

**POPULATION, EVOLUTIONARY AND ECOLOGICAL GENETICS OF ANIMAL
SPECIES**

PROCEEDINGS OF

INTERNATIONAL SYMPOSIUM

**MODERN ACHIEVEMENTS IN POPULATION, EVOLUTIONARY AND
ECOLOGICAL GENETICS**

(MAPEEG - 1995)

HELD BY THE INSTITUTE OF MARINE BIOLOGY AND

REGIONAL FOUNDATION FOR THE DEVELOPMENT

OF GENETICS

September 8-12, 1995

Vladivostok, Russia

**ADAPTIVE SIGNIFICANCE OF HETEROCHROMATIN IN SOME
RODENT SPECIES**

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Chromosome differences among populations could frequently be attributed to the variability of heterochromatin compartment of chromosomes. Nature and function of heterochromatin still remain obscure. The investigation of quantity distribution and localization of heterochromatin in natural populations of rodent from geographically different regions of the former USSR was carried out. The main purpose was to evaluate whether the population ecology has an influence on formation of the animal karyotype features.

The karyological studies of the wood-mice *Apodemus peninsulae* from 21 Siberian and of the Far East southern forest populations, and the rat-like hamster *Tscherskia triton* from a location in the Primorye region was performed. This investigation revealed a great variability of the supernumerary chromosomes (B-chromosomes). The source of the variability is mainly of the heterochromatin nature. Populations of wood-mice from the different regions have specific features of variability: the animals of different regions vary both in number (0-17) and B-chromosomes morphology. The B-chromosomes were obtained in populations from the Tuva, the Altai and the Chita regions. The dot-like supernumerary chromosomes were not seen in the Far Eastern natural populations: none of 213 animals have had that kind of B-chromosomes. The B-chromosomes (1-2) of rat-like hamster was obtained only in years of low size of the population. The features of karyological differentiation of populations of *A. peninsulae* and *Tsch. triton* evidenced for an adaptive role of B-chromosomes.