

Modern Achievements in Population, Evolutionary, and Ecological Genetics: International Symposium, Vladivostok – Vostok Marine Biological Station, September 8–13, 2019: Program & Abstracts. – Vladivostok, 2019. – 70 p. – Engl. ISBN 978-5-7444-4607-9.

HELD BY:

*Far Eastern Branch of Russian Academy of Sciences (FEB RAS),
A.V. Zhirmunsky National Scientific Center of Marine Biology, NSCMB FEB RAS,
Federal Scientific Center of Biodiversity of East-Asia Land Biota FEB RAS,
Far Eastern Federal University,
Vladivostok Public Foundation for Development of Genetics*

SPONSORS:

SkyGen LLC, Russian & CIS life science distributor company

Editors: Yuri Ph. Kartavtsev, Oleg N. Katugin

Современные достижения в популяционной, эволюционной и экологической генетике: Международный симпозиум, Владивосток – Морская биологическая станция «Восток», 8–13 сентября 2019: Программа и тезисы докладов. – Владивосток, 2019. – 70 с. – Англ. ISBN 978-5-7444-4607-9.

ОРГАНИЗАТОРЫ:

*Дальневосточное отделение РАН (ДВО РАН),
Национальный научный центр морской биологии им. А.В. Жирмунского ДВО РАН,
ФНЦ биоразнообразия наземной биоты восточной Азии ДВО РАН,
Дальневосточный федеральный университет,
Владивостокский общественный фонд развития генетики*

ФИНАНСОВАЯ ПОДДЕРЖКА:

ООО «СкайДжин»

Ответственные редакторы: Ю.Ф. Картавец, О.Н. Катугин

© Национальный научный центр морской биологии ДВО РАН, 2019
© Владивостокский общественный фонд развития генетики, 2019

ISBN 978-5-7444-4607-9

© ФГАОУ ВО «ДВФУ», 2019

DISTRIBUTION OF B CHROMOSOME MORPHOTYPES IN *APODEMUS PENINSULAE* (RODENTIA) FROM THE UPPER PRIAMURIE

Roslik G.V., Kartavtseva I.V.

*Federal Scientific Center of the East Asia Terrestrial Biodiversity FEB RAS,
Vladivostok 690022, Russia*

Karyotypes of *Apodemus peninsulae* Thomas, 1906 includes supernumerary (B) chromosomes in addition to chromosomes of the basic set. Number, size and morphology of B chromosomes are different in specimens and populations. We formerly described small and medium metacentric B chromosomes (Bs) as most prevalent morphotypes in territories of the Middle (n = 34), Lower (n = 67) Priamurie and Prymorskii Krai (n = 319). And large meta-, submeta-, subtelocentric; medium and small submeta-, subtelocentric and mini B chromosomes were classified as rare morphotypes (Roslik et al., 2016; Roslik, Kartavtseva, 2017). Descriptions of B chromosome morphotypes were previously performed only for single specimens (n = 5) of *A. peninsulae* in a large extended territory of the Upper Priamurie (Kartavtseva et al., 2000; Kartavtseva et al., 2015).

The aim of our work was to study the karyotypes of mice from the Upper Priamurie and to obtain a complete picture of the B chromosomes morphotypical diversity this species in the Far East of Russia.

Karyotypes of 45 specimens from 11 new populations of the Upper Priamurie (Amur Region: Bol'shaya Omutnaya River, Urusha vil., 3 localities from Zeya city, Argi River, Magdagachi vil., Zheltoyarovo vil., Malinovka vil.) and adjacent territories (Transbaikalia: Amazar vil.; Khabarovsk Region: imeni Polini Osipenko vil.) have been studied. Animals were captured during 2012-2016. Besides we analyzed karyotypes of five early studied mice from two populations of Amur Region: Belogorie vil. and Bomnak Reserve (Kartavtseva et al., 2000; Kartavtseva et al., 2015). B chromosomes were revealed in all specimens. We described 157 Bs in total.

Small metacentric Bs were prevalent (41%) in animals of the Upper Priamurie as well as in the Middle, Lower Priamurie and Prymorskii Krai. Further to, there are findings a B chromosome morphotypes changes in the karyotypes of *A. peninsulae* from this region, compared with the ones of animals from previously studied populations of the Russian Far East. So, almost a quarter of the findings of B chromosomes were micro Bs (24%), which are typical for karyotypes this species from the Siberia. These micro B chromosomes appear in the karyotypes of *A. peninsulae* populations, together with the middle metacentrics (18%) and mini (10%) B chromosomes. Large meta- (3%), middle submeta- (1%) and small submetacentric (3%) Bs are allocated as very rare. The diversity of B chromosome morphotypes in studied animals are slightly higher than those in the Middle and Lower Priamurie, but lower than in Primorskii Krai.

Thus, our study allowed us to describe the B chromosome morphotypes in *A. peninsulae* of the Upper Priamurie and to draw a more complete picture of the B chromosome morphotypical diversity both in this region and in the Far East as a whole. A comparative analysis of the *A. peninsulae* karyotypes in this region suggests that they have B chromosome morphotypes, which are characteristic both of far eastern and siberian populations of the species. Our data are conformed to the hypothesis of repeated settlement of various regions by mice from different refugiums.