

REVIEW

by Prof. Dr. Stefan Todorov Sivkov, MD
Department of Anatomy, Histology and Embryology
Medical University-Plovdiv



Subject: Dissertation work for awarding PhD degree in the field of higher education: 4. Natural sciences, mathematics and informatics, professional field: 4.1. Biological sciences, scientific specialty: Anthropology

Author: Nadezhda Venetsieva Paraskova

Topic: "DERMATOGLYPHICAL CHARACTERISTICS OF THE BULGARIAN POPULATION FROM CENTRAL WESTERN BULGARIA"

Scientific supervisors: Assoc. Prof. Zorka Mitova, PhD (IEMPAM-BAS), Ivan Shirobokov, PhD (MAE RAS, Kunstkamera, St. Petersburg)

1. General presentation of the procedure and the doctoral student. By order № RD-15-53 / 10.08.2021 of the Director of IEMPAM-BAS I was appointed a member of the scientific jury in connection with the procedure for defense of the dissertation on "Dermatoglyphic characteristics of the Bulgarian population from Central Western Bulgaria" for Acquisition of PhD degree in the field of higher education 4. Natural sciences, mathematics and informatics 4.3. Biological sciences, doctoral program Anthropology. The author of the dissertation is Nadezhda Venetsieva Paraskova - a PhD student in an independent form of training at the Department of Anthropology and Anatomy of IEMPAM-BAS with supervisors Assoc. Prof. Zorka Mitova, PhD (IEMPAM-BAS), Ivan Shirobokov, PhD (MAE RAS, Kunstkamera, St. Petersburg). In order to prepare the review, I received the materials required by the Regulations for acquiring scientific degrees at IEMPAM-BAS.

Nadezhda Venetsieva Paraskova was born in Blagoevgrad, where she graduated from Kuzman Shapkarev High School with a degree in biology and chemistry. In 2000 she graduated from Kliment Ohridski University of Sofia, Faculty of Biology with a master's degree in Biology. She specialized in vertebrate zoology and anthropology and biology teacher as a second specialty. In 2018 she passed specialisation in Ethnic Dermatoglyphics at the IEA RAS, Kunstkamera, St. Petersburg.

From 2004 to 2007 she worked as a biology teacher at Neofit Rilski High School, Sofia. Since 2007 she has been working as an assistant in human anatomy and anthropology in the immunohistological laboratory at the Faculty of Biology, Sofia University Kliment Ohridski. In the period 2015 - 2019 she worked as a biology teacher at 9th French Language School Alphonse de Lamartine in Sofia.

By order RD-15-24 / 04.12.2015 she was enrolled as a doctoral student in independent form of training in the Department Anthropology and Anatomy of IEMPAM-BAS. She was expelled from a doctoral program with the right to defense by order - RD-15-96 / 12.12.2018 after successfully passing the internal defense.

2. Relevance of the topic. The dissertation is dedicated to the research and clarification of the dermatoglyphic characteristics of the modern Bulgarian population on the territory of Central Western Bulgaria in ethnoanthropological aspect. The use of dermatoglyphic characteristics is related to clarifying the origin and belonging of the Bulgarian population to a certain ethnic group and tracking migrations during their historical processes.

3. Knowledge of the problem. The introduction, the main information about the origin of ethnic dermatoglyphics and its use to characterize the population, as well as the creative use of the cited literature show knowledge of the state of the problem treated in the dissertation by the doctoral student.

4. Characteristics and evaluation of the dissertation and contributions. The dissertation is structured according to the generally accepted requirements - introduction, literature review, purpose and tasks, material and methods, results, discussion, conclusions. It is presented on 184 standard pages, contains 39 figures and 123 tables. The literature used includes 262 sources, of which 130 in Cyrillic and 132 in Latin.

The Literary Review provides a historical overview of the problem, analyzing the results of archaeological, ethnographic and anthropological studies by a number of authors to determine the composition of the Bulgarian ethnic group and the participation of its main components in its formation. Historical, archeological and ethnographic data on the formation of the population in Central Western Bulgaria are given. An overview of the development of dermatoglyphics as a scientific field, presenting the periods in the history of dermatoglyphic research. The phylogeny and ontogenesis of dermatoglyphs and the probable evolutionary steps in the formation of vertebrates are considered in sufficient detail. A review of dermatoglyphic research in Bulgaria is made and the importance of dermatoglyphics in medical and anthropological research is discussed. Special attention is paid to research in the region of Central Western Bulgaria. The insufficient representativeness of dermatoglyphic studies in ethnic aspect during the last two decades on the territory of Bulgaria, which are conducted extremely rarely and mainly with archival material from the last century, has been noted. The reasons limiting the conduct of mass population surveys are also discussed.

The aim of the present study is to make an anthropological characteristic of the modern Bulgarian population from Central Western Bulgaria by dermatoglyphic features. To achieve this goal, the dissertation has set itself seven tasks to determine the frequency of distribution of dermatoglyphic features and the homogeneity of the studied population by dermatoglyphic features.

The research material is sufficient in volume, properly selected and structured, well documented and accurately registered, which guarantees the reliability of the results.

Research methodology. The doctoral student has used reliable and sufficient methods to achieve the set goal - fingerprinting, palmoscopy, with which she receives an adequate answer to the tasks solved in the dissertation. Statistical methods are appropriately selected with the informativeness needed for the study. Primary statistical processing of the data was performed with the help of descriptive analysis and index characteristic. Additionally, the data were processed using the intergroup scale method, generalized dermatoglyphic distances, racial gradients and racial complexes, the principal components method.

The Results chapter takes up 106 pages. The obtained data are visually demonstrated and analyzed in the presented documentation (graphs and tables). A descriptive and taxonomic analysis of the obtained results by regions was made. The distribution of main dermatoglyphic indicators in the population of Central Western Bulgaria with pronounced Eastern, Northern European and Southern European characteristics is analyzed.

Regularities have been established in the ratios of the finger types images among the population of Central Western Bulgaria, which are in accordance with the data for the European populations. In the combined sample of women from Central Western Bulgaria and the other studied local populations, southern European characteristics were established as the palm images in the IV interdigital field dominate over those in the III interdigital field. In the combined sample of men from Central Western Bulgaria and the other five local populations, the opposite trend is observed, typical for the European groups.

The conclusions summarize the results of the study correctly. There are regularities in the ratios of the types of finger images among the population of Central Western Bulgaria are in accordance with the data for the European populations. The frequency of the different types of main palmar lines in the studied population testifies to the presence of both European and southern European features in the dermatoglyphic picture of all local groups, depending on the criteria and methodological rules for taxonomic diagnosis.

According to the results, the main factor for the formation of the dermatoglyphic status in men from Central Western Bulgaria is the interaction of the northern and southern variants of the Western Eurasian formation. At the territorial and ethnic level, there is a larger share of the Northern European component in the dermatoglyphic picture of the population of Central Western Bulgaria, compared to other samples from Western Bulgaria.

At the ethnic level, research shows that despite the more pronounced northern or southern characteristics among some of the groups, in general, the studied local groups from Central Western Bulgaria are within the limits of variability characteristic of European populations

The established correlations of the dermatoglyphic and odontological features with the geographical location of the groups on the west-east direction are probably a reflection of intensified migration processes during the historical past of the Bulgarian population, more clearly expressed in the male sex.

Assessment of the doctoral student's publications and personal contribution. The main results of the dissertation are published in *Acta morphologica et anthropologica*, 2019, *Glasnik ADJ*, 2004, *Glasnik ADJ*, 2006. There are also 4 announcements in scientific forums. The publications are co-authored, and in two of them the doctoral student is a leading author, which gives me reason to believe that she has a major contribution to the results.

The abstract is structured correctly, reflecting the content, main results and contributions of the dissertation.

My recommendations for future use of the dissertation contributions and results are for their application in the further study and expansion of this perspective issue, whereby the obtained results should be published in independent scientific articles.

Conclusion. Nadezhda Paraskova's dissertation examines a problem of scientific and practical interest in the field of anthropological science. Scientific results have been obtained, enriching

the knowledge about the dermatoglyphic picture in the population of Central Western Bulgaria. For the first time in Bulgaria, the author conducts an integration analysis between traits of racial diagnostic and taxonomic significance. This is a real scientific contribution. The exposition and layout of the dissertation and the abstract is very good. Considerable and difficult work has been done. This shows that the doctoral student has theoretical knowledge and professional skills in the scientific specialty, as well as skills for independent research. The submitted materials and documents on the procedure fully meet the requirements of the Law for development of the academic staff in the Republic of Bulgaria, the Regulations for application of this law, the Regulations for acquisition of scientific degree at IEMPAM of BAS.

Based on the above, I give a positive assessment of the research conducted in the dissertation, proposing to the honored scientific jury to award Nadezhda Venetsieva Paraskova PhD degree in the higher education field 4. Natural Sciences, Mathematics and Informatics 4.3 Biological Sciences, scientific specialty Anthropology.

Prof. Dr. Stefan Sivkov, MD

24.09.2021

