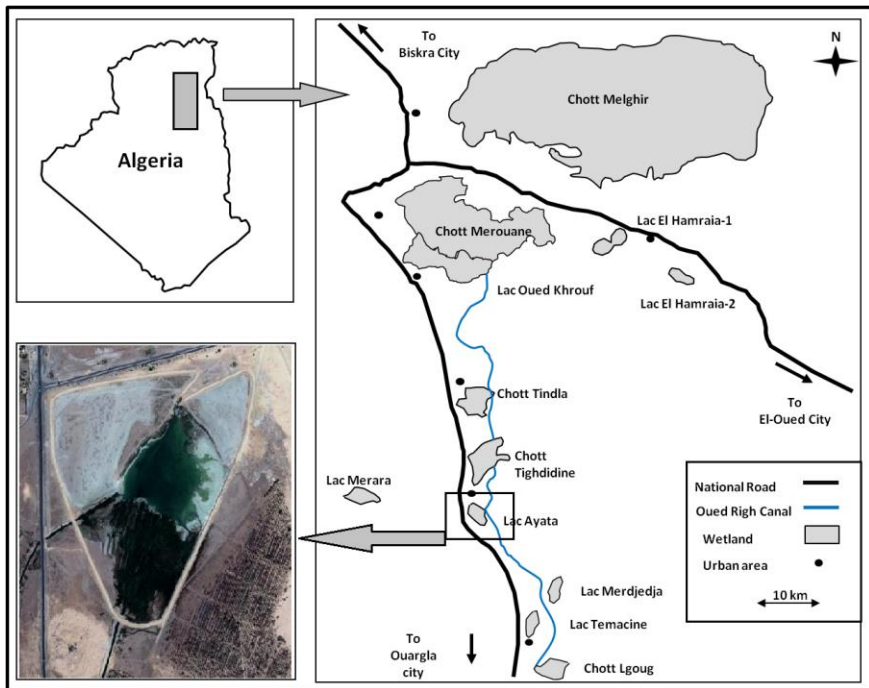


Figure 1. Location of study area.

Data acquisition

This study was undertaken during one week from September 19, 2010 to September 25, 2010. Counts were carried out, between 07h00 and 16h00 from several observation points around the site, using binoculars and a telescope OPTOLYTH (20×80). When the number of birds was small, birds were counted individually. When this number exceeded 200, the estimation of the population size was carried out by dividing the flock into small equal parts, counting the

number of birds in each part and then finding the sum of the counts (Blondel, 1975). This method is the mostly used in the winter counts of waterfowls (Lamotte & Bourlière, 1969).

RESULTS AND DISCUSSION

On September 22, 2010, a couple of the black stork (*Ciconia nigra*) was observed at the lake Ayata for 30 minutes, and on getting closer, they flew away about 100 m and settled on the lake, where it was photographed (Fig. 2). The next day, September 23, 2010, we have seen one adult bird of this species in the same site (Fig. 3). The black stork has not been reported previously from South Eastern of Algeria, this is the first record from Oued Righ wetland complex (Algerian Sahara). Migration is known to be a bottleneck in the annual cycle of many birds, and its success can depend on the availability of stopovers along the migration route (Chevallier et al., 2011).



Figure 2. The black stork, *Ciconia nigra* couple at the lake Ayata.



Figure 3. The black stork, *Ciconia nigra* at the lake Ayata.

Half of the stopovers were located in Spain, where birds spent 77% of their time at stopover sites. They were all located along rivers running within protected areas and these locations are particularly known to host Black Storks (Cano Alonso & Fernandez, 2003; Cano Alonso, 2004; Parkes et al., 2003). Some African stopover sites where the birds can safely rest and replenish their energy reserves were located in unfavourable habitats for the Black Stork (Chevallier et al., 2011).

In Algeria, The black stork is a Passage visitor (Isenmann & Moali 2000), not cited by Heim de balsac & Mayaud (1962). Isenmann & Moali (2000) mentioned that only five rather late records at spring passage: on May 1972 at Zana (François, 1975), on June 1976 at Djbel Ouahche Constantine (Burnier, 1979), twice on May 1979 at Macta (Ledant et al., 1981) and on May 1984 at lake Tonga (Chalabi et al., 1985). Several radio-tracked birds in 1996-1998 from Belgium crossed the region of Tindouf (westernmost Algeria) to reach their winter quarters in tropical West Africa (Jadoul, 1996). Wetland complex of Oued Righ valley are frequented by several species of water birds to use as stopover, for wintering and breeding (Nouidjem et al., 2014).

The presence of many new species like the black stork (*Ciconia nigra*), spur-winged lapwing (*Vanellus spinosus*) and other species in These Oasis, confirm the ecological signification of this area and demonstrate the important role in the wintering and breeding of waterbirds and also serves as a stopover site for migrant species during their trans-Saharan migration journeys.

Thus, we can consider this region as a new stopover in North Africa, which was not mentioned previously. Therefore, it is very important that these aquatic ecosystems can benefit from enhancement through the development of an adequate national management plan which will take into account, in particular, the protection of the black stork and its entire habitat.

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