

Status of the Imperial Eagle *Aquila heliaca* in Bulgaria in the period between 1890 and 1993

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INTRODUCTION

By the end of the 19th century the Imperial Eagle was widespread throughout Bulgaria. At that time it was commonly called “a cross-bearing eagle” (because of the shape of the white spots on its plumage) and was considered a sacred bird. People believed it was able to divert the hailstorm clouds from the area it inhabited, thus saving the farmer’s crops (Khristovich 1890). Leverkuehn (after Boev 1978) found altogether 1824 nests of Imperial Eagles. During the next 60 or 70 years the number of breeding Imperial Eagles in Bulgaria declined precipitously. The most likely causes were the rapid changes in land use and in the agricultural landscape of that time and most of all the felling of big old lone trees that used to grow on field boundaries. Another no less important negative factor was the spreading among hunters and ordinary people of a hostile attitude towards all species of birds of prey including the Imperial Eagle, and the beginning of use of poisoned baits to control wolves etc.

Patev (1950) notes that “the Imperial Eagle is one of our rare birds”. Michev and Petrov (1979) report that for the period 1970-1978 they have established three cases of confirmed, five of probable and 11 of possible breeding of this species in Bulgaria.

The reason for this article is the project “Conservation of the Imperial Eagle in Bulgaria” developed by the Bulgarian Society for the Protection of Birds (BSPB). It is intended to carry out this project within the framework of the BirdLife International Imperial Eagle action plan and in co-operation with other conservation NGOs like the Green Balkans Association and The Birds of Prey Protection Society (BPPS), together with the Ministry of Environment.

DATA AND METHODS

In developing this article we have made use of all data about the species published between 1890 and 1993 in Bulgaria and suitable for mapping. In addition, we have included data kindly made available to us by K. Kostov, M. Dimitrov, N. Nedkov, S. Avramov and K. Chernekov, to whom we owe our sincere thanks.

Tables showing exact data on the Imperial Eagle's breeding and non-breeding distribution in Bulgaria are kept with the National Bank for Ornithological Information at BSPB. We decided against publishing them here, fearing abuse of the information by unscrupulous people. Data from tables were transferred to UTM maps of 10-km grid by methods we have used many times before (Michev & Petrov 1979; Petrov *et al.* 1991; etc).

The classification of the species based on its abundance and frequency has been done according to guidelines developed by Petrov and Michev (1986). All known breeding localities have been assigned to different geographic regions in accordance with the system used in the Geographic Atlas of Bulgaria (1987).

The population dynamics of the Imperial Eagle by seasons was studied after Makatsch (1974), Simeonov *et al.* (1990) and using our own data. The breeding season begins in early April and lasts until the end of August. Autumn wanderings and/or migration cover the period between the beginning of September and the end of November, while winter wanderings start in the first days of December and stretch until the first half of February. Spring wanderings and migration take place from the second half of February until the end of March.

DISCUSSION

The available data on Imperial Eagle breeding distribution are shown on Figure 1. For the period 1890-1979 the species was recorded in 85 (or 6.8%) of all 1240 10-km squares (covering the whole of the country.) The number of confirmed breeding pairs was found to be 41, of very probable ones 22, and of possible ones 63.

During the past 14 years (since 1980) the number of squares where breeding sites of all three classes were found has dropped to 31 (or 2.5%) of all 10-km squares. It is obvious from the above that the Imperial Eagle in Bulgaria has a very low frequency. During the latter period the number of confirmed breeding pairs was 9, that of very probable breeding pairs was 5 and of possible breeding pairs it was 21. Our own estimate of the number of breeding pairs at present is 15 to 20, which in turn also means a very low abundance. Taking this into account then, according to the system developed by Petrov & Michev (1986), the Imperial Eagle falls into the category of a species threatened by extinction. All sites of confirmed breeding found after 1980 are situated in mountainous, semi-mountainous or hilly parts of the country at an altitude of 200 to 1000m a.s.l. The largest portion of these sites - 55.6% - is along the middle course of the Tundzha river, which includes also the the Strandzha mountain. The next area, containing 22.2% of all breeding sites, is in the Rhodope mountains. The remaining 22.2% are divided evenly between Sredna Gora mountain and the Fore-Balkan Range.

During the non-breeding season there is a total of 59 sightings of the species. 59.3% of these were of wandering or migrating birds in autumn, 32.2% of birds wandering or migrating in spring and 8.5% were of winter wanderers (Figure 2).

Figure 1. Distribution of the Imperial Eagle (*Aquila heliaca*) in Bulgaria during the breeding season (1 - confirmed breeding; 2 - probable breeding; 3 - possible breeding).

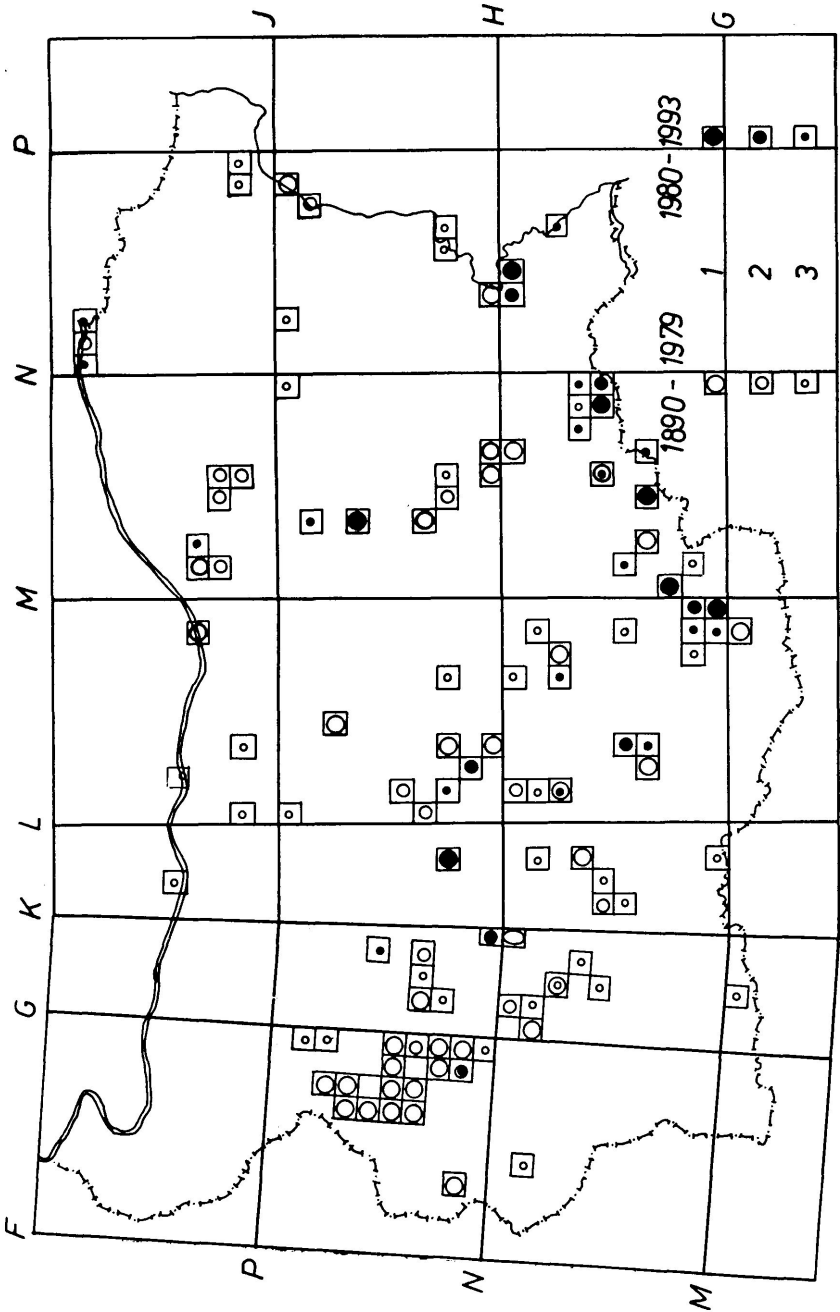
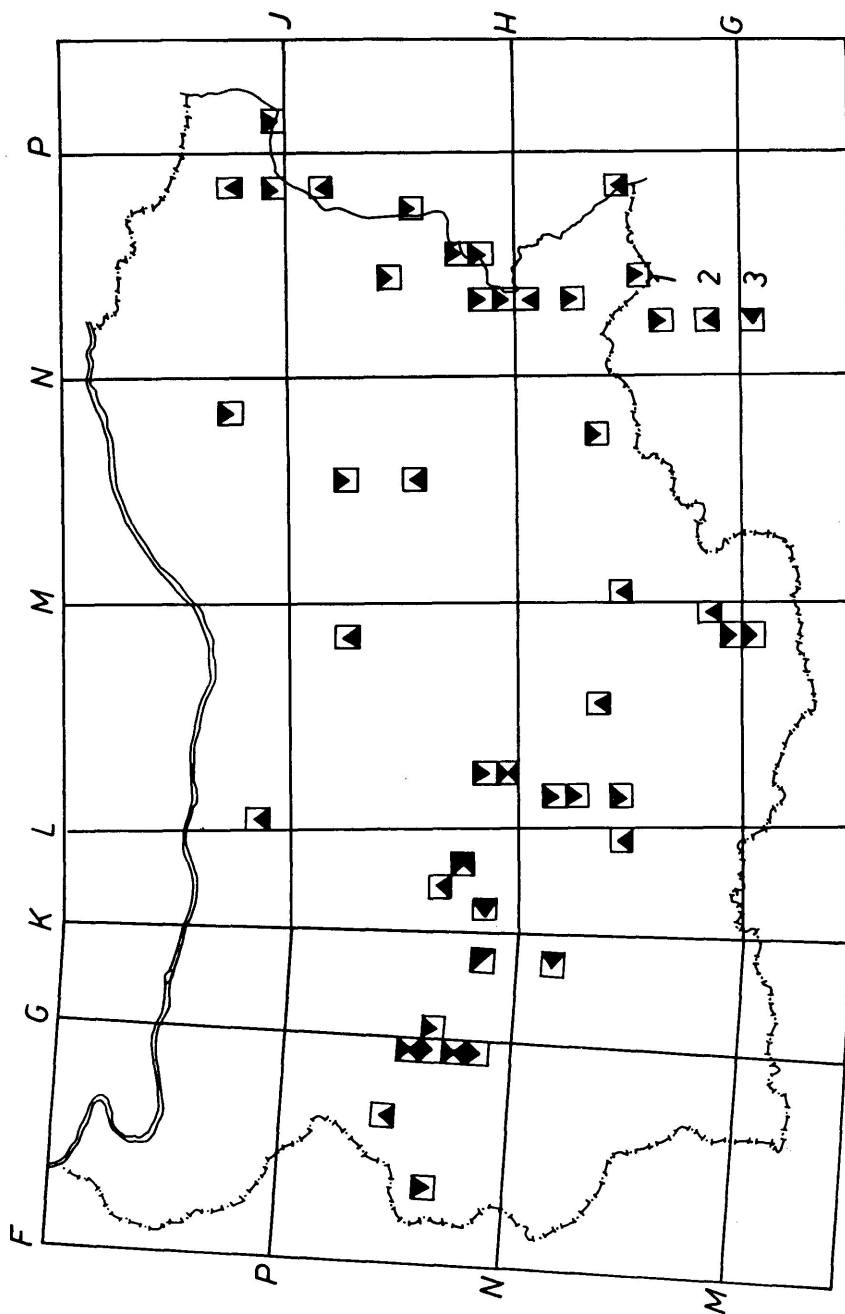


Figure 2. Distribution of the Imperial Eagle (*Aquila heliaca*) outside the breeding season in Bulgaria (1 - Autumn wandering and/or migration; 2 - Spring wandering and/or migration; 3 - Winter wandering)



CONSERVATION MEASURES SO FAR UNDERTAKEN

The Imperial Eagle is a protected species under the Law for the Protection of Nature (1967). The Law provides for fines to be paid for each killed or injured bird, amounting to a maximum of 600 leva. The same indemnity is paid for stealing eggs or eaglets from the nest. The area around one of the known nest-sites situated in Sashtinska Sredna Gora mountain was declared in 1979 as a natural landmark (one of the several types of protected areas in Bulgaria) (Michev & Petrov 1985).

CONCLUSIONS

1. Until the end of the last century the Imperial Eagle enjoyed protection by the local people based on their belief in its being a sacred bird.
2. During the past 100 years the number of breeding pairs has decreased a hundredfold, due to a complexity of factors.
3. Between 1980 and 1993 15 to 20 pairs have bred in Bulgaria.
4. The localities of confirmed breeding pairs are distributed mainly in South-east and Central Bulgaria. A programme of purposeful research is to be developed, to collect all possible information for the rest of the country.
5. All confirmed breeding sites during the last several years have been found at an altitude of 200 to 1000 m a.s.l.
6. The Imperial Eagle in Bulgaria has a very low abundance and a very low frequency, factors determining the species as threatened by extinction.
7. The area around only one breeding site has so far been declared as a protected zone.
8. Urgent measures are required both from NGOs and the appropriate governmental agencies to prevent the Imperial Eagle from becoming a non-breeding species in Bulgaria.

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