STANDPOINT

of Dr. Atanas Dimov Arnaudov, professor in the department of "Preclinical and clinical disciplines", Faculty of public health and healthcare, "Prof. Dr. Asen Zlatarov" University- Bourgas

of a dissertation for awarding the educational and scientific degree **"doctor"** in the field of higher education **6. Agricultural sciences and veterinary medicine**, professional direction: **6.3. Animal husbandry**, scientific specialty: **Breeding of farm animals, biology and biotechnics of reproduction**

Author: Stanimir Georgiev Bonev

Topic: "Morphometric and reproductive characteristics of Acipenseridae fishes in the conditions of super-intensive breeding technology"

Scientific supervisors:

- Assoc. Prof. Lyudmila Nikolaevna Nikolova, Agricultural University – Plovdiv, Faculty of Agronomy;
- Assoc. Prof. Boyko Atanasov Georgiev, IBIR-BAS

1. General presentation of the procedure and the PhD student

I have been appointed as a member of the scientific jury by order RD-16-778 of 05.07. 2022 of the AU-Plovdiv Rector, to ensure a dissertation work defence procedure on the topic: "Morphometric and reproductive characteristics of Acipenseridae fishes in the conditions of super-intensive breeding technology" for the aquiring of the educational and scientific degree "doctor" in the field of higher education 6. Agricultural sciences and veterinary medicine, professional direction: 6.3. Animal husbandry, scientific specialty: Breeding of farm animals, biology and biotechnics of reproduction. The author of the dissertation is Stanimir Georgiev Bonev, part-time PhD student at the Department of Animal Sciences, Faculty of Agronomy, Agricultural University-Plovdiv, with scientific supervisors Assoc. Prof. Ludmila Nikolaevna Nikolova, Agricultural University-Plovdiv, Faculty of Agronomy and Assoc. Prof. Boyko Atanasov Georgiev, IBIR-BAS. I was assigned to prepare a standpoint at the first meeting of the scientific jury.

The set of materials on electronic media presented by Stanimir Georgiev Bonev is in accordance with Art. 48 (1) of PPZRASAU and includes all the necessary documents. I have no comments regarding the documentation presented by the PhD student.

2. Topicality of the subject

Sturgeon fish studies in Bulgaria are few and mainly concern wild populations, and those on the Acipenseridae family in conditions of super-intensive farming have not been conducted at all. The fact that the sustainable development of modern Sturgeon farming can only be realized based on serious and in-depth scientific research also determines the relevance of the developed topic. The morphometric and reproductive

characteristics determination of species and hybrids from the studied Sturgeon family for the first time in Bulgaria also reinforces the importance of the conducted research. In this sense, the issues of the dissertation work are up to date and of high importance. The goal set by the PhD student and the related tasks are formulated clearly and precisely.

3. Knowledge of the subject matter

The PhD student Stanimir Bonev shows excellent knowledge of the developed matter and the results in the field of dissertation work published so far. The information is appropriately selected and sufficiently informative, which is evident from the presented literature review. A detailed information on the importance and current state of aquaculture nationally and globally is included; the morphometric characteristics and sexual development of fish and the influence on them of their origin, as well as the reproduction of Sturgeon fish in aquaculture farms.

The used reference analysis presents the PhD student as a researcher with the ability to interpret and summarize the scientific achievements established so far on the developed problem. Good scientific style implies a high level of theoretical preparation and awareness, as well as the ability to use scientific terminology correctly.

4. Research methodology

The research materials and methods used in the development of the dissertation work are presented in detail and correctly. Adequate modern research methods were used to achieve the set tasks, compliant with the set goal. Appropriate statistical analyzes of the obtained experimental results are also applied.

5. Characterization and evaluation of the dissertation work and contributions

The dissertation contains 212 standard pages, 29 tables, 55 figures and 233 references (149 of which are in English, 26 in Russian and 13 in Bulgarian). The requirements regarding the content of the necessary sections have been met. The results are systematized and illustrated in great detail with tables and figures (including a large number of ultrasound images), fully meeting the set goals and tasks. The discussion was done simultaneously with the presentation of the obtained results. The PhD student shows a high level of ability to interpret, analyze and generalize his own results compared to those of other authors when discussing the results. At the end, the dissertation concludes with a very detailed conclusion regarding the morphometric characteristics, sexual development and sperm production characteristics of fish from the Acipenseridae family. Five conclusions are formulated, which present the summarized results. Six recommendations of important scientific applied importance were also made.

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

In connection with the dissertation, a total of 5 scientific publications were printed, 4 of which in scientific editions, referenced and indexed in world-famous databases with scientific information. The PhD student is independent author in one publication, and in two others leading author. One publication is in a scientific journal with Q3. This

scientific production meets the scientometric requirements of ZRASRB and the Regulations for its application for the aquiring of the educational and scientific degree "doctor".

I express my convinced opinion about the personal participation of the PhD student in the developed scientific problem with author credit of the obtained results and formulated contributions, bearing in mind the presented dissertation work, in which adequate and modern research methods are selected, related to the set purpose and the tasks and the logically described results with substantiated conclusions.

7. Dissertation abstract

The abstract contains a total of 50 pages. It is structured according to the requirements and contains textual information, tables and figures from all parts of the dissertation, fully reflecting the achieved main results.

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

I recommend the PhD student to direct his efforts so that the most important original contributions find application in Sturgeon farming in our country, bearing in mind the topicality of the dissertation work issues and the significance of the obtained results.

9. Conclusion

The dissertation contains scientific, scientific-applied and applied results, which represent an original contribution to science and meets 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 AU-Plovdiv.

The dissertation shows that the PhD student Stanimir Georgiev Bonev possesses in-depth theoretical and practical skills in the scientific specialty "Breeding of farm animals, biology and biotechnics of reproduction", demonstrating qualities and skills for independent conduct of scientific research.

Given the above, I confidently give my **positive assessment** of the conducted research, presented by the above-reviewed dissertation, abstract, obtained results and contributions and **I propose to the honorable scientific jury to award the educational and scientific degree "doctor"** to Stanimir Georgiev Bonev in the field of higher education 6. Agricultural sciences and veterinary medicine, professional direction: 6.3. Animal husbandry, scientific specialty: Breeding of farm animals, biology and biotechnics of reproduction.

17.08. 2022 г.

Standpoint prepared by:

(Prof. Atanas Arnaudov)