

STATEMENT

by Anelia Mihaylova Stojanova, PhD

Associate Professor at the Department of Zoology, Faculty of Biology, University of Plovdiv "Paisii Hilendarski"

of a dissertation for awarding the educational and scientific degree "**Doctor of Philosophy**"

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

Professional direction: 4.3. Biological Sciences, Doctoral program: Zoology

Author: Polina Dimitrova Hristova

Topic: "Breeding bird communities in forest fragments in the Western Thracian lowland"

Scientific supervisors: Assoc. Prof. Dr. Hristo Dimitrov, "Paisii Hilendarski" University of Plovdiv", Assoc. Prof. Dr. Georgi Popgeorgiev, National Museum of Natural History, Sofia

1. General presentation of the procedure and the doctoral student

By order No. RD-21-494 of 27 February 2024 of the Rector of the "Paisii Hilendarski" University of Plovdiv, I have been appointed as a member of the scientific jury to ensure a procedure for the defense of the PhD thesis entitled "Breeding bird communities in forest fragments in the Western Thracian lowland", in the field of higher education 4. Natural sciences, mathematics and informatics, professional direction 4.3. Biological Sciences, Doctoral program Zoology. Author of the PhD thesis is Polina Dimitrova Hristova – full-time PhD student in Zoology Department of Faculty of Biology at "Paisii Hilendarski" University of Plovdiv, with scientific supervisors Assoc. Prof. Dr. Hristo Dimitrov - "Paisii Hilendarski" University of Plovdiv" and Assoc. Prof. Dr. Georgi Popgeorgiev, National Museum of Natural History, Sofia.

The presented set of materials by Polina Hristova in electronic form is in accordance with an Article 36 (1) of the Regulations for the Development of the Academic Staff of the University of Plovdiv, includes all the necessary documents described in the application to the Rector of the "Paisii Hilendarski" University of Plovdiv. The documents are prepared and presented correctly and accurately. The personal contribution of the PhD student to the implementation of each stage of the dissertation work is evident. The achieved results and formulated contributions are a personal merit of Polina Hristova.

Polina Hristova graduated at “Paisii Hilendarski” University of Plovdiv“as a bachelor's degree in Ecology in 2017 and in 2019 r. she obtained a Master's degree in Biodiversity, ecology and conservation at University of Plovdiv. She defended diploma theses in the field of ornithology for graduation in both degrees of education. From 2020 to 2023, she was a full-time PhD student at the Department of Zoology of Faculty of Biology at the University of Plovdiv“Paisii Hilendarski”.

Since 2018, Polina has worked in two non-governmental organizations with environmental protection activities - Green Balkans organization-Plovdiv and the Bulgarian Society for the Protection of Birds, where she develops activities in the field of coordination and implementation of educational activities, as a project manager, specialist communications and field expert.

2. Relevance of the topic

The dissertation work of Polina Hristova is dedicated to the study of the avifauna of fragments of broad-leaved forests in a part of the Upper Thracian lowland, which is largely arable. In this sense, fragments appear as island refuges for many species of birds and the study of their diversity, distribution, structure and numbers of populations in response to anthropogenic pressures, environmental demands and processes that affect their habitats is a solid basis for the assessment of their endangerment and identification of adequate protection measures. On the other hand, birds are a suitable subject for ecological research and are used as an indicator to track changes in their habitats. The results of the dissertation can be used for comparative analyzes and assessment of changes in bird communities in relation to anthropogenic pressure and climate change. All this outlines the relevance of the study.

3. Comprehension of the research question

The literature review of the dissertation thoroughly presents the published research on the topic to date, and the PhD student demonstrates skills in analytical summaries and critical evaluation of literary sources. In her work, Polina Hristova refers to 201 sources from the literature, of which 23 are in Cyrillic. The carefully curated and summarized information shows the in-depth and purposeful preliminary theoretical preparation of the PhD student and motivates the aim, objectives and specific approaches necessary for the realization of the dissertation research.

4. Research methodology

Classical and modern approaches were applied in fulfilling the aim and objectives of the study. For the completion of the planned research for the dissertation work, a huge amount of data was collected and processed, which is a solid base for analyses.

The study was conducted in 15 fragments of lowland forests in the Western Upper Thracian Lowland, and a total of over 6,800 observations were conducted in the precisely selected sample sites. The distance method through point transects was used in the counting of the birds. The registered nesting bird species are grouped according to the preferences for the type of nesting habitat. The obtained results are processed with modern software packages and statistical methods. The appendices to the dissertation accurately present all raw data.

It can be concluded that the methods selected and used in the development of the study are appropriate to the stated objectives and were used correctly throughout the work.

5. Characterisation and evaluation of the dissertation work and additional contributions

The dissertation work of Polina Hristova contains 132 pages, it contains 20 tables, 16 figures, 20 pictures and 19 appendices, and is written according to outlined regulations. The PhD student refers to 201 sources from the literature, of which 23 are in Cyrillic. The results are presented and systematised in accordance with the aim and objectives. The dissertation is written in a very good language and style.

The analysis of the results is thorough and logically leads to clearly formulated summaries and conclusions; the original and applied scientific contributions of this work are significant, which can be broadly defined as:

Original scientific contributions:

An up-to-date assessment of the composition and species diversity of birds in fragmented lowland forests in Bulgaria was made. The density and abundance of songbird species in the lowland forests of the studied area were assessed. The influence of the structure of forest fragments on the abundance and species richness of the established bird species and the distribution of nocturnal bird species in flat forest fragments was studied and analyzed.

Applied scientific contributions:

An up-to-date faunal list of the nesting bird species of the lowland forests in the Western Upper Thracian Lowland has been prepared. The main factors influencing bird communities have been identified, and the obtained results can be used for comparative analyzes and evaluation of changes in bird communities in relation to the anthropogenic factor and climate changes.

6. Assessment of publications and personal contributions

The PhD student has submitted 3 scientific works in the internationally renowned peer reviewed scientific journals, indexed in the Web of Science and Scopus databases: one publication in *Acta zoological bulgarica* (Q4 (2022), IF (2022) = 0.5) and two publications in *Ecologia Balkanica* (Q4 (2022)). The three publications are in print, with Letter-certification form the journals submitted.

These publications were published in peer-review scientific journals and contribute a total of 36 points (30 points required) according to the minimum national requirements under indicator group "D", which fully meets the requirements. The publications are collective, but in all of them Polina is the first author and her personal contribution in the development and preparing of the publications is emphasized and not in doubt.

During her PhD study, Polina Hristova participated in two conferences, where she presented part of her dissertation results.

7. Abstract of the PhD thesis

The abstract of PhD thesis is in accordance with the Regulations for the Development of the Academic Staff of the University of Plovdiv, accurately presents all sections of the dissertation work and reflects the results and original scientific and applied-scientific contributions achieved in the dissertation.

8. Personal impressions

I have known Polina Hristova from her bachelor's, master's and PhD degrees at the Faculty of Biology, University of Plovdiv, as well as from various environmental protection activities and events in the Green Balkans organization and BSPB.

My personal impressions of the PhD candidate, which I have built during this period, are excellent. Polina Hristova is responsible, organised and competent in her work, responsive as a researcher and rperson. I believe that these qualities will ensure her future professional development.

CONCLUSION

Everything presented above undoubtedly shows that in the process of developing her dissertation, Polina Hristova acquired in-depth theoretical knowledge and practical skills for work in the field of avifauna.

She demonstrates abilities for independently conducting scientific research, analysing and summarising results, and drawing reasonable conclusions.

The dissertation contains scientific and applied-scientific results and has the characteristics of valuable research with potential for future development. The submitted dissertation, abstract, publications and set of accompanying administrative documents meet all the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for its implementation and the relevant Regulations of the University of Plovdiv "Paisii Hilendarski" for the acquisition of the educational and scientific degree "Doctor of Philosophy".

I confidently give my **positive assessment** of the conducted research, the achieved results and contributions, and **I propose to the respected scientific jury to award the educational and scientific degree "doctor" to Polina Dimitrova Hristova** in the field of higher education 4. Natural sciences, mathematics and informatics, professional direction 4.3. Biological Sciences, Doctoral Program Zoology.

02.04 2024 г.

Statement prepared by:

(Assoc. Prof. Anelia Stojanova, PhD)