

Black-winged Stilt *Himantopus himantopus* wintering population: recent changes in range and numbers

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Based on recent data from Portugal, Spain and Morocco, showing that the population of Black-winged Stilt *Himantopus himantopus* wintering in southwest Europe and northwest Africa is increasing we suggest some possible explanations for these changes. Either there is a redistribution of the wintering population, due to the drought conditions in the Sahel region, with a decrease in sub-Saharan numbers, or there is an overall increase of the population with more birds becoming resident in the northern side of the wintering range. Suggestions are also made for further studies on the western European breeding population.

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INTRODUCTION

During the last ten years several estimates for the size of the west European Black-winged Stilt population have been produced (Smit & Piersma 1989; Tinarelli 1990; Dubois 1992). Some have used breeding data and others used wintering numbers. All show how far we still are from a reasonable knowledge of the wintering numbers and range of this species. Its opportunistic behaviour and what seems to be a high ability to adapt to new habitat conditions makes the task very difficult.

The west European population was estimated by Smit & Piersma (1989), based on wintering and breeding data, as 25,000 - 40,000 birds on wintering grounds located mostly in west Africa. For approximately the same geographical population, Tinarelli (1990), using only breeding data, gives a figure of 40,000 - 53,000 and Dubois (1992), based on winter data, proposes 18,000 - 40,000. The large range of each estimate and discrepancy between them results largely from the fact that they were built up from counts made in different years and from patchy coverage.

In this present paper we aim to contribute to a better knowledge of this species, aided by data collected in Portugal and Morocco along the last decade linked with a re-analysis of the published data. Our starting point is the five-fold increase of the Portuguese wintering population, as well as its northward expansion. Rather than providing answers, we aim to raise new questions and to propose guidelines for future research.

RESULTS AND DISCUSSION

Since 1990 the Portuguese the Black-winged Stilt wintering population has expanded its range northwards to Tejo estuary, with birds now wintering on the Sado estuary and other smaller areas between the traditional sites in the south and the new northern limit (Figure 1).

Counts made at the 'Ria de Faro' and Sado estuary, sites which hold the majority of our wintering population, show a marked increasing trend (Figure 2). This trend was already noticeable for the period 1979-1989 (Rufino 1990) but seems to have accelerated in the last three years. In Figure 2 we have also plotted a number of counts from Sidi-Moussa (Morocco), selected among those available only if they were achieved a complete coverage (Dakki *et al* 1989 and Dakki *et al* 1992). The increase in winter population numbers occurred earlier than in Portugal and shows presently signs of stabilisation. L.J. Alberto, quoted by Tinarelli (1990) also refers to an increase in the Spanish wintering population for the same period. However the data available for Spain does not allow us to quantify this increase.

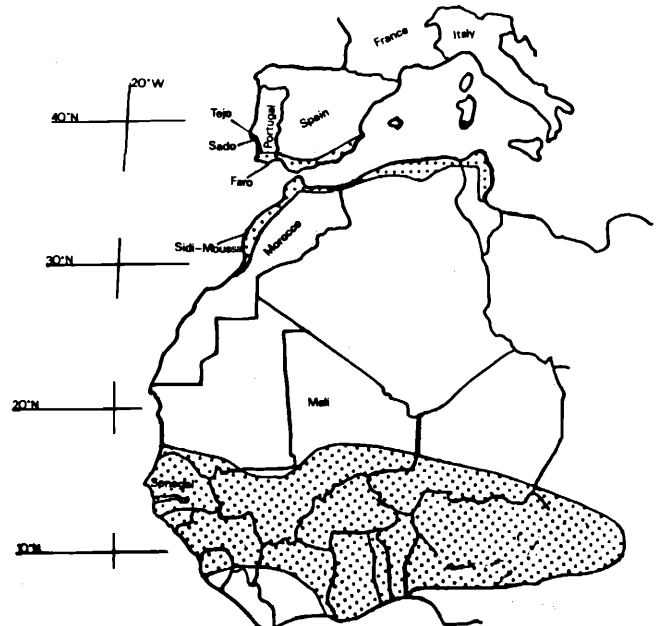


Figure 1. Wintering range, with recent changes, of the western European Black-winged Stilt breeding population. Filled - area of expansion in Portugal. Dotted - proposed winter range (redrawn from Tinarelli (1990)).

The Portuguese wintering is presently of c. 1,300 (Rufino & Costa 1993). The Moroccan is estimated by us at 1,500 birds, according to our December 1992 counts, which includes numbers counted along the Atlantic coast of Morocco and an extrapolation of numbers wintering on the Mediterranean coast, assuming that the ratio between these two regions is the same as when Tinarelli visited them in 1987. Adding these figures to those provided by Velasco & Alberto (1993) for Spain, and by Hötker &

Dietrich (1991) for Senegal, and to Dubois' (1992) figure for the remaining wintering area we would reach a minimum total of 24,000 birds instead of the earlier estimates of 18,000, thus suggesting that the whole geographic population may be increasing. However, since no information is available for the sub-Saharan part of the wintering range, we can not exclude the possibility of a redistribution and range expansion north-westwards (Table 1).

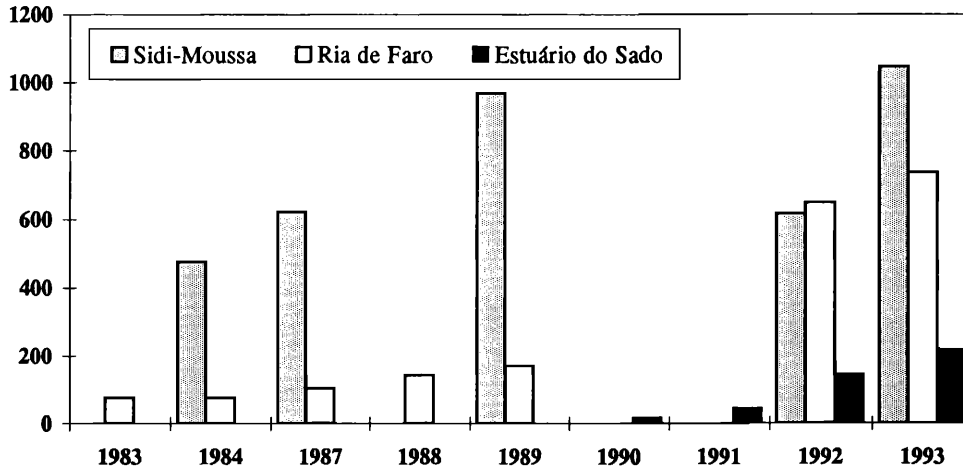


Figure 2. Numbers of wintering Black-winged Stilt at two localities in Portugal and one in Morocco.

Table 1. Black-winged Stilt *Himantopus himantopus* population estimates.

Author	Population estimate: number of wintering birds	Source
Dubois 1992 (1)	18,000 - 41,000	Alberto & Purroy 1984; Gauthier 1986; Gee & Heigham 1977; Goldschmidt & Hafner 1973; Jarry 1983; Johnson <i>et al.</i> 1975; Ledant <i>et al.</i> 1986; Poorter & Zwarts 1984; Rufino & Neves 1986; Smit & Piersma 1989; Thévenot & Beaubrun 1984; Thiollay 1985; Tinarelli 1987; G. Jarry, J.L. Lucchesi, R. Mahéo, Y. Ntiama-Baidu and F. Roux, pers. comm. and pers. obs.
Tinarelli 1990 (2)	40,000 - 53,000	L.J. Alberto pers. comm.; Dubois & Mahéo 1986; Grimmet & Jones 1989; R. Rufino pers. comm.; Hromadkova 1987; Piersma 1986; Bartovsky <i>et al.</i> 1987; Nankinov 1989, Cramp & Simmons 1983; Robin 1966, 1968.
Smit & Piersma 1989 (3)	25,000 - 40,000	Piersma 1986; Cramp & Simmons 1983; L.J. Alberto pers. comm.
Our recalculation (4)	26,000 - 42,000	Dubois 1992; Velasco & Alberto 1993; Hötker & Dietrich 1991; Tinarelli 1992 and our data.

Notes:

- (1) Estimate based only on winter counts.
- (2) Estimate based only on breeding numbers.
- (3) Estimate based on both breeding and wintering numbers.
- (4) Update of Dubois numbers using our data for Morocco (1,500) and Portugal (1,300), as well as newly published data for Spain, Senegal and Mali.

We know that the breeding population of Portugal, France (Delaporte & Robreau 1992) and Italy (Tinarelli 1990) has increased in recent years, but no information is available for Spain where the effects of the 1991 and 1992 droughts were certainly severe, so reducing breeding habitat availability. Again the information available is not enough to support any hypothesis for a overall population trend.

Ringing data from Portugal suggests that part of our

breeding population, including first winter birds, does not migrate. Tinarelli (1987) suggests also that the Maghreb population is partially resident. Counts made at Sidi-Moussa in December 1992 and April 1993 show little variation in numbers between these two periods (1,044 in December and 1,127 in April). During these counts over 90% of the birds were checked for colour rings and only one, locally ringed, was found in December. The same bird was seen by a team of Spanish ornithologists the

following January. These facts suggest that this population is nowadays entirely resident and that the western European population, where everywhere colour marking is going on, does not winter in Morocco.

Observations made at the Tejo estuary during the last ten years suggest that prior to the establishment of the small wintering population the departure time of the local breeding population was gradually delayed. In 1981 the monthly counts carried out at this area from July to December (Rufino 1984) showed that by the end of August all birds had left, but in 1990 by the end of September there were still c. 30 birds in the area.

So the Maghreb and south-western European Black-winged Stilt breeding populations seem to be behaving in a similar way, with the north African population changes starting some years ahead, with increasingly larger proportions of resident birds, this change took place gradually with birds staying longer at their breeding sites. At the same time those birds which still migrate seem to use the traditional west African wintering grounds and thus what is probably happening is a change in the migratory strategy. The wintering range of west European breeding birds is slowly expanding north, and is now split into two main wintering areas; southwest Europe and central west Africa, with the northern half becoming increasingly more important.

One possible explanation for this wintering population change might be the droughts in the Sahel region, chiefly those of 1983 to 1986 referred by Dubois (1992), with a proportion of the birds reacting by staying at their breeding grounds during autumn and winter and thus avoiding starvation at the wintering grounds while the others still move to their traditional winter grounds in west Africa. A decrease in the Sahelian wintering population would then be expected, but again no data is available.

Another possible explanation is then of an overall population increase supported by a reduction of the winter mortality in the west European population due to the changes in the migratory strategy and the mildness of recent winters.

The need for further population studies, as suggested by Goss-Custard (1993), is very clear for Black-winged Stilts. To understand fully the population dynamics of this species it is necessary to undertake comprehensive census of the European breeding population, covering at least Portugal, Spain, France and Italy, during a significant number of years and, simultaneously, to carry out census at the west African wintering grounds. Only these will provide the necessary data to understand whether there is a redistribution of the wintering numbers of the western European Black-winged Stilt breeding population or an overall increase of this population.

Habitat conditions should also be monitored, both at the breeding and wintering grounds. Extra information on population interchange could be easily obtained, as a considerable number of birds have been colour-marked in Europe in the last decade (over 500 birds just in Portugal).

Observations would help to understand if this interchange occurs as a regular pattern or if it happens only in some years under extraordinary conditions.

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