

THE MINISTRY OF EDUCATION AND SCIENCE  
OF THE RUSSIAN FEDERATION  
TOMSK STATE UNIVERSITY

**FUNDAMENTAL AND APPLIED  
RESEARCHES, EDUCATIONAL  
TRADITIONS IN ZOOLOGY**

Materials of international scientific conference dedicated  
to the 135 th anniversary of Tomsk State University,  
125 th anniversary of Department of Vertebrate Zoology  
and Ecology and Zoological Museum, 20th anniversary  
of Research Laboratory of Bioindication and Environmental  
Monitoring of National Research Tomsk State University,  
14–18 October 2013

Tomsk  
Publishing House Tomsk State University  
2013



**UDK 597/599**

**BBK 28.6**

**F947**

**F947** **Fundamental and applied researches, educational traditions in zoology** : materials of International scientific conference dedicated to the 135-th anniversary of Tomsk State University, 125-th anniversary of Department of Vertebrate Zoology and Ecology and Zoological Museum, 20th anniversary of Research Laboratory of Bioindication and Environmental Monitoring of National Research Tomsk State University / ed. N.S. Moskvitina. – Tomsk : Publishing House Tomsk State University, 2013. – 248 p.

**ISBN 978-5-9462-1419-3**

The present issue includes materials of modern state of some zoology problems. The reports are devoted to fauna, ecology, morphology, systematics, phylogeography of terrestrial vertebrates. Problems of exploitation and conservation of animal world, modern views on infection focus functioning and methods and traditions of zoology and ecology training are discussed.

For students and professors of biological colleges of universities and specialists concerning to problems of environmental management and conservation.

**UDK 597/599**

**BBK 28.6**

**Editor** – professor, D. Sc. N.S. Moskvitina

*The conference was supported by RFFR grant № 13-04-06105*

Translation to English is made by PhD M.M. Samsonova

ISBN 978-5-9462-1419-3

© Tomsk State University, 2013

© Authors of the articles, 2013



## ORGANIZERS:



NATIONAL RESEARCH TOMSK STATE UNIVERSITY

BIOLOGICAL INSTITUTE OF TSU

RUSSIAN FOND FUNDAMENTAL RESEARCHES

THERIOLOGICAL SOCIETY OF RUSSIAN ACADEMY  
OF SCIENCES

RUSSIAN BIRD CONSERVATION UNION

NIKOLSKY'S HERPETOLOGICAL SOCIETY  
OF RUSSIAN ACADEMY OF SCIENCES

### ORGANIZING COMMITTEE

#### **Chairman:**

*Georgy V. Meyer*

– Rector of Tomsk State University, D.Sc., Professor

#### **Co-Chairs:**

*Nina S. Moskvitina*

– D.Sc., Professor (TSU)

*Alexander M. Adam*

– D.Sc., Professor (TSU)

*Mikhail P. Moshkin*

– D.Sc., Professor (Institute of Cytology and Genetics  
SB RAS, Novosibirsk, TSU)

#### **Members of the committee:**

*Vladimir N. Bolshakov*

– Academician of Russian Academy of Sciences  
(Institute of Plant and Animal Ecology, Ural Branch  
of Russian Academy of Sciences, Moscow)

*Emilia I. Vorobyova*

– Academician of Russian Academy of Sciences  
(Institute of Ecology and Evolution, Russian Academy  
of Sciences, Moscow)

*Viacheslav V. Rozhnov*

– Corresponding Member of Russian Academy  
of Sciences (Institute of Ecology and Evolution,  
Russian Academy of Sciences, Moscow)

*Ernest V. Ivanter*

– Corresponding Member of the Russian Academy  
of Sciences (Petrozavodsk State University, Petrozavodsk)

*Iuri S. Ravkin*

– D. Sc., Professor (Institute of Systematics)



- Sergei P. Kulizhsky* – and Ecology of Animals, Novosibirsk, TSU)  
 – Director of Biological Institute, D. Sc., Professor (TSU)
- Vladimir L. Vershinin* – D. Sc., Professor (Ural Federal University,  
 Yekaterinburg)
- Victor V. Glupov* – D. Sc., Professor (Institute of Systematics  
 and Ecology of Animals, Novosibirsk)
- Valery B. Loktev* – D. Sc., Professor (Research Center of Virology  
 and Biotechnology «Vector», Koltsovo,  
 Novosibirsk Region)
- Yuri N. Litvinov* – D. Sc. (Institute of Systematics and Ecology of Animals,  
 Novosibirsk)
- Marina V. Kholodova* – D. Sc., Professor (Institute of Ecology and Evolution,  
 Russian Academy of Sciences, Moscow)
- Alexander I. Koshelev* – D. Sc., Professor (Melitopol State Pedagogical  
 University, Melitopol, Ukraine)
- Sergei S. Moskvitin* – Associate Professor, Head. Zoological Museum of TSU
- Boris D. Kuranov* – D. Sc., Professor (TSU)
- Aleksandr A. Ananin* – D. Sc., (FGBU «Zapovednoe Podlemorye», Ulan-Ude)
- Vadim M. Efimov* – D. Sc., Professor (Institute of Cytology  
 and Genetics SB RAS, Novosibirsk, TSU)

**Secretariat:**

- Igor G. Korobitsyn* – Ph.D., associate professor
- Natalia P. Bolshakova* – Ph.D., research associate of RLBEM
- Vadim V. Yartsev* – graduate, junior researcher of RLBEM

**The Working Group:**

- Lyudmila P. Agulova* – D.Sc., professor
- Olga B. Vaishlya* – Ph.D., associate professor
- Sergei I. Gashkov* – Ph.D., associate professor
- Larisa B. Kravchenko* – Ph.D., associate professor
- Valentina N. Kuranova* – Ph.D., associate professor
- Dmitry V. Kurbatsky* – research associate of RLBEM
- Nelya G. Suchkova* – Ph.D., associate professor
- Oleg Yu. Tyutenkov* – research associate of RLBEM
- Paul G. Vlasenko* – undergraduate
- Alexander V. Zhigalin* – undergraduate



## Some aspects of hibernation of viviparous lizard *Zootoca vivipara*

V.N. KURANOVA<sup>1\*</sup>, V.A. YAKOVLEV<sup>2</sup>

<sup>1</sup> *National Research Tomsk State University (Tomsk, Russia)*

<sup>2</sup> *Altaisky State Nature Biosphere Reserve (Gorno-Altai, Russia)*

\* *kuranova49@mail.ru*

The information of hibernation of viviparous lizard in the North-Eastern Altai (Altaisky Nature Reserve) and at the south of Western Siberia (Tomsk and Kemerovo regions – TKR) at the period from 1973 to 2013 is done. Among 44 findings of hibernation refuges 34 (72.3 %) were found in autumn, 10 (27.7 %) – in spring, with more than 150 lizards found in all.

The hibernation period of lizards in Altaisky Nature Reserve lasted 178–182 days (from the second-third decade of September up to the third decade of April), in TKR – 202–218 days (from the first-second decade of September up to the third decade of April). The hibernation sites were found in anthropogenic and natural landscapes. In Altaisky Nature Reserve 25 (69.4 %, n = 36) hibernation refuges of lizards were found in the soil at a depth of 6–30 cm (kitchen and fruit gardens, plowed fields, cordons), under the boulders on the ground surface (13.9 %), in the stacks of firewood, mounds of earth along the outer walls, cellars, in a piles of hay, under the warmth-keeper cushions in beehives. In TKR in 6 cases (75 %, n = 8) the reptiles were found in the cultivated soil at a depth of 12–25 cm, in 8 cases – in the clay loam of dark coniferous forest edge at a depth of 40–50 cm and in the grass-cereal meadow near the cedar forest at a depth of 20 cm. The animals lay separately in groups of 2–40 individuals, coiled, circinate or in a form of ball. In spring on hibernations, 58 uneven-aged individuals were found; 45 (77.6 %) of them were dead and had an intense light blue coloration of all the body or its ventral part. Dead individuals were found on the ground under the boulder, pile of planks, on the seedbed. The greatest death rate was registered for the young lizards: at 20.04.2011 in the village Yailu (Altaisky Nature Reserve) in the group of 40 dead lizards 39 were juveniles of the previous year 30–38 mm (L) long ( $M = 33.4 \pm 0.38$ ) and 1 adult lizard (L = 57 mm). In July – August at the meadows the lizards used the piles of hay as refuges, stayed there for the winter and died. The dry dead bodies of lizards occurred repeatedly in hay during its transportation and feeding to domestic animals.