

STATEMENT REVIEW

by assoc. prof. Stanislava Peicheva Peeva, PhD

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of a dissertation thesis for awarding the educational and scientific degree “Doctor”

field of higher education: 4. Natural sciences, mathematics and informatics

professional area: 4.3. Biological sciences

science major: Ecology and ecosystem preservation

author: Emil Sashev Yordanov

topic: Breeding parameters and phenology of the Egyptian vulture (*Neophron percnopterus* Linnaeus, 1758) in Bulgaria

research supervisor: assoc. prof. Dilian Georgiev, Dsc

1. General presentation of the procedure and the doctoral student

I have been appointed as a member of a scientific jury to ensure the procedure for the defense of a dissertation according to order RD-21-518/28.02.2024 of the Rector of Plovdiv University "Paisiy Hilendarski". The author of the dissertation on the topic: "Breeding parameters and phenology of the Egyptian vulture (*Neophron percnopterus* Linnaeus, 1758) in Bulgaria" is Emil Sashev Yordanov. The procedure concerns the awarding of a scientific and educational degree "Doctor" in the field of higher education 4. Natural sciences, mathematics and informatics, professional area 4.3. Biological Sciences, science major Ecology and Ecosystem Preservation.

The candidate has submitted a set of materials, which is in accordance with the Law for the Development of the Academic Staff in Bulgaria and the Rules for the Development of the Academic Staff of Plovdiv University "Paisii Hilendarski".

The doctoral student had been trained in the Ecology and Ecosystem Preservation doctoral program at the Department of Ecology and Environmental Protection of the Faculty of Biology at Plovdiv University "Paisii Hilendarski" during the period 2020-2024. As a Graduated Ecologist from the same university, he has been working on projects in the field of conservation of wild birds and their habitats since 2011.

2. Actuality of the topic

The topic is significant and relevant considering the studied species Egyptian vulture *Neophron percnopterus*, whose populations are decreasing worldwide. The fact that the intensive efforts made in the last ten years for the species conservation in our country have not been of particular success, aroused a need for more studies to change the planned measures in the strategy for the species conservation.

3. Knowing of the problem

The thorough literature review along with the well-structured detailed literature review section lead to the competent interpretation of the research problem.

4. Research methodology

The candidate's long-term experience as a field expert has contributed to the acquisition of skills in the application of modern methods for investigating birds of prey and the monitoring of rock-nesting species. This ensures the success of the field work carried out by the doctoral student during the course of the research. A five-year comprehensive monitoring of the known active nesting areas was carried out, including direct observations and application of modern non-invasive methods for investigation - camera trapping and drone observations.

5. Characterization and evaluation of the dissertation work and contributions

The dissertation is written on 144 pages, together with the applications. It is structured in eight main sections, the volume of which corresponds to their importance. A large set of literary sources was studied - a total of 410, of which 24 in Cyrillic and 386 in Latin. This testifies to an in-depth studying and getting to the essence of the problem. As a result, the doctoral student managed to derive a clear goal with a sufficient number of tasks to achieve it. The author includes 5 tables and 32 figures in the main text of the dissertation to support and illustrate the applied methods and the obtained results.

A brief description of the study areas was made. In my opinion, it lacks an element pointing to the target species, and it seems disconnected from the general text. It would be better to include the landscape features make them suitable nesting habitats for Egyptian vultures.

Both traditional (direct observations) and modern methods (camera traps and drone observations) were used in the execution of the tasks. Owing to their combination, a remarkable dataset has been collected about the nesting parameters and breeding peculiarities of the Egyptian vulture in Bulgaria, shedding light in this regard. Appropriate statistical processing to the obtained results was applied to ensure significance.

The main part of the dissertation is the "Results and Discussion" section. The obtained results have been reported and analyzed in detail, along with a comparison with previous studies and a discussion of probable reasons for the obtained values. The results are illustrated by a considerable number of figures and tables.

A total of 16 conclusions were drawn from the research and the results obtained. To my opinion this section needs some revising. Many of the conclusions include an element of discussion and cite values, already reported in Results and Discussion. The formulation of the conclusion should be a consequence of the discussion and bear its own uniqueness.

The significance of the dissertation is emphasized in the specified contributions, which are of original, confirmatory and scientifically applied essence. I highly evaluate these of an applied scientific essence, as they could support future studies of young researchers.

The dissertation concludes with abounding original photographic material distributed in 3 Applications on a total of 19 pages. This clearly proves the direct participation of the doctoral student in the field activities ensuring the study.

6. Evaluation of the publications and personal contribution of the doctoral student

Two research articles in respect to the dissertation have been presented in refereed and indexed journals, one of which in Q1 and the other in Q4, which is a guarantee of numerous

citations of the presented results. One of the publications comprises large author team of foreign researchers, which demonstrates the doctoral student's ability to work in international teams. The minimum national requirements for this criterion have been met, with 37 points being submitted out of the required 30 points.

7. Abstract

The presented abstract is 32 pages long and objectively and correctly reflects the structure and content of the dissertation work.

8. Conclusion

The presented dissertation work, as well as the publications related to it, represent a significant contribution to science and fully meet the requirements of the Law for the Development of the Academic Staff of the Republic of Bulgaria and the Regulations for the Development of the Academic Staff of Plovdiv University "Paisiy Hilendarski". They demonstrate that the doctoral student has acquired theoretical knowledge and skills for independent conducting of scientific research.

All of stated up to this point gives me the reason to confidently express my "FOR" awarding of the scientific and educational degree "Doctor" to Emil Sashev Yordanov in the field of higher education 4. Natural sciences, mathematics and informatics, professional area 4.3. Biological Sciences, science major Ecology and Ecosystem Preservation.

27.03.2024 г.

Prepared the opinion:

Stara Zagora

/assoc. prof. St. Peeva/