Numbers and population trends of the Corncrake *Crex crex* in the Czech Republic: results of a 20-years monitoring study

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Long-term monitoring of Corncrake numbers and trends was conducted in population strongholds of the species in the Czech Republic, in higher altitudes, since the mid 1990s. Night counts of calling males were performed in the Šumava, the Novohradské Mountains and the Krkonoše. Long-term trends were similar in all three study sites. Maximum numbers were recorded in 1998–2003 after an increase in the 1990s. Later on, numbers decreased everywhere, and these changes coincided with changing intensity of agriculture.

Key words: Corncrake *Crex crex*, long-term monitoring, Czech Republic

1. Introduction

The Corncrake was widely distributed and quite common across the territory of the Czech Republic until the middle of the 20th century (Šťastný & Bejček 1993). In the following decades its numbers decreased sharply because of an intensification of agriculture. At the end of the 1980s the total population in the country was estimated at 200–400 calling males only (Šťastný & Bejček 1993) and the distribution was restricted to higher altitudes, where meadows were mowed later in the season (Šťastný *et al.* 1996).

After the change of the political and economic system in 1989, the intensity of agriculture decreased. Part of agricultural land in less favourable areas was temporarily abandoned or managed irregularly. As a result of this reduced land use and management, numbers of Corncrakes increased during the 1990s. At the end of the decade the number of calling males was estimated at 1,500–1,700, with strongholds of the national population in higher altitudes and in military training areas (Bürger *et al.* 1998). In this paper, a more detailed overview of numbers and trends in the Czech Republic is given.

2. Material and methods

Regular monitoring of Corncrake numbers was launched in 1993 to record and understand short- and long-term population trends in more detail. In 1993, JP together with Petr Bürger and Jan Hora started a long-term monitoring in a study area in Šumava, in 1997 expanded with monitoring in the Novohradské Mountains. Monitoring in Krkonoše, coordinated by JF in cooperation with Jaroslav Fišera and Miroslav Lubas, started in 1998.

All three regions are mountainous areas. The study sites were located at altitudes of 600–950 m a.s.l. in the Krkonoše and Novohradské Mountains and 730–950 m in Šumava (see Fig. 1 for typical breeding habitat in Šumava and Fig. 2 for one of the best Corncrake localities in Krkonoše).

Censuses of calling males were conducted two times a year, at the end of May and at the end of June. Corncrake

Fig. 1: Breeding habitat of the Corncrake near the village of Dobrá, Šumava, ca 750 m a.s.l. (12th August 2015). – *Bruthabitat des Wachtelkönigs im Böhmerwald nahe Dobrá, ca. 750 m ü. NN.*
Photo: J. Pykal

Table 1: Numbers of calling male Corncrakes in three study areas in the Czech Republic in 1993–2015. '-' = no data. – *Anzahl rufender Wachtelkönige in den drei Untersuchungsgebieten 1993–2015.* '-' = *keine Zählung*

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Šumava – *Böhmerwald*	32	24	28	26	17	38	47	**59**	44	33	**59**	46	29	49	29	39	-	27	20	-	-	34	34
Novohradské Mountains – *Gratzener Bergland*	-	-	-	-	28	44	-	-	-	-	-	31	25	27	38	40	32	19	24	20	25	37	31
Krkonoše – *Riesengebirge*	-	-	-	-	-	60	68	84	102	**105**	82	80	72	37	58	80	71	39	76	41	55	55	59

numbers were surveyed on stable transects travelling by car with stops at distances of ca 500 m, in some cases also walking. Surveys were made at night (23:00–04:00 h CEST) under suitable weather conditions, i. e. without rain and strong wind. The census which recorded the higher number of males per year was taken as the number of males for a particular year.

3. Results and Discussion

Numbers of calling males varied from 17 to 59 in the study plot in Šumava, from 19 to 44 in the Novohradské Mountains and from 37 to 105 in Krkonoše (Table 1). Long-term trends were similar in all three study sites, with an increase in the 1990s. Maximum numbers were reached in all monitored areas in 1998–2003 (Fig. 3). Later on, numbers of Corncrakes decreased everywhere. The fluctuations, however, were not entirely synchronous, maxima and minima in particular study sites were recorded in different years. The overall decrease coincided with the accession of the Czech Republic to the European Union (EU) in 2004, which was followed by an increased intensity of agriculture as a result of higher agricultural subsidies provided under the EU's Common Agricultural Policy.

At the same time, a voluntary agri-environment scheme called „Corncrake", consisting mainly of delayed mowing after 15th August, has been in place since 2005. The scheme was more attractive for farmers in non-protected regions (Novohradské Mountains) than for those in protected areas (Šumava and Krkonoše National Parks), where there was an alternative scheme called „Extensive Meadows and Pastures", applicable in protected areas only and more attractive for farmers there (almost the same payment but less strict conditions than in the Corncrake scheme, with earlier mowing allowed). This was reflected in the development of the Corncrake numbers in the monitored areas after 2004. While in the Novohradské Mountains the numbers have dropped to 70–75 % of maximum counts on average, the same figure for the Šumava and Krkonoše National Parks was 50–55 % (see Fig. 3). Unfortunately monitoring in the Novohradské Mountains was interrupted in the period 1999–2003, so we have possibly missed the peak numbers in this study site.

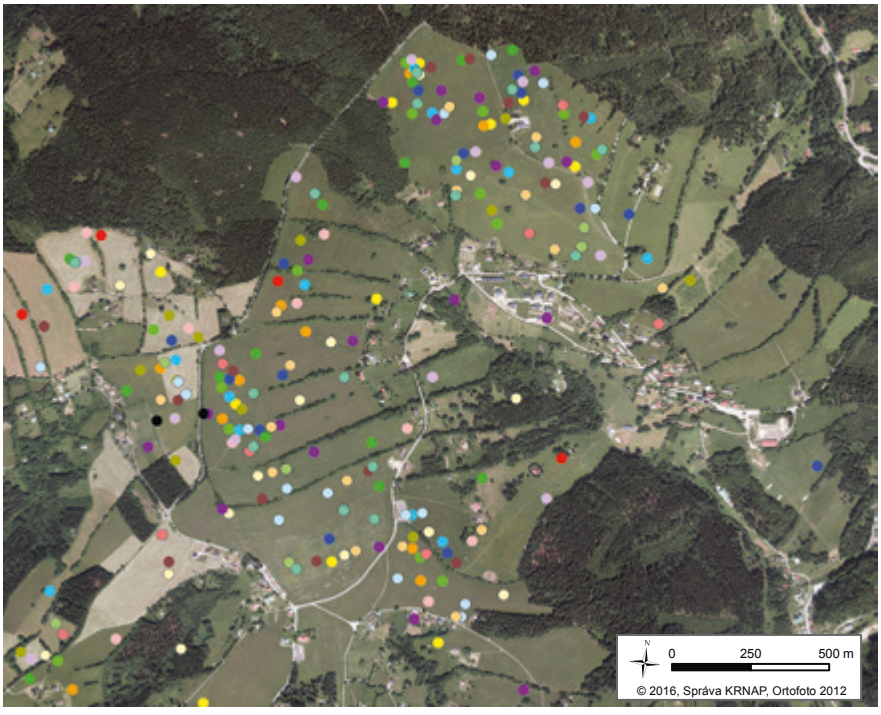

Fig. 2: Aerial view of landscape structures in one of the most suitable Corncrake sites in the Krkonoše, village of Vítkovice v Krkonoších, 700-850 m a.s.l. Each dot represents one calling male, different colours mean different years (1997–2015). – *Luftaufnahme der Landschaftsstruktur in einem der wichtigsten Wachtelkönigbrutgebiete im Riesengebirge bei Witkowitz, 700-850 m ü. NN. Punkte zeigen rufende Männchen in den Jahren 1997-2015.*

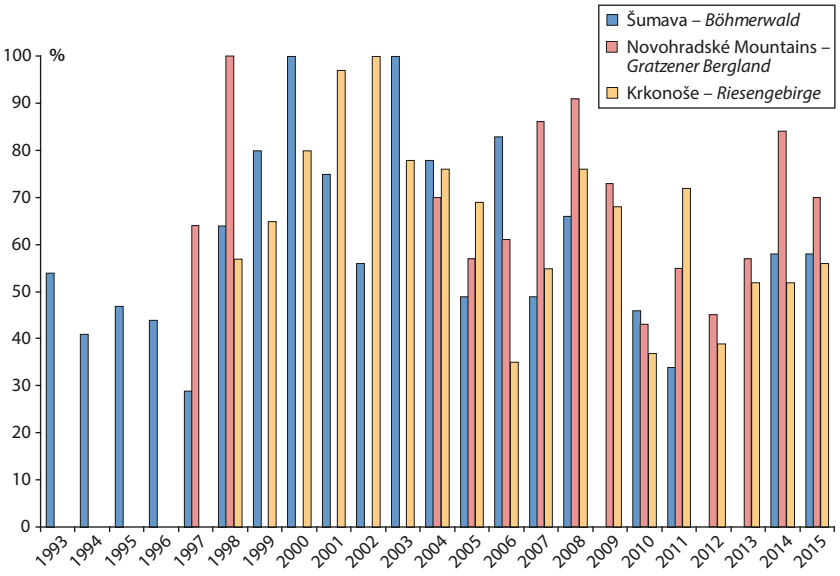

Fig. 3: Numbers of Corncrakes in three study areas of the long-term monitoring in the Czech Republic (Šumava, Novohradské Mountains, Krkonoše) in 1993-2015, expressed as the percentage of maximum numbers in particular regions. Missing columns: monitoring was not done in the respective sites and years. – *Anzahl Wachtelkönige in den drei langfristig untersuchten Gebieten in Tschechien (Böhmerwald, Gratzener Bergland, Riesengebirge) 1993-2015, dargestellt als Prozentsatz des Maximums im jeweiligen Gebiet. Keine Angabe bedeutet, dass keine Daten vorliegen.*

4. Zusammenfassung

Pykal, J. & J. Flousek 2016: Anzahl und Bestandstrends des Wachtelkönigs *Crex crex* in der Tschechischen Republik: Ergebnisse aus 20 Jahren Monitoring. Vogelwelt 136: 89 – 91.

Der Wachtelkönig war bis Mitte des 20. Jahrhunderts in Tschechien weit verbreitet und nicht selten. Durch intensivere Landnutzung gingen die Bestände deutlich zurück. Ende der 1980er Jahre kamen nur noch ca. 200–400 Männchen in höheren Lagen vor, wo die Wiesen später gemäht wurden. In drei Kernbrutgebieten der Art im Mittelgebirge wurde nach 1990 ein Langzeitmonitoring der Bestände begonnen. Nächtliche Zählungen rufender Männchen wurden zweimal jährlich, Ende Mai und Ende Juni, auf festen Transekten durchgeführt. Diese Zählungen fanden seit 1993 im Böhmerwald (Šumava), seit 1997 im Gratzener Bergland (Novohradské hory) und seit 1998 im Riesengebirge (Krkonoše) statt. Die drei Gebiete zeigten ähnliche Bestandstrends. Die höchsten Ruferzahlen wurden überall 1998–2003 erreicht, nach einem Bestandsanstieg in den 1990er Jahren. Danach gingen die Zahlen in allen Gebieten zurück. Die Bestandsveränderungen fielen zeitlich mit Veränderungen der Landnutzung nach zusammen. Nach 1990 ging die Intensität der Landnutzung zunächst zurück, um seit dem Beitritt zur Europäischen Union 2004 wieder zuzunehmen.

5. References

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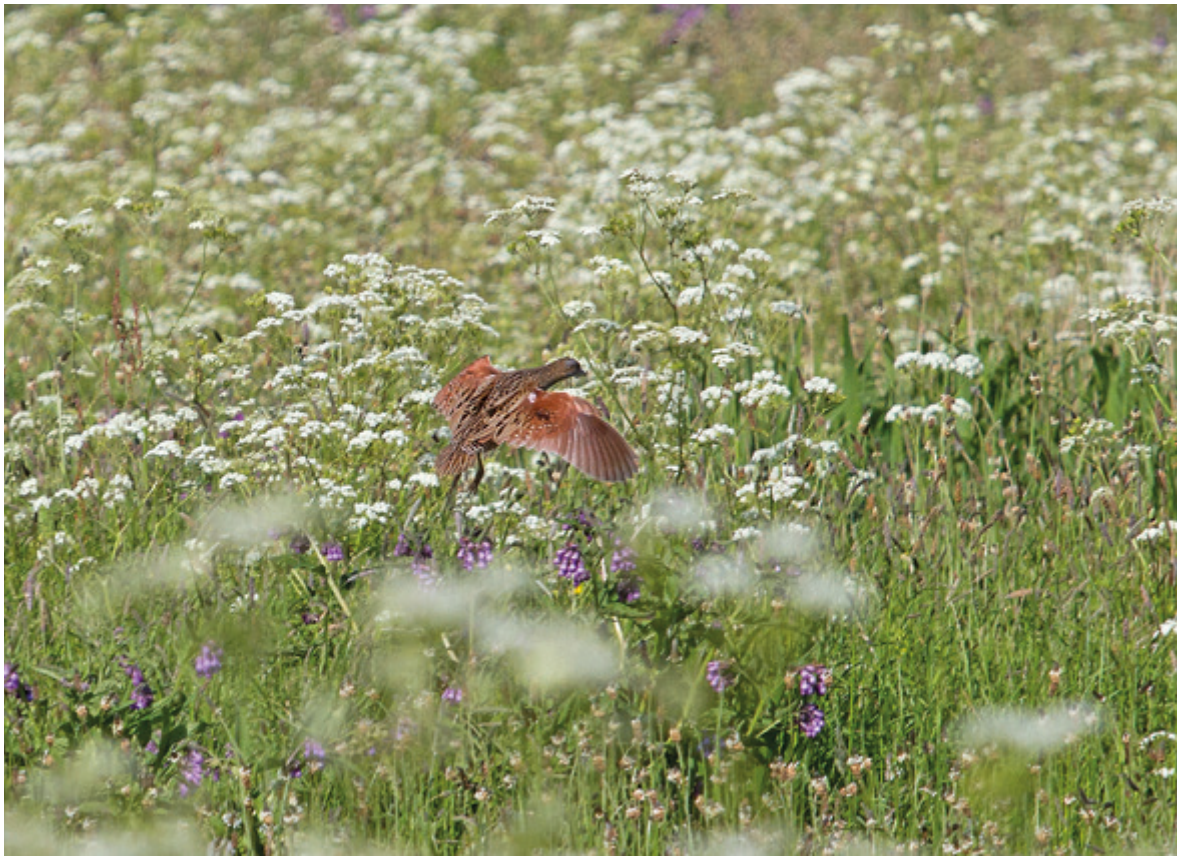

Photo: G.-M. Heinze