

STATEMENT

by

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Department of Anatomy, Histology and Embryology, Medical Faculty,
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on a research dissertation for conferring the educational and scientific degree of

Doctor of Philosophy

Higher education area: 4. Natural sciences, mathematics and computer science

Professional area: 4.3 Biological sciences

Doctoral Programme in: "Anthropology" 01. 06. 01

Author: Nadezhda Venetsieva Paraskova

Type of doctoral studies: individual preparation

Department: „Anthropology and anatomy“ of Institute of Experimental Morphology, Pathology and Anthropology with Museum (IEMPAM)

Topic: *"Dermatoglyphic characteristics of the Bulgarian population from Central Western Bulgaria"*

Doctoral advisor:

Associate Professor Zorka Mitova, Ph.D. (IEMPAM – BAS)

K.i.n. Ivan Shirobokov, Doctor (MAE RAS, Kunstkamera, St. Petersburg)

1. Presentation of the procedure and the PhD student

The materials presented to me on paper and in electronic version are in conformity with the Procedure for Obtaining the Educational and Scientific Degree of Doctor of Philosophy at IEMPAM – BAH; and include the following documents:

1. Dissertation work 2. Synopsis of the latter 3. List and copies of the publications related to the topic of the dissertation 4. List of participations in scientific forums 5. Information for taken exams and received credits according to the credit system of CO-BAS 6. Information for fulfillment of the minimum requirements of IEMPAM for acquiring the educational and scientific degree "Doctor" 7. Protocols and certificates of passed exams 8. Enrollment order NRD-15-24 / 04.12.2015 9. Order for unsubscribe with the right to defense NRD-15-96 / 12.12.2018 10. Declaration of originality and authenticity 11. Autobiography.

The PhD student has submitted 3 (three) full-text publications on the topic of the dissertation, which are in refereed editions. There are also 4 participations in scientific forums with presentations on the topic.

Nadezhda Paraskova graduated as a master biologist at Sofia University "St. Kliment Ohridski" - Sofia in 2000. He worked as a teacher of biology - 3 years, and then as an assistant in human anatomy and anthropology at the Faculty of Biology at Sofia University "St. Kliment Ohridski" from 2007 to the present. In 2015 she was enrolled as a doctoral student in independent training at the Department of Anthropology and Anatomy of IEMPAM - BAS. In 2018 she was written off with the right of defense. Under her doctoral program she has conducted an additional course in Paleoanthropology and Anthropology of the living population and has covered the required credit minimum.

2. Topicality of the research

The scientific interests for determining the composition of the Bulgarian ethnic group and the participation of its main components in its formation have been documented as early as the end of the 18th and the beginning of the 19th century and continue to be studied and further developed today. The dissertation examines the anthropological characteristics of the dermatoglyphic features of the modern

Bulgarian population from eight different regions of Central Western Bulgaria. In the studied population a characteristic ratio of the features was established - increased frequency of the carpal axial triradii, reduced appearance of images of the hypotenuse and frequency of the additional inter-digit triradii. The applied integration analysis of the dermatoglyphic and odontological features with the geographical location of the groups on the west-east axis, objectifies intensified migration processes during the historical past of the Bulgarian population.

3. Knowledge of the problem

The postgraduate student is acquainted with the individual aspects of the developed topic in depth. This is evident both in the literature review, presenting expertly analyzed and concisely presented information about the state of the problem, and in the in-depth discussion on the results. A relatively small proportion (6%) of the sources used (262) are from the last 10 years, but this is probably due to the historical justification of the study and the necessary comparisons with previous studies. The information is summarized in several main conclusions at the end of this section and a statement of the problem is formed.

4. Methods of study

Dermatoglyphic images of 1,600 individuals were studied. The processing and description of the dermatoglyphic prints was performed in laboratory conditions. The analysis of the finger images is described in detail.

The obtained data are processed with adequately selected statistical methods - descriptive analysis and index characteristic for calculation of multiple indices. Secondary statistical data processing was also applied: principal components analysis (PCA), correlation analysis and non-parametric criteria.

All this gives me reason to say that the chosen research methods fully allow to achieve the goal and obtain an adequate response to the tasks solved in the dissertation.

5. Characteristics and evaluation of the dissertation paper and its contributions

The dissertation covers 183 pages and is structured according to the generally accepted requirements in 7 sections - introduction, literature review, purpose and tasks, material and methods, analysis and discussion of the results, conclusions.

The introduction briefly and clearly touches on the main anthropological aspects of the study, which concerns dermatoglyphic (and odontological) studies of the modern Bulgarian population in ethnoanthropological aspect. The literature review is divided into separate chapters, which present historical, archaeological and ethnographic data about Central Western Bulgaria, as well as comparative dermatoglyphic characteristics of the population in this area. A large volume of literature sources was used. At the end of the review, based on the considered data, conclusions are made and the state of the problem is summarized, on the basis of which the goal and tasks are derived. The goal is clearly formulated, the tasks are eight and include the main aspects of the considered scientific issues.

The section "*Material and methods*" describes in detail the studied groups, the choice of areas for the purposes of the study, the applied dermatoglyphic and statistical methods.

The section "*Analysis and discussion of the obtained results*" covers 107 pages and is arranged logically and concisely. 39 figures and 123 tables are presented. The figures illustrate the data from the statistical analysis and are made with skill. The results are authentic and reliable, and the figures and tables are informative enough.

The obtained results are analyzed and skillfully interpreted. The factors that influenced the dermatoglyphic picture of the studied population from Central Western Bulgaria are taken into account. A summary is given, according to which the main factor for the formation of the

anthropological composition of the studied modern groups from this region is most likely the interaction between the northern and southern variants of the Western Eurasian formation. The conclusions are sixteen, formed in 2 main groups, which are logically related to the tasks.

Eight contributions (three of which are original) are presented, based on the results obtained, and are not repeated in the available literature related to the topic. It would be possible to reduce the number of contributions by pooling, as some of them are descriptive.

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

The publications that reflect the results of the dissertation are 3 articles in internationally referenced publications (*Acta morphologica et anthropologica*, Glaznik) and are in English. The doctoral student is a leading author of 2 of the full-text publications. She has four participations: presentations at international scientific congresses in Serbia, Denmark and Bulgaria.

The postgraduate student is well-acquainted with the main stages of the study and has actively participated in the collection of material, dermatoglyphic and statistical work. The processing of the results, the analysis, the documentation through figures and tables of the obtained data are performed with skill and experience.

Critical remarks and recommendations.

My recommendation to the dissertation is aimed at a wider presentation and dissemination of the results of this dissertation at scientific forums in Bulgaria and abroad, in order to exchange creative ideas and continue the developed topic.

7. Synopsis of the dissertation

The synopsis is comprehensive and includes the main parts of the dissertation - introduction, purpose and tasks, material and methods, results, discussion, conclusion, conclusions, contributions and a list of publications and participations related to the topic. Three original contributions were noted, as well as several additional ones. In conclusion, the abstract is made according to the requirements and presents the main results obtained in the dissertation.

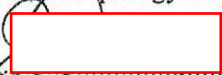
CONCLUSION

The dissertation *contains scientific, applied science and applied results, representing an original contribution to science and meeting all requirements* of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations on the application of the above-mentioned law and the Regulations of IEMPAM - BAS.

The dissertation shows that Nadezhda Paraskova **possesses** deep theoretical knowledge and professional skills in the scientific specialty of Anthropology by **demonstrating** qualities and skills for independent conduction of a research investigation.

On the basis of the above-mentioned facts, I am deeply convinced in giving my *positive assessment* of the reviewed dissertation, synopsis, results obtained and contributions and *propose to the honourable Research Council to confer the educational and scientific degree of Doctor of Philology* on Nadezhda Venetsieva Paraskova in the doctoral programme in Anthropology - 01/06. 01.

21.09. 2021 г.

Statement prepared by: ......

Assoc. Prof. Slavi Delchev, MD, PhD