

## **REVIEW STATEMENT**

**by Dr. Georgi Sashev Popgeorgiev - associate professor,**

**National Museum of Natural Sciences at the Bulgarian Academy of Sciences**

**of a dissertation for awarding the educational and scientific degree "doctor" by: field of higher education 4. Natural sciences, mathematics and informatics professional direction 4.3. Biological Sciences**

**doctoral program "Zoology"**

**Author:** *Dimitar Vasilev Popov*

**Title:** *"Abundance and distribution of cetaceans (Cetacea) in the Bulgarian territorial waters of the Black Sea"*

**Scientific advisorc:** *Assoc. Prof. Dr. Hristo Dimitrov - PU "P. Hilendarski", Faculty of Biology, Department of "Zoology"*

*Assoc. Prof. Dr. Marina Panayotova, Institute of Oceanology at the Bulgarian Academy of Sciences*

### **1. General presentation of the procedure and the doctoral student**

By order of the Rector of the University of Plovdiv "Paisiy Hilendarski" (PU), I have been appointed as a member of the scientific jury to ensure a procedure for the defense of a dissertation on the topic "Abundance and distribution of cetaceans (Cetacea) in the Bulgarian territorial waters of the Black Sea" for acquisition of the educational and scientific degree "doctor" in the field of higher education 4. Natural sciences, mathematics and informatics, professional direction 4.3. Biological Sciences, doctoral program "Zoology". The author of the dissertation is Dimitar Vasilev Popov - full-time doctoral student at the "Zoology" department with scientific supervisors Assoc. Dr. Hristo Dimitrov - PU "P. Hilendarski", Faculty of Biology, Department of "Zoology" and Assoc. Dr. Marina Panayotova, Institute of Oceanology at the Bulgarian Academy of Sciences.

The set of materials presented by Dimitar Vasilev Popov is in accordance with Article 36 (1) of the Regulations for the Development of the Academic Staff of the PU, includes the following documents:

- a request to the Rector of the PU to disclose the procedure for the defense of a dissertation work;
- CV in European format;
- scientific supervisor's report;
- protocol from the departmental council related to reporting the readiness to open the procedure and preliminary discussion of the dissertation work;
- dissertation work;
- abstract (Bulgarian and English);
- list of scientific publications on the topic of the dissertation - 5 items.

## **2. Actuality of the topic**

The present work is topical and large-scale in nature. The dissertation presents the results of surveys of the number and distribution of cetaceans in Bulgarian territorial waters for a period of six years (2017-2022) in different seasons and assesses one of the most significant anthropogenic threats - bycatch in bottom gill nets. The obtained results provide a scientific basis for determining measures aimed at protecting cetacean populations and their habitats in the Black Sea.

## **3. Knowing the problem**

The PhD student knows the problem perfectly. This is evident both from the detailed literature review and from the analytical assessment of the problem. This helps to solve the set goals and tasks. The PhD student devoted considerable time to conducting the entire study.

## **4. Research methodology**

The PhD student uses modern research and analysis methods. The work is supported by the use of different types of software such as Distance, Q-GIS, etc. and he applies them with skill, which shows his excellent methodical and practical training as a field researcher and zoologist.

## **5. Characterization and evaluation of the dissertation work and contributions**

The dissertation contains 334 pages and includes: 105 tables, 20 photographs, 205 figures, 4 appendices and 205 literary sources, of which 55 are in Cyrillic and 155 are in Latin. The main difficulty of the dissertation work is the "Results and Discussion" chapter. It presents the results of the applied modern research methods. The results for the number, density and distribution of cetaceans are presented, realized with properly selected methods and supported by statistical and spatial analyses, as well as properly visualized. The work ends with summarized results and conclusions (10 in number), where the established results of the study are summarized and fully meet the set goal and tasks. The nature and reliability of the material on which the conclusions are based are beyond doubt. The doctoral student was sufficiently precise, both in the field work and in the analysis and processing of the materials.

The dissertation work and the work done on it are entirely the personal work of the doctoral student. There is no evidence of fraudulent use of others' unpublished or published results, observations, ideas, etc.

#### **6. Assessment of the PhD student's publications and personal contributions**

The publications that the doctoral student provides are five in number. All articles are in prestigious scientific journals. In each article, the doctoral student is the lead author. The total number of points awarded by the two publications is 85, which almost 3 times exceeds the requirements under the RSARB.

#### **7. Abstract**

It covers 32 pages and briefly covers the introductory sections and a little more detail - "Results and Discussion". The conclusions in the dissertation and the abstract are the same. It is written concisely, clearly and meets the requirements of the relevant regulations, reflecting the main results achieved in the dissertation.

#### **8. Recommendations for future use of dissertation contributions and results**

I have no critical remarks and recommendations for the doctoral student.

#### **CONCLUSION**

The dissertation contains scientific, scientific-applied and applied results, which represent an original contribution to science and meet all the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for the Implementation of the Law and the relevant Regulations of PU "Paisiy Hilendarski" .

The dissertation shows that the doctoral student Dimitar Vasilev Popov possesses in-depth theoretical knowledge and professional skills in the scientific specialty of Zoology, demonstrating qualities and skills for independent conduct of scientific research. I have known the candidate for many years of working together, and I can confidently state that the colleague is a motivated, capable and established scientist, with a clearly defined scientific profile and proven scientific and scientific-applied contributions.

Due to the above, I confidently give my positive assessment of the conducted research, presented by the above-reviewed dissertation work, abstract, achieved results and contributions, and I propose to the honorable scientific jury to award the educational and scientific degree "doctor" to Dimitar Vasilev Popov in the field of higher education: 4. Natural sciences, mathematics and informatics, professional direction 4.3. Biological Sciences, doctoral program "Zoology".

14.09.2023

**Reviewer:**.....

(Assoc. Prof. Georgi Popgeorgiev)