

**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

***IMPACT OF INDUSTRIAL CONTAMINATION ON GENETIC CHANGES IN
COMMENSAL RODENTS***

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Use of commensal rodents as a test system to estimate human genetic hazard provides many advantages. Above 200 specimens of *Mus musculus*, *Apodemus peninsulae* and *Ap. agrarius* were collected in the vicinities of Dalnegorsk city (coast of Japan Sea, East Primorye). On area of 100 ha in surroundings of chemical plant "Boron" and lead factory the content of some toxic elements (B, F, S, Pb, Cd, Zn, Cu) exceeds the standards of maximum permissible concentrations by 20-100 times. Samples were collected about at 0.5 - 12 Km from plants. The control samples were collected in Naturel Reserve. The mutagenic effect was measured as frequency of chromosome aberrations and abnormal heads of spermatozoa. The technique of gel-electrophoresis was applied to examine the genotypic heterogeneity and frequency of rare mutations. Our data revealed an enormous increase (3-8 times) in the frequency of chromosome and spermatozoa aberrations in animals that inhabit the sites nearest (0,5-5 Km) to the plants. The frequency of aberrations substantially decreased at a distance of 10 Km from the plants. In the light of the data obtained some recommendations for placing of new housing are suggested.