



STATEMENT

on a dissertation for the award of the educational and scientific degree **Doctor** in: field of higher education 4. Natural sciences, mathematics and informatics in the professional field 4.4. Earth sciences, scientific specialty 'Ecology and Ecosystem protection'

Author of the dissertation: Gradimir Zhelyazkov Gradev PhD student on self-study basis at the Department of Agroecology and Environmental Protection at the Agricultural University (AU), Plovdiv

Dissertation topic:

„RECOVERING OF THE LESSER KESTREL (*Falco naumanni*, Fleischer, 1818) AS A BREEDER IN BULGARIA“

Reviewer: Assoc. Prof. Ekaterina Georgieva Valcheva, PhD

Department of Agroecology and Environmental Protection at the Agricultural University - Plovdiv; field of higher education 4. Natural sciences, mathematics and informatics, professional field 4.4. Earth sciences, scientific specialty 'Ecology and Ecosystem protection', appointed a member of the scientific jury by order № РД-16-1318/23.11.2021 by the Dean of AU.

1. Actuality of the problem

The Lesser kestrel (*Falco naumanni*, Fleischer, 1818) is a small falcon, the size of a Collared dove. In the period 2000–2010 nesting of the species has not been confirmed (Barov, 2002) or the presence of birds is no longer indicated (Iñigo, Barov, 2010). In the Red Data Book of Bulgaria, the species is listed as critically endangered with no breeding population reported (Barov et al., 2015).

The most serious problem nowadays is the critically low number of populations and isolation, which prevent the small falcons' natural recovery.

The development of the topic is of current importance and is determined by the activities for recovering of the Lesser kestrel as a breeder in Bulgaria.

2. Aim, tasks, hypotheses and research methods

The aim of the Dissertation is set clearly and precisely - Study and summary of the process of recovering the Lesser kestrel (*Falco naumanni* Fleischer, 1818) as a breeding species in Bulgaria. To achieve this, four specific tasks have been performed, which correspond to the chosen topic and the main goal of the study.

In solving them, modern and adequate to the research, methods and approaches are applied.

The section Materials and methods is methodically properly structured. A large number of studies have been conducted, which are the basis of the dissertation. The results obtained are statistically processed, which is the basis for the reliability of the results.

3. Visualization and presentation of the results obtained

The Dissertation is written on 112 pages and contains 24 tables and 19 figures.

It is structured correctly and contains the necessary sections. It is written in a very good language in analytical and professional style.

The PhD student has used various tools to illustrate and summarize the results (figures, tables, diagrams and images), which allow him to specifically and accurately systematize and present the results.

4. Discussion and References

In the presented Dissertation important summaries, decisions and conclusions are made about the process of recovering the Lesser kestrel as a breeding species in Bulgaria.

The Dissertation proves that building a Release and Adaptation Module for Lesser kestrel under the "Natural Colony" system is suitable both for the adaptation of birds hatched in artificial nest boxes and for attracting birds from other colonies.

The obtained results are summarized and analyzed correctly and thoroughly, in a good scientific style.

The obtained results unequivocally show that the PhD student has the necessary training and ability to conduct research on relevant issues (in addition to his many years of practical experience in Green Balkans NGO).

The list of cited literature lists 114 sources, of which 27 in Cyrillic and 87 in Latin.

5. Contributions of the Dissertation

I accept the presented contributions in the Dissertation, and the most significant of these are the following:

Scientific contributions

- ✓ An estimate of the Lesser kestrel species' abundance was made at national level;
- ✓ The nesting parameters and the nesting success of the Lesser kestrel have been defined;
- ✓ For the first time in Bulgaria the wandering, migration and wintering of the Lesser kestrel has been studied;

Scientifically applied contributions

- ✓ The methods and approaches used in the successful recovering of the Lesser kestrel as a breeding species in Bulgaria are summarized and analyzed;
- ✓ For the first time in Europe, the process of restoring the Lesser kestrel as a nesting species in a country where the species was completely extinct as a breeding species has been described.

- ✓ For the first time in Bulgaria, satellite and radio transmitters were used to track the Lesser kestrel;
- ✓ Roosta, routes of pre-migration wanderings and the concentration sites of individuals from the Bulgarian population in Bulgaria, Greece and Turkey have been identified for the first time.

6. Critical remarks and questions

I have no critical remarks or questions to the PhD student.

7. Published articles and citations

In connection with the Dissertation, 14 scientific publications have been published in renowned and indexed editions. All publications are co-authored, in 4 of which he is the first author, which emphasizes the leading role of the PhD candidate and his work on this issue. A total of 16 citations from two of the dissertation articles were found in the global database Scopus. The total number of points is 30.66, which meet the national minimum requirements for educational and scientific degree Doctor, according to the Act on development of the academic staff in the Republic of Bulgaria.

The presented abstract objectively reflects the structure and content of the Dissertation.

CONCLUSION:

Based on the different research methods learned and applied by the PhD student, correctly performed experiments, summaries and conclusions, I believe that the presented Dissertation meets the requirements of ADASRB and the Regulations of the Agricultural University for its application, which gives me reason to evaluate it **POSITIVE**.

I take the liberty to propose to the Honorable Scientific Jury to vote as well **positive** and to award **Gradimir Zhelyazkov Gradev** with educational and scientific degree **Doctor** in the scientific specialty 'Ecology and Protection of ecosystems'.

Date: 22.12.2021
Plovdiv

Подписите в този документ за заличени във връзка с чл.4, т.1
От Регламент (ЕС)2016/679 (Общ Регламент относно защитата на данни)