MORPHOLOGICAL AND GENETIC CHARACTERISTICS OF POPULATIONS OF THE MAIN CARRIER OF PLAGUE RHOMBOMYS OPIMUS LICHT., 1823 IN THE SOUTH OF KAZAKHSTAN

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The great gerbil (Rhombomys opimus, Licht., 1823) is the primary carrier of various bacteriological, viral, and rickettsial diseases in Central Asia, Mongolia, and China. Currently, the systematic position of the great gerbil remains unclear. However, understanding the biology of the species that carry various pathogens is crucial for ensuring public safety. According to classical concepts, plague in nature exists as a complex three-part parasitic system: the causative agent of plague (Yersinia pestis), arthropod carriers or vectors (usually fleas and ticks), and warm-blooded hosts. Modern data suggest the presence of a fourth component - soil invertebrates. The most common parasitic triad in recent outbreaks consists of the causative agent of plague (Yersinia pestis), carried by fleas of the genus Xenopsylla, and the primary carrier, the great gerbil.

Five populations inhabit the South Balkhash basin, with their northern border limited by Lake Balkhash. The colonies of the Taukum's population are located on the left bank of the lower reaches of the Ili River, in the sands of the Taukum desert. On the right bank of the Ile River, the largest population, Saryesik-Atyrau, is spread out, with the Lyukkum's population to the east of it, separated by the Karatal River in the west and the Aksu River in the east. Between the Aksu and Lepsy rivers lies the Aralkum's population, and at the western point of Lake Balkhash lies the Lepsy-Ayaguz's population. South of the Balkhash group of populations, four populations of the great gerbil are identified, located along the Ili River above the Kapshagai Reservoir: on the right bank, Prialtynemel's and Karakum's populations, and on the left bank, Syugatinian's and Karadala's populations, separated by the Sharyn River. Another group is the tenth population of the great gerbil – Dzhungarian's – located southeast of Lake Alakol.

Using morphological methods, craniometric indicators of the above populations were studied, revealing two regional complexes in the Balkhash-Alakol basin: the Balkhash region's and Dzhungar's. Phylogenetic data combined samples captured in the southern Balkhash region into one cluster. In summary, we have several geographically isolated populations that differ phenotypically and genetically. These populations have evolved alongside specific strains of the plague pathogen and species of flea carriers, resulting in significant differences in resistance to various zoonotic infections.