Wintering of Kentish Plover *Charadrius alexandrinus* in Spain: numbers, distribution and habitat selection

T. Velasco & L. J. Alberto

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T. Velasco & L. J. Alberto, Departamento de Fisiología y Biología Animal, Facultad de Biología, Ada. Reina Mercedes 6, E-41071 Sevilla, Spain.

An important role of species monographs is to establish the size and distribution of wintering populations (Glutz *et al.* 1975; Cramp & Simmons 1982). We have gathered all currently available information on Kentish Plovers wintering in Spain - the Western European nation with the largest wintering population. This information is little-known internationally.

METHODS

To estimate numbers, only data from December and January have been used, obtained from three different sources: published references and censuses, winter censuses carried out by the Spanish Ornithological Society (SEO) between 1978 and 1985, and many other unpublished censuses and data (personal or ceded) covering winters between 1972 and 1993. Wintering localities have been divided into three categories depending on the presence of the species in them (Figure 1). Numerical estimates, based on all available information, refer to an average year, and will therefore differ from data for particular years (Velasco & Alberto 1993).

RESULTS

The population of Kentish Plover wintering in Spain - around 85% of the population wintering in Western Europe (Alberto & Velasco 1988) - is distributed mainly (more than 80%) in coastal areas, although some individuals are also found inland (Figure 1). Table 1 shows the winter preference of Kentish Plover in Spain for the Atlantic coasts of the south and for the Mediterranean, and its scarcity in Cantabria and Galicia.

Cádiz Bay, with its salt-pans and inter-tidal mudflats, can be considered the most outstanding Spanish locality for the number of wintering Kentish Plovers. There are some 4,000, representing 47.1% of the estimated wintering population of Spain, and 41.2% of that of Western Europe. The second most important Spanish locality is Guadalquivir Marshes with around 30% of the estimated Spanish winter population. This latter area comprises the marshes of the Doñana National Park and neighbouring wetlands and rice fields.

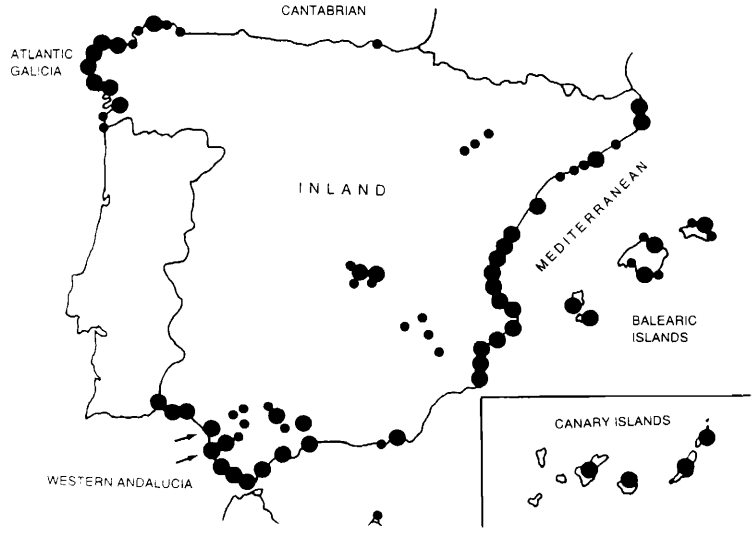

Figure 1. Spanish localities where Kentish Plover have been found in winter and limits of the zones of Table 1. (●) = regular wintering locality; (•) = sporadic wintering locality. Arrow, main locality (more than 10% of the Spanish wintering population.)

Our estimate lacks information on the number of winterers on large stretches of coast, mainly in the Mediterranean and the Atlantic of the south. More than a thousand Kentish Plovers may well winter there based on the localised estimates of 3.9 birds/km on the shores of Castellón (Erard & Viellard 1965) and 5-6 birds/km on the shores of Cádiz (Telleria 1981).

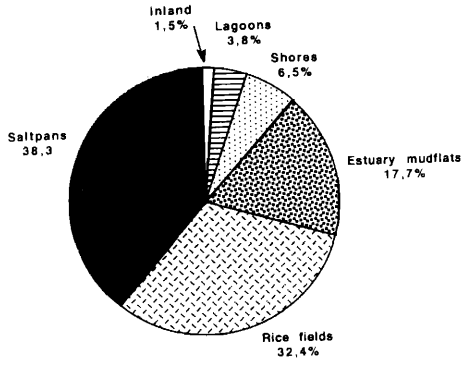

Figure 2. Distribution by habitat of the Spanish wintering population of Kentish Plover.

Table 1. Main wintering localities of Kentish Plover in Spain, with their average number in brackets, and the average totals by zones. (+) = less than 25 birds. s = sporadic.

Zones	Number	Main localities
Atlantic Galicia	100	Corrubedo and estuaries of Corme and Lage, Arosa, Ortigueira and Vigo
Cantabria	s	Estuaries of Viveiro, Barqueiro and Guernica
Mediterr-anean	500	Ebro Delta (100), and salt-pans of Santa Pola (75), Torrevieja (75), and Almería (50)
Balearic Islands	200	Salobrar de Campos (60), Estany Pudent (40), and salt-pans of Ibiza (30), and Fornells (30)
Western Andalucia	7,200	Cádiz Bay (4,000), Guadalquivir Marshes (2,600), Huelva Marshes (200), Ayamonte and I. Cristina (150)
Canary Islands	400	Fuerteventura (200), Lanzarote (100)
Inland	100	Majavacas pool (+), Fuentepiedra pool (+)
Total Spain	8,500	Cadiz Bay (4,000), Guadalquivir Marshes (2,600)

Finally, from the data available of the complete period, the overall distribution of the Kentish Plover wintering in the whole of Spain is analysed by six biotopes (Figure 2). The salt-pans and the rice fields hold more than 70% of the estimated wintering population, indicating the importance of these man-made areas for Kentish Plover. The inland areas and coastal lagoons hold a low proportion of winterers, with shores and estuary mudflats being intermediate. A more extensive exploration of the rice fields and shores would possibly change the relative importance of the these habitats (Figure 2). Although the salt-pans is now the main winter biotope, rice fields can be the most important biotope.

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Phenology and distribution of waders ringed in Spain from the scheme Madrid Museo de Ciencias

F. Cantos & A. Fernández

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F. Cantos & A. Fernandez, Apartado 32018 El Pardo. 28048, Madrid, Spain.

INTRODUCTION

Wader studies in Spain are few, with the exception of census work (Alberto & Velasco 1986; Martínez-Vilalta 1991), some studies concerned with wader communities (Souza 1978; Cordero-Tapia & López de Villar 1985; Martínez-Vilalta 1985b; Rubio 1986), breeding ecology and population size (Martínez-Vilalta 1985a; Domínguez *et al.* 1987; Souza & Domínguez 1989), wintering populations and wader migration (Bernis 1966; Asensio & Carrascal 1987; Alberto & Velasco 1988), and, recently, with wader ringing (Barbosa & Asensio 1990).