

REVIEW STATEMENT

by

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About a dissertation for awarding the educational and scientific degree “doctor” (PhD) by:
Field of higher education: 4. Natural sciences, mathematics and informatics
professional direction, 4.3. Biological Sciences,
doctoral program “Ecology and ecosystems conservation”

Author: *Emil Sashev Yordanov*

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

Scientific advisor: Assoc. Prof. Dilian Georgiev, DSc (University of Plovdiv “Paisii Hilendarski”, Faculty of Biology, Department of Ecology and Environmental Conservation”).

1. General presentation of the procedure and the PhD student

By Order No. PD-21-518 of 28.02.2024 by the Rector of the University of Plovdiv "Paisii Hilendarski" I was appointed a member of the scientific jury for providing a procedure for the protection of dissertation, entitled "Nest parameters and phenology of the Egyptian Vulture (*Neophron percnopterus* Linnaeus, 1758) in Bulgaria" for the acquisition of the educational and scientific degree "Doctor" (PhD) in the field of higher education 4. Natural sciences, mathematics and informatics, professional field 4.3 Biological Sciences, doctoral program “Ecology and Ecosystems Conservation”. The author of the dissertation work is Emil Sashev Yordanov - a PhD student in regular form of training (deducted with the right to defense) with a scientific supervisor Assoc. Prof. Dilian Georgiev, DSc (University of Plovdiv, Faculty of Biology, Department of Ecology and and Environmental Conservation).

The materials submitted by Emil Sashev Yordanov are in accordance with Article 36 (1) of the Rules for Development of the Academic Staff of the University of Plovdiv, includes the following documents:

- a request to the Rector of Plovdiv University for the opening of the procedure for the defending of dissertation work;
- Autobiography (CV) in European format;
- Protocol of the Department Council related to reporting the willingness to open the procedure and advance the dissertation work to open defence;
- Dissertation work;
- Abstract of the dissertation work;
- A list of scientific publications on the topic of the dissertation work;
- Copy of the scientific publications;

- A list of noted citations;
- Declaration of originality and authenticity of the attached documents;

The PhD student presents 2 publications.

2. Relevance of the subject matter

The study of nesting parameters in different bird species is one of the fundamental areas in ecological studies. A study on the nesting parameters and phenology of the Egyptian vulture is an up-to-date topic that reveals not only new aspects of the biology and ecology of the species, but is also a step towards the development of adequate conservation measures to protect this endangered species.

3. Knowing the problem

The PhD student knows the problem perfectly. This is evident from both the detailed literary review, which he evaluates and analyzes, which helps to resolve the goal and tasks, as well as the long period of work dedicated to the problem and the hundreds of consultations and joint cooperation with a number of specialists in the field (listed in the chapter Acknowledgements).

4. Study methodology

Contemporary methods were used to study the nesting parameters and phenology of the Egyptian vulture, namely: monitoring of all known nesting territories of the species in three regions of the country - Eastern Rhodopes, Eastern Balkan Mountains with the surroundings and Rousenski Lom; for the registration of the active breeding territories, all known places have been visited, and observations from the stationary point have been carried out, and also a route method has been applied to check appropriate scales and adjacent territories to detect the birds. The following breeding parameters have been studied: productivity, nesting success, breeding success, ratio of stunned pairs, ratio of successful couples. Particularly innovative is the testing of a methodology for establishing nesting success in the Egyptian vulture through a drone in the Eastern Rhodopes. In order to establish the nest biology and the phenology of the species, observations have been performed on the behavior of six pairs of Egyptian vultures, through a photo caps in their nests. The PhD student uses modern statistical and GIS methods and applies them with skill, which shows its excellent methodological and practical preparation for field explorer.

5. Characteristics and evaluation of dissertation work and the contributions

The dissertation work contains 146 pages of which 31 pages with literature, containing 410 literary sources, of which 24 are in Cyrillic and 386 in foreign languages, 5 tables and 32 figures. The structure of the dissertation work, according to the provided "Contents" is as following: Introduction - 2 pages, Literary review - 16 pages, Aim and tasks - 1 page, Physico-geographic characteristics of the studied area - 2 pages, Material and methods -10 pages, Results and Discussion - 49 pages, Conclusions - 2 pages, Contributions - 2 pages, Used literature - 31 pages, Appendices - 17 pages.

The main weight of the dissertation work is the chapter "Results and Discussion". It presents the results from the applied modern methods of this kind of study, supported by adequate statistical

processing and GIS analysis and visualization. The PhD student also offers specific conservation measures, which also shows the high scientific and conservation contribution of the study.

The work ends with conclusions (16 in number), where the established trends of the study are summarized, which fully meets the aim and tasks set. The nature and authenticity of the material on which the conclusions are built are not doubtful. The author was sufficiently precise, both in the field work and in the analysis and the processing of the results.

6. Assessment of the publications and the personal contribution of the PhD student

The PhD student presents two publications, published in prestigious, specialized, zoological journals, with an impact factor. One published in *Animal Conservation* (Q1), with a large author's team in which the PhD holds a penultimate place and the other, published in *Acta Zoologica Bulgaria* (Q4). The total number of points that these publications carry is 37, which meets the requirement of 30 points according to criterion G, according to the Law and the regulations for its application.

The dissertation work and the work done on it are entirely personal work of the PhD student. There is no evidence of unscrupulous use of foreign unpublished or published results, observations, ideas, etc.

7. Abstract of the dissertation work

It covers 31 pages and concisely reflects the introductory 3 sections, a little in more detail - the "Results and Discussion". I found a complete uniformity of the dissertation work and the abstract. It is written well, tight, clearly and meets the requirements of the respective rules, reflecting the basic results achieved in the dissertation work.

8. Recommendations for future use of the dissertation contributions and the results

The contributions presented in the dissertation work are original and stem directly from the performance of the purpose and tasks of the study. They could help directly take conservation measures and actions to preserve the Egyptian vulture - a disappeared species in our avifauna.

Conclusion

The dissertation work *contains scientific, scientific-applied results, which are an original contribution to science* and meet all the requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria, the Rules for the Implementation of the Law and the relevant Rules of University of Plovdiv "Paisii Hilendarski". The materials presented and the dissertation results fully comply with the specific requirements of the Faculty of Biology to the University of Plovdiv, adopted in connection with the Rules of the university for the application of the Law.

The dissertation work shows that PhD student **Emil Sashev Yordanov** has in-depth theoretical knowledge and professional skills in the scientific specialty "Ecology and Ecosystems Conservation" by *demonstrating* qualities and skills for conduction a scientific study.

Due to the foregoing, I convincingly give my **positive assessment** of the study, presented by the dissertation work, the abstract, results and contributions, and I offer the distinguished scientific jury to award **Emil Sashev Yordanov**, the educational and scientific degree "Doctor" (PhD) in the

area of Higher education: 4. Natural sciences, mathematics and informatics, professional field 4.3.
Biological Sciences, Doctoral Program "Ecology and Ecosystems Conservation".

20.03.2024.

Reviewer:
(Assoc. Prof. I. Mollov, PhD)