

Subspecies Cantabrian capercaillie *Tetrao urogallus cantabricus* endangered according to IUCN criteria

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Abstract The Cantabrian capercaillie *Tetrao urogallus cantabricus*, a subspecies of the western capercaillie, is endemic to the Cantabrian Mountains of northwest Spain. The range is separated from its nearest neighbouring capercaillie population by a distance of more than 300 km. High genetic differentiation compared to capercaillie elsewhere qualifies the subspecies as an Evolutionarily Significant Unit. An assessment according to the IUCN Red List categories and criteria showed that the subspecies qualifies as Endangered due to rapid population declines, small population size, and severely fragmented range. The implementation of a range-wide recovery plan is vital for the survival of this subspecies.

Keywords Assessment · Conservation status · Cantabrian Mountains · Evolutionarily Significant Unit · IUCN Red List of Threatened Species

Introduction

The IUCN Red List of Threatened Species (Hilton-Taylor 2000; IUCN 2004) plays a major role in conservation policy and practice. All bird species, but not subspecies, are regularly assessed for their conservation status by the Species Survival Commission (SSC) of the World Conservation Union (IUCN), based on the IUCN Red List categories and criteria (IUCN 2001). Subspecies are omitted because of capacity limitations, although the IUCN Red List categories and criteria can be applied to subspecies as well (S. Buchart, BirdLife International, personal communication) and, thus, provide valuable support for conservation action for threatened subspecies.

Despite its extended distribution in boreal Eurasia, the capercaillie *Tetrao urogallus* is of major conservation concern in Western and Central Europe both at regional and national levels (Storch 2000, 2001). Recent phylogenetic studies indicate that the subspecies *T. u. cantabricus* (Castroviejo 1967, 1975), an endemic of the Cantabrian Mountains of northwest Spain, forms a clade different from other European capercaillie (Rodríguez Muñoz et al. 2006), qualifies to be considered as an Evolutionarily Significant Unit (Moritz 1994, 2002), and therefore deserves international conservation concern.

In this paper, we use the IUCN Red List categories and criteria (IUCN 2001) to assess the conservation status of the Cantabrian capercaillie. Assigning a

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IUCN Red List category to this subspecies may strengthen the attention it receives in conservation policy in Spain and the EU, and thus the chances to implement urgent conservation action.

Methods

We used published sources and ongoing research results to assess the subspecies against the IUCN Red List categories and criteria (IUCN 2001). The assessment was conducted on behalf of the WPA/BirdLife/IUCN/SSC Grouse Specialist Group, and reviewed and corroborated by BirdLife International, the global IUCN/SSC authority for birds.

Results

An assessment of the subspecies by the WPA/BirdLife/IUCN/SSC Grouse Specialist Group against the IUCN Red List categories and criteria (IUCN 2001) showed that the Cantabrian capercaillie qualifies as Endangered under criteria EN C1 [population <2,500 individuals and decline >20% in two generations (=8 years using a generation length of 4 years following BirdLife International 2004)] and C2a(i) (population <2,500 mature individuals and continuing decline and severely fragmented range with no subpopulation >250 birds).

A 60–70% decline in the number of males at leks since 1981 has been estimated (Pollo et al. 2003), which is equivalent to an average decline of 3% per year or 22% over 8 years. Furthermore, there is evidence of a 30% decline in lek occupancy in the northern watershed of the range from 2000 to 2005 ($n=164$ leks), i.e. close to meeting criterion A3 (M.J. Bañuelos and M. Quevedo, unpublished data). The current population is probably <500 birds, although precise estimates are lacking. A total of 280–300 males was estimated in 1998 (Pollo et al. 2003). Assuming a sex ratio of 1:1, with adults making up 70–80% of the population, the Cantabrian capercaillie metapopulation is estimated at about 630 individuals (38.3% on the southern slope and 61.7% on the northern) in 2000–2003; of those birds about 500 would be adults. The decline appears to continue (M. Quevedo and M.J. Bañuelos, personal communication, 2005).

The subspecies at present inhabits an area of 1,700 km² in the Cantabrian Mountains of NW Spain. The range is separated from its nearest neighbouring capercaillie population (*T. u. aquitanus*) in the Pyrenees by a distance of more than 300 km. Compared to

a historic range of 3,500 km², the area of occupancy has declined by >50% (Quevedo et al. 2006b). The range is severely fragmented with low forest habitat cover (22%) and a fragment size distribution strongly skewed towards small values (<10 ha) (García et al. 2005). Patches of good quality habitat are scarce and discontinuous, particularly in the central parts of the range (Quevedo et al. 2006a). A recent genetic study (Rodríguez-Muñoz et al. 2006) has found that the Cantabrian capercaillie is highly differentiated from other populations in Europe and qualifies to be considered as an Evolutionary Significant Unit (Moritz 1994, 2002), because it shows the lowest level of heterozygosity and genetic variability (Rodríguez-Muñoz et al. 2006) as compared to several European populations.

BirdLife International, the IUCN/SSC authority for birds, has confirmed that the Cantabrian capercaillie appears to qualify as Endangered C1; C2a(i) (S. Burchart, personal communication). We hope that this assessment according to best available scientific knowledge will lead to international recognition of the fact that the risk of extinction of the Cantabrian capercaillie is real. The subspecies is in jeopardy, and determined action, based on sound scientific advice and across provincial boundaries, is urgent. The implementation of a range-wide and legally binding recovery plan is overdue for this natural heritage of the Cantabrian Mountains to stand a chance of survival.

Zusammenfassung

Cantabrisches Auerhuhn *Tetrao urogallus cantabricus* nach IUCN Kriterien gefährdet

Das Cantabrische Auerhuhn *Tetrao urogallus cantabricus* (Castroviejo 1967) ist eine in den Cantabrischen Bergen Nordwest-Spaniens endemisch vorkommende Unterart des Auerhuhns. Ihr Verbreitungsgebiet ist mehr als 300 km von der nächsten benachbarten Population entfernt. Aufgrund ausgeprägter genetischer Differenzierung im Vergleich zu Auerhühnern anderer Herkünfte qualifiziert diese Unterart als evolutionär bedeutsame Einheit (*Evolutionarily Significant Unit*). Eine Bewertung nach Rote-Liste Kriterien und Kategorien der IUCN zeigte, dass die Unterart aufgrund rapider Abnahme und geringer Größe der Population sowie aufgrund des stark fragmentierten Verbreitungsgebiets als “endangered” (gefährdet) einzustufen ist. Die Umsetzung eines das gesamte Verbreitungsgebiet umfassenden Rettungsplans ist entscheidend für das Überleben dieser Unterart.

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