

The breeding population of Eurasian Dotterel *Charadrius morinellus* in Spain

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A partial census was carried out in 1994 to confirm the status of Eurasian Dotterel in alpine areas of Catalanian Pyrenees (NE Spain). Only one of the three areas, near the Andorran and French frontiers, gave positive results, with 2-4 pairs and two nests being found at altitudes of 2580 m and 2720 m. The minimum estimate for the whole of the area was 2-15 pairs. The current distribution coincides with that known previously from the XVIII century and is connected with that of French and suspected Andorran populations. The species breeds on stony high plateaux with some wet areas where they feed. Relief and thus, lack of suitable habitats, together with soil type influencing likelihood of flooding could be factors determining distribution.

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INTRODUCTION

The Eurasian Dotterel *Charadrius morinellus* breeds in N continental Europe and Asian Russia in arctic, coastal and inland tundra habitat, from Scandinavia east to the Bering Sea, occupying also the Scottish Highlands (Cramp & Simmons 1983). South of its main strongholds it breeds in isolated, high altitude mountain ranges, having been reported from northern England and southern Scotland (Ogilvie & RBBP 1994), the Alps (Schifferli *et al.* 1980; Sackl 1993), the Appenines, the Carpathians - Abruzzos area (Cramp & Simmons 1983) and the eastern Pyrenees (Lescouret & Genard 1982; Muntaner *et al.* 1983; Martínez-Vilalta 1985). Dotterel has exceptionally bred irregularly in temperate lowlands in Dutch polders (SOVON 1987).

In the Pyrenees, it has been only proved breeding on the eastern French side (Lescouret & Genard 1982), while breeding is still not confirmed in Andorra (Crozier 1993). On the Spanish side of the Pyrenees the species is well known in certain areas even having a local popular name "Perdiu rasca" known from at least the XVIII century (Zamora *in* Maluquer 1992; Martínez-Vilalta 1983). After the finding of Lescouret & Genard in France in 1980, two specific censuses were carried out in the Spanish side of Pyrenees in June 1983 and July 1991 to determine Dotterel status, although the bad weather frustrated this

initiative. On the other hand, Muntaner *et al.* (1983) and Martínez-Vilalta (1985), considered the species as a breeding bird in Spain, with an estimated breeding population of 1-10 pairs. They based their assertion on the fact that the Lescouret data were obtained close to the Spanish frontier, however no confirmed breeding records have existed until now.

To clarify the status of the Pyrenean Spanish population, a census covering all the areas where previous records existed and with apparently suitable habitat in the eastern Pyrenees (Catalonia, Spain) was planned and undertaken in 1994. This paper reports the results of the census and comments on the distribution of the species in the area.

METHODS

Suitable nesting areas were surveyed during July and August 1994 by means of transects walked by co-ordinated groups of observers covering most of the area, as it is undertaken for Ptarmigan *Lagopus mutus* censuses (see Tellería (1986) for a general review). Once a pair was discovered, male and female were watched to establish their territory. Nest sites were located by following one of the individuals returning to the nest. The territory covered was where suspected breeding data

already existed (see Figure 1), being most of alpine plateaux >2300 m high in the eastern Pyrenees. We estimated the extent of Dotterel breeding areas using a digital planimeter to calculate the area of all the alpine plateaux from a 1 : 50 000 scale map.

The estimate of breeding population size has been obtained by extrapolating the results of the census over the potential breeding areas (see Table 1 for its extent) where former observations exist.

RESULTS

Breeding was confirmed for only one of the censused areas, that of the Cerdanya peaks (Area C), where 2-4 pairs were found (Table 1). The habitat where the pairs have been found is a stony granitic alpine plateau of c. 245 ha, in an ancient glacial erosion level (Gómez 1979) with alpine meadows (*Hieracio-Festucetum airoidis*) and some wet areas called locally "molleres" (*Caricion nigrae*).

Table 1. Censused areas and results.

Area		Extent of suitable habitat	Number of pairs counted	Estimated number of pairs	Existence of previous records during the breeding season
A	Vallter-Puigmal-Toses	5 175 ha	0	0-5	Yes (France) (Lescouret & Genard 1982)
B	Cadí-Moixeró	1 978 ha	0	-	No
C	Cerdanya peaks	5 640 ha	2-4	2-10	Yes (Maluquer 1992)
Total		12 793 ha	2-4	2-15	

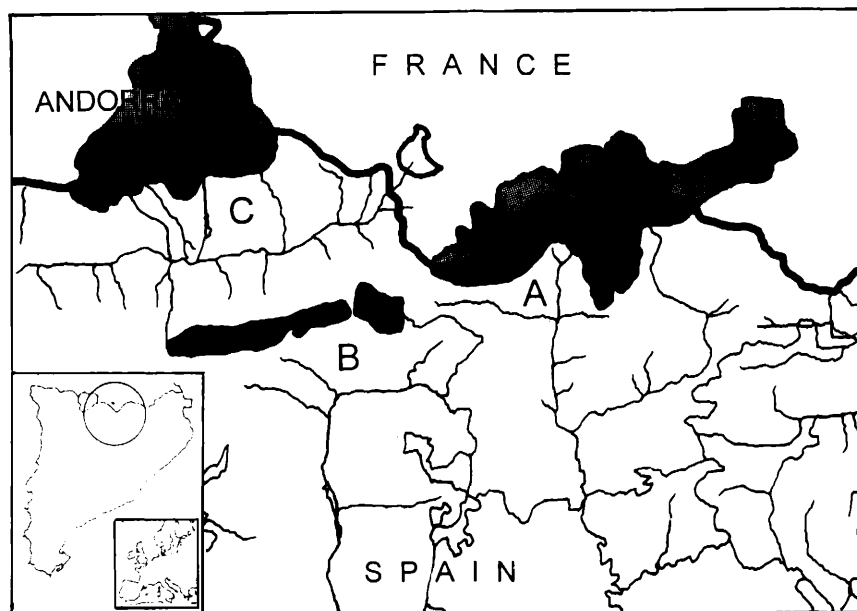


Figure 1. Breeding distribution of Eurasian Dotterel *Charadrius morinellus* in Spanish Pyrenees: censused areas (solid). A: Vallter - Puigmal - Toses (possible). B: Cadí - Moixeró. C: Cerdanya (confirmed). Shaded areas show the prolongation of searched alpine plateaux within France and Andorra.

Observations of nesting birds were made both in the central zone of the plateau (7-10° steep) and on its slopes (10-30° steep), all of them southwards orientated. A nest under construction was found on 1 July at an altitude of 2720 m. A male was digging in a nest of 10 cm diameter and with 3 cm depth, while another male and a female were in the neighbourhood. Another lone bird was seen nearby while yet another pair was found on the same mountain at 2580 m on the same day, on the southern

slope of the plateau. At this last locality, J.L. Copete and R. Mariné (*pers. comm.*) found a nest on 24 July containing three eggs being incubated by the male. These two nests are the first to be found in the Spanish Pyrenees. The breeding success of these two nests could not be established as we were unable to relocate them on successive visits. Other possible breeding places within the area that did not give positive results were the Engorgs lake, where two adults had been seen in July

1992 (T. Mallorquí, *pers. comm.*) and at least one in July 1993 (A. del Riu, *pers. comm.*). Also no positive results were obtained from searching in the vicinity peaks within area A nor in the rest of the B and C areas although some of them have been periodically visited in search of Ptarmigan *Lagopus mutus* since 1967. The western part of area "A" (Puigmal-Toses) was not covered so satisfactorily however, and it is possible that pairs could have bred there undetected, as the French data obtained by Lescouret & Genard (1982) came from a nearby sector.

DISCUSSION

Our results indicate that Eurasian Dotterel breed regularly in a small area in the Eastern Spanish and French Pyrenees.

The distribution in the area is similar to that described in the XVIII century (Maluquer 1992), suggesting that this should not be considered as a recently established population. The existence of a local name given to the species ("Perdiu rasca") supports the historical presence of Dotterel in the study area. The area where the species has been found is close to breeding grounds in France and those suspected in Andorra, suggesting that birds breeding in the three countries belong to the same linked population.

It is also interesting to note that neither in the XVIII century, nor now, has the species been recorded during the breeding season in the central and western Pyrenees. Observations in those areas have only been made in August to September, when migrant birds occur (Pedrocchi & Dominguez 1990).

The distribution of Dotterel could be constrained by the abrupt relief of these mountains. Dotterel are confined to the scarce plain alpine plateaux: available, a habitat mainly restricted to the eastern Pyrenees. Flat alpine plateaux are almost absent in the Pyrenees west of Andorra. However, it remains a possibility that some breeding pairs occur in small numbers in isolated localities through the central Pyrenees. Factors such as soil type or flooding (Watson 1989; Galbraith *et al.* 1993) could also determine the distribution of Dotterel in the Pyrenees.

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