

## The Corncrake (*Crex crex*) in Friuli-Venezia Giulia (North-eastern Italy)

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**Abstract** - The following article is a summary of the current levels of knowledge available for the Corncrake in the Region Friuli-Venezia Giulia, especially with regard to studies carried out from the middle of the 1980's onwards.

This rail species has been the subject of continuous study since the end of the 1980's in certain sample areas of Upper Friuli both through the collection of general data and, from 1993 onwards, breeding censuses carried out at least twice in each nesting season. During the 1995 nesting season a breeding survey was carried out covering the entire territory of the Region.

The studies have enabled us to establish that in Friuli-Venezia Giulia the species is a regular migrant and nesting species that is occasionally present even in the autumn and winter when one occasionally encounters individuals that for various reasons (injuries, handicaps or disease) are unable to migrate.

The regional population censused in 1995 yielded 203 calling males largely located in the central-north part of the Region at an altitude between 100m a.s.l. and 1600m a.s.l. (68,8% of the calling males were found between 500m a.s.l. and 999m a.s.l.). In Upper Friuli, for the period 1993-1999, the majority of the calling males (51,3%) were located between 200m a.s.l. and 399m a.s.l..

The bird is almost completely absent below 200m a.s.l. as a result of the high levels of human impact on the environment and the subsequent absence of suitable habitats for the species. The increasing rarity of the species above 1100m a.s.l. is due to the lack of broad valley bottoms and human settlements with their regularly cut hay meadows. The upper altitudinal limit for the species is determined by the disappearance of grassland habitats which are replaced by krummholz scrub, screes and bare rock.

The environment favoured by the species in Friuli-Venezia Giulia seems to consist of relatively humid hay meadows with good vegetational cover which are regularly cut in areas with at most a slight slope.

The authors hope that concrete protection measures for the species will be taken with regular monitoring over the years with a view to gathering information on the habitats used by the birds so that appropriate conservation projects can be undertaken.

### Introduction

The information regarding the presence, distribution and current status of the Corncrake in Friuli-Venezia Giulia and the rest of Italy is sparse. Only recently has there been an increase in scientific interest in the species and there have been some contributions which have improved, if only slightly, the current state of knowledge.

According to Vallon (1907) the bird in Friuli was "common in summer, departing in October when they are very numerous". Following on from this, until the 1980's, there is an almost total absence of published data even though the bird was well known to ordinary people, in particular to farmers, livestock owners and hunters. In the Friulan language there are in fact a some names for the Corncrake still in use, for exam-

ple "Coiot da la cultura" in the municipality of Forni di Sopra and both "Crac" and "Coiat" in the municipality of Lauco (Rassati and Cescutti 1999).

Following on from this, thanks largely to some investigations of the Region's avifauna, the species was "rediscovered" and there are nesting records classified as "probable" for the Provinces of Pordenone and Udine (Parodi 1987; Utmar and Parodi 1990; AA.VV. 1991; Rassati 1997) and a confirmed nesting attempt for the Province of Udine (Utmar and Parodi 1990; Rassati 1997).

From the second half of the 1980's one of the authors (G. Rassati) undertook studies aimed at collecting as much information as possible on the Corncrake throughout the Region with a view to clarifying the current status and distribution of the species together with some notes on the habitats frequented by the birds.

## Materials and Methods

From the end of the 1980's certain populations of Corncrakes have been continuously monitored in some sample areas (250-1450m a.s.l.) located in the Tagliamento, Lumiei and Degano valleys in Upper Friuli. Initially only information on the distribution of calling males, records of other individuals and data on the sites frequented by the species during the breeding season was recorded but from 1993 onwards censuses using transect routes from 21:00 onwards were carried out during which calling males were identified. These transects were repeated at least twice in the period from late May to early July with some visits (carried out both at night and during daylight hours) during which further data on the environment in which the birds were located was collected together with information on the exact location of the birds. From 1995 onwards further sample areas were added in Upper Friuli both in the valleys already mentioned and in the But and Resia valleys in order to obtain a more detailed picture for the species.

During the 1995 breeding season the entire north-central parts of the Provinces of Pordenone and Udine were divided into 28 districts divided from each other by natural or man-made barriers such as rivers, mountain ridges, roads or railways. Each district was the responsibility of a different team of observers which had to travel along a transect within the district in the course of a visit designed to take in most of the habitat suitable for Corncrakes available in order to locate the maximum number of calling males possible which were recorded on specially designed recording sheet together with a sketch-map of the route followed. Usually it was necessary to carry out a daytime reconnaissance of the route in order to locate suitable habitat to visit later and check for problems of access.

The weather conditions in summer 1995 were very wet and affected the research, often limiting the accuracy of the data and sometimes rendering them impossible in the case of very heavy rain, not a rare event in Upper Friuli in June.

The visits (two where possible) were carried out between the end of May and the end of June from 9 p.m. onwards.

Efforts to question local farmers, livestock rearers and gamekeepers were also made but these proved to be a poor source of information.

## Results

In the course of the 1995 breeding season a maximum of 203 calling male Corncrakes were censused in Friuli-Venezia Giulia. 181 of which were in the

Province of Udine and 22 in the Province of Pordenone. These were located in 65 "leks" (sites with at least one calling Corncrake within earshot) located within the territories of 28 municipalities (Fig. 1).

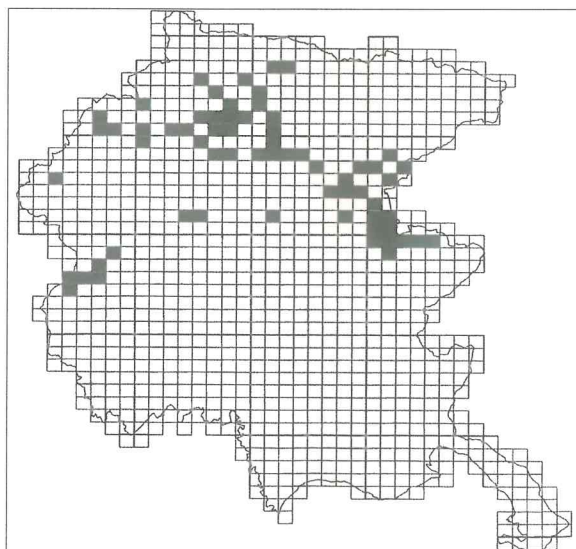


Figure 1. Distribution of singing male Corncrakes in Friuli-Venezia Giulia in 1995. The base map is that of the Regional Technical Map which consists of 981 rectangular quadrats of 3.2 Km by 2.7 Km, each therefore covering an area of 8.64 Km<sup>2</sup>.

The majority of the calling males were found between 500m and 999m above sea-level (68.8%). Only one male was found at an altitude of between 100m and 199m a.s.l. (in the municipality of Osoppo, Udine), above 1100m a.s.l. the birds were scarce and localised. The altitude at which the highest birds were found were both in the municipality of Budoia (Pordenone) and were heard between 1500m and 1599m a.s.l. (Fig. 2).

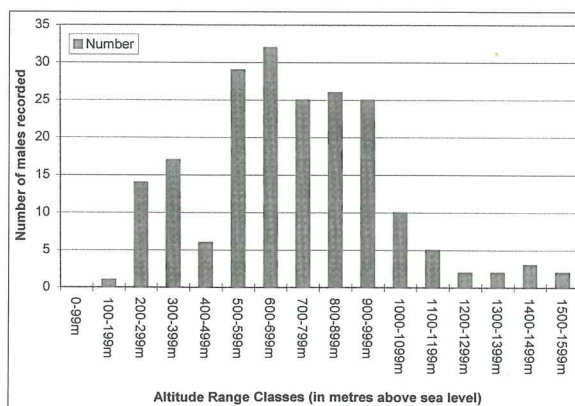


Figure 2. Distribution of singing male Corncrakes by altitude in Friuli-Venezia Giulia in 1995.

In the more representative sample areas in Upper Friuli which were studied for several years the number of calling males varied from a minimum of 12 individuals (minimum number ascertained) in 1996 through to a maximum of 26 calling males (minimum number ascertained) in 1999 (Fig 3).

In Upper Friuli the majority of individuals (51,3%) were counted between 200 and 399 metres above sea-level (Fig. 4). From 400m to 1099m a.s.l. the number of individuals is variable and rather low. Only 10 individuals were located between 1100m and 1399m a.s.l. The highest calling bird was found at about 1400m in the municipality of Sauris (Udine).

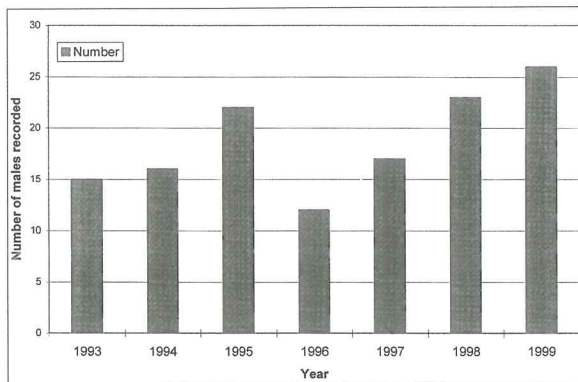


Figure 3. Number of singing male Corncrakes in some representative areas of Upper Friuli in the period 1993-1999.

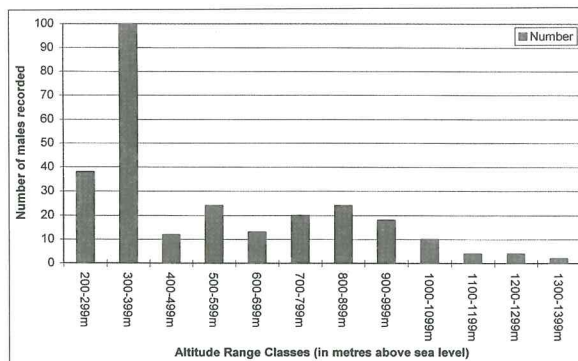


Figure 4. Distribution of singing male Corncrakes by altitude in the sampling areas of Upper Friuli in the period 1993-1999.

When one considers these numbers it is remarkable that in recent years there have been only three proven cases of nesting by Corncrakes in Friuli-Venezia Giulia: two in the municipality of Socchieve (Carnia) 15<sup>th</sup> June 1988 and in the course of the 1995 breeding season (Rassati 1997)

and another near the village of Monteaperta in the municipality of Taipana (in the valley of the river Cornappo) in July 1990 (Utmar and Parodi 1990).

## Discussion

The research carried out from the second half of the 1980's onwards has enabled us to establish that the Corncrake in Friuli-Venezia Giulia is a regular migrant and breeder which is occasionally present in autumn and winter though these records probably refer to individuals which for various reasons (injuries, handicap or disease) have found it impossible to migrate. We are also able to state that the bird is more widely distributed in the Region than previously thought and quite common in certain circumscribed areas.

The preferred environment during the breeding season consists of fairly humid hay meadows with good vegetational cover, cut regularly and in areas which are level or only a slight slope.

The Corncrake is rare and localised during the breeding season in the central and southern parts of the Region while it seems quite uniformly distributed in the central-north part (Fig. 1), particularly in the Province of Udine, with the exception of two areas: Upper Pordenone and the Canal del Ferro-Valcanale. This is probably the result of vast areas of habitat unsuitable for the species (woods, bare rock, scree and river beds) and because of a lack of observer coverage. Carnia is the area with the largest concentration of birds with the species found in every municipality. In the 1995 breeding season 71.5% of the municipalities of Carnia held approximately half of the subjects heard in the entire Region.

The altitudinal distribution shown in figure 2 can be explained in that the areas situated below 200m a.s.l. are subject to heavy human influence and that areas potentially suitable for the species are occupied by urban areas, industrial complexes, and especially intensive agriculture creating a highly degraded environment in which there is no space for the species. Beyond 1100m a.s.l. the species becomes rarer because the areas of broad valley bottoms are absent as are villages and hamlets with their regularly cut hay meadows. The upper limit for the species is determined by the disappearance of grasslands and their replacement with scrub, scree and bare rock.

The altitudinal distribution for the species shown in figure 4 is due to the wide valley bottoms present along the Tagliamento between 200m and 399m a.s.l. occupied by hay meadows on level ground which are cut annually. Higher up fewer birds are found for the same reasons indicated at a regional level.

Figures 2 and 4 illustrate some differences in the presence of the birds in the two respective study areas but at the same altitude. This is due to the different time-frame of the two studies and the availability of many areas suitable for Corncrakes between 500m and 999m above sea level at a regional level.

From the study carried out over a number of years it can be seen that the variation in the number of calling males in the sample areas in Upper Friuli, although varying quite widely in percentage terms has not varied greatly overall (Fig. 3) but at the level of a single sample site one year may produce 8-10 calling males while the following year only 1 or 2 are present (and vice versa). This is probably due to the fact that the males seem to gather to call around the first individual(s) to arrive. Males arriving later seems to be irresistibly drawn by the calls of conspecifics and gather in clusters around him, forming leks where up to ten individuals can be found in a relatively limited area. The number of calling males (a maximum of 203) located at a regional level during the 1995 breeding season is certainly an underestimate given the fact that some suitable areas were not visited. This figure represented approximately 5% of the population for the species of European Union (c.4000 calling males according to Tomialojc 1995 even after the addition of "Corncrake-rich" countries such as Austria, Sweden and Finland in the mid-1980's). This significant point highlights the importance of concrete protection measures for the species at a regional level where it is the only nesting species classified as "Globally Endangered" (Grimmett R.F.A. and Jones T.A. 1989) and in accordance with recent directives of the European Union. This can be achieved through regular monitoring and the gathering of information on the habitats frequented by the species with a view to developing appropriate conservation projects. Recent changes in the Common Agricultural Policy and possibilities offered under regional rural development legislation offer perhaps the best hope for the saving of this species for posterity.

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**Riassunto** - Viene proposta una sintesi delle conoscenze sul Re di quaglie in Friuli-Venezia Giulia in relazione, soprattutto, ad alcuni studi effettuati dalla seconda metà degli anni '80 in poi. Il rallide è stato costantemente indagato dagli ultimi anni '80 in alcune aree campione dell'Alto Friuli sia tramite assunzione di informazioni generali che di censimenti (dal 1993 in poi) compiuti almeno 2 volte nel corso del periodo riproduttivo. Durante la stagione di nidificazione 1995 è stata condotta una ricerca su tutto il territorio regionale.

Le indagini svolte hanno permesso di stabilire che la specie in Friuli-Venezia Giulia è migratrice regolare e nidificante e può essere presente pure nel periodo autunno-invernale grazie ad individui impossibilitati per varie cause (ferite, menomazioni, malattie) a migrare.

La popolazione regionale nel 1995 è risultata ammontare a 203 maschi cantori situati perlopiù nella zona centro-settentrionale della Regione ad un'altitudine compresa fra 100 m s.l.m. e 1600 m s.l.m. (il 68,8% di essi cantava fra 500 m s.l.m. e 999 m s.l.m.). Nell'Alto Friuli, considerando il periodo 1993-1999, la maggior parte (51,3%) dei maschi in canto è stata contattata fra 200 m s.l.m. 399 m s.l.m..

L'uccello è quasi totalmente assente al di sotto di 200 m di quota a causa dell'elevata antropizzazione del territorio con conseguente degrado degli ambienti idonei alla specie. La diminuzione degli effettivi oltre 1100 m s.l.m. si deve alla mancanza di ampie zone di fondovalle ed alla rarefazione degli abitati e conseguentemente delle aree a prato regolarmente falciate. Il limite superiore è determinato dalla scomparsa degli ambienti prativi e pascolivi a favore di arbusteti, ghiaioni e rocce.

L'ambiente prediletto in Friuli-Venezia Giulia sembra essere costituito da prati abbastanza umidi, ad elevata copertura erbacea, regolarmente falciati e posti in aree a scarsa pendenza o pianeggianti.

Si auspica l'adozione di concrete misure di protezione della specie tramite un monitoraggio ripetuto negli anni, finalizzato soprattutto all'assunzione di informazioni relative agli ambienti frequentati, in modo da poter stilare appropriati progetti di salvaguardia.

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