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ANCHROMOSOMAL RESEARCHES OF MAMMALS FROM NATURAL POPULATIONS OF THE RUSSIAN FAR EAST

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Mammals are the best-known group of vertebrate animals of Russia. The number of species accounts to about 7 % of their world diversity. At the territory of the Russian Far East 108 terrestrial and 35 marine species of mammals have inhabit. Areas of many terrestrial species are extended far beyond the borders of the Russian Far East. Chromosomal researches of mammals of wild populations are important for understanding both the micro- and macroevolution of mammals. The analysis of the literary data (since 1967 to 2006) has shown different research activity as for taxonomic groups, as for methods of karyological analysis applied. Remarkable, that from 19 known Insectivorous species, only 13 species were investigated by karyological methods, from 17 Chiroptera species - 6, from 39 Rodentia species - 31, from 23 Carnivora species - 3, and from 10 Artiodactyla species - only one. Nevertheless, almost for all species the chromosomal numbers are described both from the Russian Far East and other regions of their areas. However, data show that only for three species of mammals there are no indication on chromosomal numbers at all. Investigations of animals from a zoo are also available (they are usually without indication of a place of catching) and single animals from nature; both do not allow to infer a conclusion on chromosomal variability of taxa they are belonging to. Our review of chromosomal data revealed that nearly 50% of mammals from natural populations at the Russian Far East have been investigated. Percent of species which were subjected by investigation with differential staining techniques of chromosomes does not exceed 30% and they are basically made on rodents. Chromosomal polymorphism and problems that connected with weak karyological investigation of mammals from natural populations of the Far East of Russia are discussed.

Rodentia is one of the largest group of mammals. On the territory of the Russian Far East more than 40 species, which belong to four families Muridae, Cricetidae, Sciuridae and Dipididae are inhabit. The researches of chromosomal sets have started with the description of karyotype in reed vole, *Microtus fortis*. In 1969 the first collection of articles "The Mammals: Evolution, Karyology, Taxonomy and Fauna" was published by the USSR Academy of Science. In 1972 N.N. Vorontsov and E.A. Lyapunova began to collaborate with the American mammologists, R.S. Hoffman and C.F. Nadler, on the problem of genetic differentiation of trans-Beringian mammal species (voles, ground squirrels, marmots).

The karyotypes of all species of the rodents from the Russian Far East are described by Russian biologists from Moscow (laboratory of V.N. Orlov), Novosibirsk (group of S.I. Radjabli) and Vladivostok (laboratory of N.N. Vorontsov). For many species the differentially painted chromosomes were investigated. Within 37 years more then 200 articles devoted to research of Rodentia chromosomes were published.

The analysis of the publications from 1967 to our days showed that the focus of researchers to taxonomic groups was variable. The reason for it was in a variable number of species in the families and the variability of chromosomal characteristics in species. The most attractive for research were chromosomally polymorphic species, like *Apodemus peninsulae* (2n=48+ 0-24 B in Siberia and 0-7 in the Russian Far East), *Mus musculus* (2n=40, variation in heterochromatin), *Microtus evoronensis* (2n=38-40, NF=53-56), *M. maximoviczii* (2n=36-44, NF=54, 56, 58 in a whole area and 2n=39-41 in the Russian Far East), *M. mujanensis* (2n=38, NF=49-51), *M. fortis* (2n=52, variation in heterochromatin) and others. However, despite the large-scale investigations made on these species, many questions are still remaining not resolved.