

**The Federal Scientific Center on the East Asia Terrestrial Biodiversity
FEB RAS, RUSSIA**

**Engineering Research Center of Chinese Ministry of Education
for Edible and Medicinal Fungi, CHINA**

The 1st International Conference

**North East Asia
Biodiversity**

ABSTRACTS

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ENGINEERING RESEARCH CENTER OF CHINESE MINISTRY OF EDUCATION
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**A KARIOLOGICAL STUDY OF SIBERIAN RUBYTHROAT
CALLIOPE CALLIOPE (MUSCICAPIDAE, AVES)
FROM THE PRIMORYE TERRITORY**

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Avian karyology still remains poorly studied so far as compared, for example, to mammalian karyology. Most descriptions of bird's karyotypes are given at the level of b-karyology, i.e. without the use of differential staining. This is due to specific characteristics of their karyotypes, which, as a rule, have a high diploid numbers, and conventional division of chromosomes into two groups: 1) a small group of large macrochromosomes and 2) a very large group of small microchromosomes.

The object of the present study is the siberian rubythroat *Calliope calliope* Pallas, 1776 (Muscicapidae, Aves) – a widespread Palearctic species, from the foothills of the Urals in the west to the shores of the Pacific Ocean in the east. There are 1–5 subspecies within species are distinguished by different authors (Stepanyan, 2003; Koblik et al., 2006, etc.).

Karyology of the species has not enough studied and without the use of differential staining (Panov, Bulatov, 1972, Ray-Chaudhuri, 1976, Bulatova, 1981), which did not allow us to reliably describe the size and morphology of the sex chromosomes and also some macrochromosomes.

We studied karyotypes of 5 specimens (2 males and 3 females) of the siberian rubythroat, using as routine staining techniques and the differential C–staining. The birds were caught in the Southern Primorye, where they belonging to different phylogenetic groups pass through the same migration corridor at the same time, according to the results of the sequencing of the cyt b DNA gene (Spiridonova et al., 2013).

Due our data it is possible to clarify the diploid number of chromosomes of this species ($2n = 82 \pm$). Using differential C–banding, the sex ZW chromosomes in females and the ZZ chromosome in males were successfully identified, and also described the morphology of the macrochromosomes of birds. The deviation in the size structure of the *C. calliope* karyotype from the basic structural scheme of Passeriformes karyotype was noted, which agrees with the opinion of other authors.