DERMATOGLYPHICS OF THE VOLGA-KAMA POPULATIONS: THE ANALYSIS OF VARIATION BETWEEN PHALANGEAL PATTERNS

Yudina Anastasiya¹, Slavolyubova Irina¹, Shpak Larisa²

¹Department of Anthropology, Biological Faculty, Lomonosov Moscow State University, Moscow, Russia ²Research Institute and Museum of Anthropology, Lomonosov Moscow State University, Moscow, Russia

This paper analyzes digital dermatoglyphics of the Volga-Kama populations: patterns, bilateral variation, correlation between patterns; also, an attempt was made to investigate the potential of one of the least studied trait systems – patterns on middle and proximal finger phalanges – for group differentiation. The material consists of fingerprints of males from the archives of the Department of Anthropology: Bashkirs, Tatars, Mari, Udmurts (Bashkortostan), Chuvashes (Chuvashia) as well fingerprints of Mordovian and Russian males from southeastern Mordovia (copyright property, A. Yudina, 2013). The total number of individuals is 558. Frequencies of patterns on distal phalanges of the Volga-Kama people are generally typical of Caucasoids. However, the complication of skin relief and an increase in the number of deltas on distal phalanges as well as the accumulation of simple patterns on medial and proximal phalanges may evidence a Mongoloid tendency. The comparison of groups by pattern frequencies on all the three phalanges enabled us to single out populations with a minimal Mongoloid tendency or none at all (Mordovians, Russian), a group with the strongest Mongoloid tendency (Bashkirs), and intermediate groups (Mari, Chuvashes, Tatars, and Udmurts). The first cluster is characterized by the increased share of patterns without orientation on medial and proximal phalanges. The structure of within-group correlations between the traits is similar in all samples. Patterns within each phalangeal system and among the systems show a weak correlation, with rare exceptions. Multiple discriminant analysis, cluster analysis, and multidimensional scaling jointly demonstrate the diagnostic importance of the medial and proximal phalanges, indicating the expedience of their further use along with traditional features in the study of group differentiation.

Key words: dermatoglyphics; digital phalanges, peoples of the Volga-Kama region

Contact information: Yudina Anastasiya, e-mail: nastasia2455@yandex.ru,