White Stork

Witooievaar

Ciconia ciconia

Apart from a few breeding pairs in the southern Cape Province, the White Stork is a nonbreeding Palearctic migrant to southern Africa. It occurs in the eastern and extreme southern regions, with scattered records in the arid west. The boundary of the distribution is mainly the 500-mm-rainfall isohyet. The main concentration lies along the escarpment from the eastern Cape Province, through Lesotho and western KwaZulu-Natal, to the southeastern Transvaal highveld; another is in northeastern Zimbabwe. Although common along the coastal plain in the southern Cape Province, it is absent or scarce in areas adjacent to the coast further east.

The world population was *c.* 150 000 breeding pairs in the mid-1980s (Del Hoyo *et al.* 1992). A survey in South Africa counted 25 500 birds in January 1985, but was not comprehensive (Allan 1989d). The species usually occurs in flocks numbering 10–50 birds, but sometimes thousands and even tens of thousands (e.g. Milstein 1966; Allan 1989d).

Habitat: It occurs in open woodland, grassland, grassy Karoo and wetland areas, and also agricultural cropfields and planted pastures, especially lucerne fields (Allan 1989d; Rockingham-Gill & Mundy 1989). During the 1985 census, 86% were in cropfields and pastures; their attraction to lucerne fields, in which insecticide use is not cost-effective, presumably reflects high insect-prey abundance (Allan 1989d). The relatively high reporting rates in Fynbos refer to birds in croplands and pastures, and in the Limpopo Valley it occurs on lucerne fields (Allan 1989d). Apart from the Grassy Karoo, where locust swarms are the attraction (Milstein 1966), arid western vegetation types are avoided. In grassland and woodland it is attracted to caterpillar outbreaks (Hale 1948; Schüz 1960; Herremans & Herremans-Tonnoeyr 1993). The low reporting rates from the Okavango illustrate avoidance of large permanent wetlands and floodplains.

Movements: The models indicate longer presence in the north than the south: in Zimbabwe (Zone 5), it occurs mainly November–March, but December–February in the southern Cape Province (Zones 4 and 8). Some birds, probably mainly immatures (Brown *et al.* 1982), overwinter; this is more common in the north, especially in Zimbabwe. Summer numbers vary widely between years (e.g. Rockingham-Gill & Mundy 1989) and are likely to be influenced by conditions elsewhere in Africa. Droughts further north result in larger numbers in the south, including occurrence in the eastern and southern Cape Province (Winterbottom 1977).

Breeding: Breeding occurs in the southern Cape Province, between Bellville (3318DD) and Mossel Bay (3422AA), with the first known breeding record *c.* 1933 near Calitzdorp (3321DA) (Roberts 1941a,b, 1942; Ballot 1942; Brooke 1984b). The breeding population has never exceeded 10 pairs; Penry's (1994) statement that winter flocks of up to 80 birds in Botswana possibly represent post-breeding dispersal by birds nesting in South Africa is unfounded. Breeding currently occurs near Bredasdorp (3420CA), and birds have bred there annually, at least until 1995 (J.H. Hofmeyr pers. comm.). Some breeding is associated with a mixed captive and wild population at the Tygerberg Zoo (3318DD). One nestling ringed in the southern Cape Province was recovered on the Zambia–Tanzania border (McLachlan 1963) and another was recovered in the Free State (Oatley & Rammesmayer 1988).

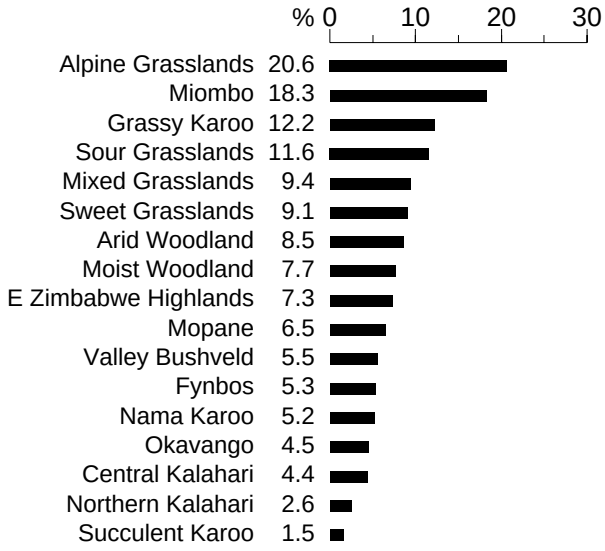
Historical distribution and conservation: The current distribution in southern Africa is probably unchanged from historical times (e.g. Schüz 1960; Winterbottom 1977), but the species' use of agricultural areas has influenced local patterns of dispersion (Allan 1989d). The inclusion of the southwestern Cape Province in its nonbreeding grounds is probably recent, following the establishment of croplands (Winterbottom 1977; Oatley & Rammesmayer 1988).

The White Stork was classified 'rare' in South Africa because of the small breeding population (Brooke 1984b). It has undergone a decline in its breeding range, especially in western Europe, but is not considered to be globally threatened (Collar *et al.* 1994). The chief threats on the breeding grounds include habitat loss and collisions with overhead transmission lines (Del Hoyo *et al.* 1992); the latter is also a threat in southern Africa (Oatley & Rammesmayer 1988). Another threat in Africa is pesticide contamination when foraging on outbreaks of pests in agricultural landscapes (Vesey-FitzGerald 1959; Milstein 1966; Oatley & Rammesmayer 1988). Limited observations to date, however, have failed to confirm significant contamination associated with locust control. Hunting is an additional threat, especially further north in Africa (Del Hoyo *et al.* 1992).

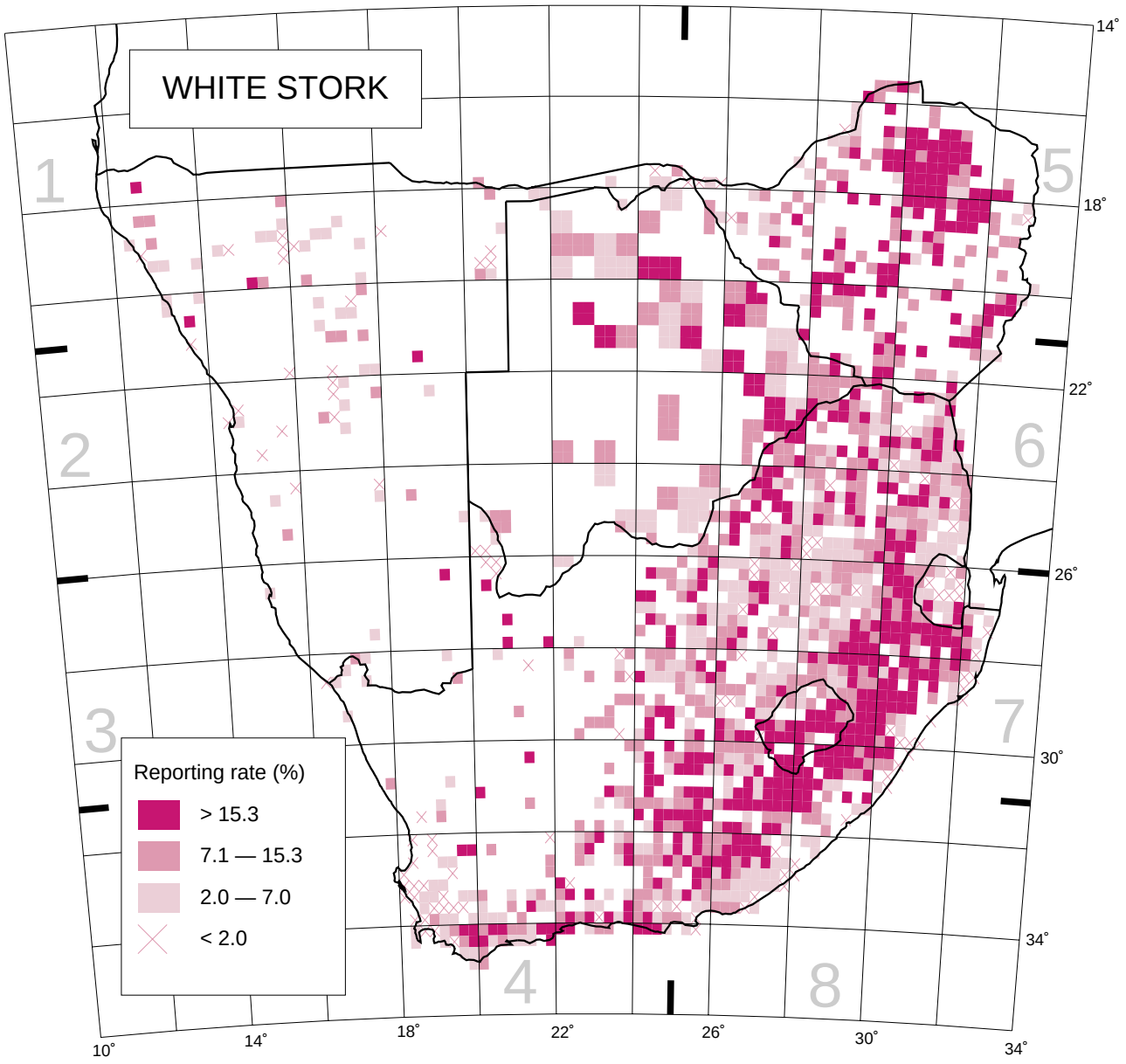
D.G. Allan

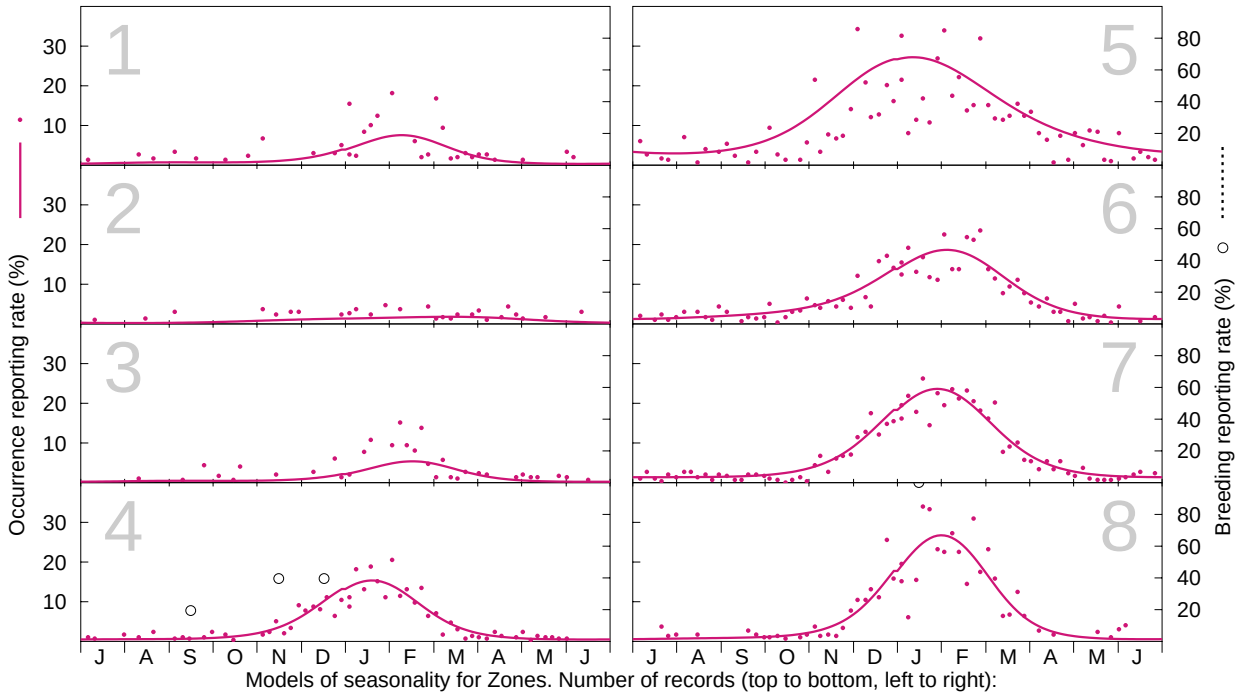
Recorded in 1608 grid cells, 35.4%
Total number of records: 11 093
Mean reporting rate for range: 9.5%

Reporting rates for vegetation types



Also marginally in East Coast Littoral, Southern Kalahari, Namib and Namibian Escarpment.





Models of seasonality for Zones. Number of records (top to bottom, left to right):
Occurrence: 57, 35, 72, 317, 1007, 752, 1445, 365; Breeding: 0, 0, 0, 5, 0, 0, 0, 1.