

Dem Andenken ERNST SCHÜZ gewidmet

Decline of the White Stork (*Ciconia ciconia*) in an area of Central Algeria

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Abstract. MOALI, A., M. AKIL & P. ISENMANN (1992): Decline of the White Stork (*Ciconia-ciconia*) in an area of Central Algeria. – Vogelwarte 36: 326–328.

The population of White Stork in the Tizi Ouzou area (central part of North Algeria) has decreased from 1723 breeding pairs in 1955 to 157 in 1991. This suggests a similar decline in the whole country. Various adverse factors such as drought and habitat shrinkage acting simultaneously both on wintering and breeding grounds are suspected to have led to this decline.

Key words: White Stork, *Ciconia ciconia*, Algeria, census, fecundity.

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1. Introduction

Two comprehensive surveys in 1935 and 1955 revealed a rich population of White Stork (*Ciconia ciconia*) in Algeria (BOUET 1936 and 1956). Since a general decline has recently been observed in this species in Western Europe and, in Northern Africa – Morocco and Tunisia – (overview in HÖLZINGER & SCHMID 1986, RHEINWALD, OGDEN & SCHULZ 1969, BAIRLEIN 1991), we wished to know if a similar decline has also take place in Algeria. Unfortunately, no recent comprehensive census has been carried out in this country. In order to partially fill this gap, we present the results of a census carried out in 1991 in the area of Tizi-Ouzou in the central part of Northern Algeria. A drastic decline is also evident in this area. This decline might reflect an overall decline in the whole country. Our survey also provides additional data on nesting supports and the fecundity of successful breeding pairs in 1991.

Material and Methods

Two of us (A. M. & M. A.) surveyed White Stork nests for 3 days in June 1991 in the Tizi-Ouzou area which covers about 2500 km² in the central part of Northern Algeria (around 36.44 N/04.05 E; see Fig. 1). As already mentioned by KERAUTRET (1967), breeding in that area is restricted to the cultivated lowlands and the riverine forests along the Oued Sebaou valley and its affluents. The species avoids the mountainous and forested parts. The climate is Mediterranean with mild, wet winters and hot, dry summers. The birds arrive in (December) January and stay until late August (September). Eggs are laid in April (May) and young are raised in May and June (July). For each nest, we noted the nest support and we counted the number of young present.

Results

A total of 157 occupied nests (HPa) was found in the Tizi-Ouzou area (Fig. 1). Twelve (8%) of them were in the two cities of Tizi-Ouzou (n = 4) and Draa Ben Khedda (ex Mirabeau) (n = 8), 84 (53%) in villages and, 61 (39%) in the open country (isolated trees, riverine forests or posts). The nest supports were tiled roofs (n = 49), flat roofs (n = 36), electricity posts (n = 28) and trees (n = 44).

We found 3 nests without young (HPo) and 154 nest with young (HPm). The average fecundity per successful breeding pair (JZm) was of 2.53 ± 0.58 young (8 x 1, 69 x 2, 63 x 3, 14 x 4 young) (most of them were 4 to 7 weeks old).

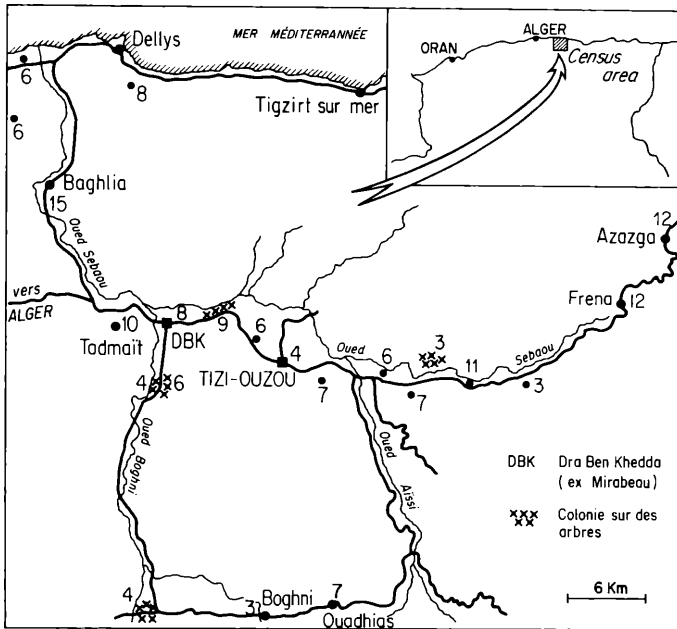


Fig. 1: Localisation of occupied White Stork nests in 1991 in the Tizi-Ouzou area. The figures indicated the number of nests found in towns (●) and in trees (xxx).

Abb. 1: Verteilung der besetzten Weißstorchhorste in 1991 um Tizi-Ouzou. Die Zahlen bezeichnen die Anzahl besetzter Nester in Ortschaften (●) und auf Bäumen (xxx).

Discussion

Our 1991 census shows a strong decline when compared to the 1935 and 1955 censuses which gave 750 and 1723 breeding pairs respectively for the Tizi-Ouzou area (BOUET 1936 and 1956). After a promising increase between 1935 and 1955, the subsequent decrease, only detected in 1991, is alarming. This population crash suggests that a similar decline might have also occurred in other parts of the country. In the near future, we hope to carry out a national census to make an accurate estimate of this decline. The two previous surveys gave a total of 6500 pairs in 1935 and of 8844 pairs in 1956 for the whole Algeria (BOUET 1936 and 1956). In one of the two neighbouring countries, Morocco, breeding pairs decreased from 24000 in 1935 to 13500 in 1974 (BOUET 1938, RUTHKE 1986, BAIRLEIN 1991). In the other, Tunisia, a decrease from 800 pairs in 1963 to 200 in 1973 and 350 in 1977 occurred (LAUTHE 1977, MAYAUD 1982). In Spain, 12700 pairs were censused in 1958 and 6753 in 1984 (CHOZAS, FERNANDEZ & LAZARO and BOETTCHER-STREIM & SCHÜZ in RHEINWALD et al. 1989). Thus, the White Stork strongly decreased in the western Mediterranean countries as it did in the whole of Western Europe (RHEINWALD et al. 1989, BAIRLEIN 1991).

Like for the Western Europe White Storks, the main reasons for the decrease in the North-Africa populations can also be found in a decrease in the adult survival rate owing to harsh wintering conditions linked to declining rainfall in the Sahelian West Africa (KANYAMIBWA 1990) where these populations overwinter all together (JENNI et al. 1991). GIRAUDOUX (1978) and THAURONT & DUQUET (1991) pointed out that human predation can be very heavy locally as is the case in Niger and Mali, two Sahelian West African countries,

where, some years, several hundreds of birds may be killed. Moreover, a lot of adverse factors appeared at the same time on the breeding grounds. Among them, the most harmful are 1) increasing human density (human population in Algeria rose from 9,000,000 in 1962 to 25,000,000 in 1990) and evergrowing urban development that certainly reduced the size of natural areas available for wildlife in general and the White Stork in particular, 2) changing structure of housing that became less or no longer suitable as nest supports, 3) changing agricultural practices with heavy use of pesticides and fertilizers, and 4) some recently dried up springs which may have lowered fecundity. All these factors considerably reduced the available space and the overall quality of the environment suitable for the White Stork and, thus, had a negative impact on the number of pairs that can breed. However, breeding rate was fairly high in 1991 with about 2.5 nearly fledged young per successful pairs. But if the environment continues to deteriorate, this fecundity will not be able to maintain the current population level. The few available nesting supports should be absolutely protected and a minimum of unspoiled areas must be preserved, otherwise the White Stork will become ever more a seriously threatened species even in those Mediterranean countries where it still can be considered as being relatively abundant.

Zusammenfassung

Eine Zählung besetzter Weißstorch-Horste (HPa) um Tizi-Ouzou im zentralen Teil Nord-Algeriens ergab 157 Nester in 1991, während dort 1723 HPa in 1955 gezählt wurden. Ein ähnlich drastischer Rückgang der Bestände dieser Art im gesamten Algerien wird daraus vermutet. Verschlechternde Zustände im Überwinterungs- sowie im Brutgebiet werden als Ursache dieses Rückgangs vermutet.

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