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## CYTOGENETIC, MORPHOLOGICAL AND TAXONOMIC STUDY OF HOUSE MOUSE *MUS MUSCULUS* L. FROM CITIES OF SIBERIA

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This paper presents cytogenetic analysis data for house mouse, *Mus musculus* supplemented with a survey of their morphology. The purpose of our work was to describe the karyological features of house mouse populations from cities of Siberia: Novosibirsk, Tomsk, Irkutsk and Kyahta, to distinguish discrete chromosome forms and to determine their correspondence to *M. musculus* taxa; to study the phenomenon of hybrid zones, genetic and morphological differentiation of house mice in hybrid populations. To study the pericentromeric heterochromatine distribution in mice, the karyotypes with the fluorescent Q-H- and C-staining were used. To characterize the mouse karyotypes from the viewpoint of number and pattern of distribution of pericentromeric heterochromatin (Hch), we used our previously elaborated (Korobitsyna et al., 1997; Yakimenko et al., 2000; 2002) scheme.

Tomsk and Novosibirsk mice. Long-tailed specimens (tail ratio 96 and 92%, respectively) were obtained at the region. The karyomorph L (low content of Hch) was revealed in Tomsk. In Novosibirsk, one specimen had average heterochromatin content with non-uniform distribution of the karyomorph An (average content and non uniformly distribution of Hch). Four mice belong to the karyomorph L. Two-four autosomes in the karyotypes of mice from those cities virtually fully lack Hch. Whereas the nominal subspecies *M. m. musculus* lives in Eastern Europe and is associated with the karyomorphs H (high content of Hch) and An. Western Siberia is populated by another *M. musculus* subspecies, which we call *M. musculus* ssp. 1. In the Russian Far East (Yakimenko et al., 2000; 2002), this is one of the background forms.

Irkutsk mice. The sample includes four specimens with average tail length (tail-ratio = 86-92%) and two short-tailed specimens (78 and 84%). Karyological investigation showed the presence of minimum two karyomorphs. These are the karyomorphs L (typical for *M. musculus* ssp. 1) and An with not extreme variants of marker autosomes 17 and 18. Such short-tailed white-bellied mice are not rare in Eastern Siberia and the Amur Region. Until their specific name has been specified, we call them *M. musculus* ssp. 2. Most frequently, we deal with hybrids of *M. m. ssp. 2* and *M. m. castaneus*.

In Kyahta, the karyomorph L dominates. All specimens have marker chromosomes 17 and 18 in amounts ranging from 1 to 4. The karyotype of one specimen belongs to the karyomorph H. In one specimen, the tail ratio equaled 92%, the average value for that sample being 74%. Interestingly enough, four mice have chromosome 3 with large C-block. This variant is not characteristic of North China house mice and may have penetrated from the south of China due to existence in the past of a powerful Great China trade route. Four mice have marker chromosome 19 in homozygotic or heterozygotic state. And so, the urban population of Kyahta is the result of absorbing hybridization of *M. m. gansuensis* with another *M. musculus* subspecies.

And so, in Siberia we discovered two cytogenetic forms among long-tailed house mice and two among short-tailed specimens. Whereas previously we showed that subspecies mozaicism and hybrid origin were characteristic of fauna of house mouse from Russian Far East, our new data show that the same features are inherent in the fauna of house mice from Siberia as well.