

# Contents

Vol. 54, No. 1, 2018

Simultaneous English language translation of the journal is available from Pleiades Publishing, Ltd.  
Distributed worldwide by Springer. *Journal of Evolutionary Biochemistry and Physiology*  
ISSN 0022-0930.

---

---

## Reviews

Distribution Pattern of Serotonergic Neurons in Trematode Cercariae

*N. B. Terenina and S. O. Movsesyan* 1

Evolutionary Aspects of Cardioprotection

*I. V. Shemarova, V. P. Nesterov, S. M. Korotkov, and Yu. A. Sylkin* 8

---

## Comparative and Ontogenetic Biochemistry

New Acylate and Thioacylate Effectors of Mammalian Cholinesterases Based on Cyclic Ammonium Alcohols Containing Elements of the Anabasine Structure

*N. E. Basova, B. N. Kormilitsyn, A. Yu. Perchenok, E. V. Rozengart, V. S. Saakov, and A. A. Suvorov* 22

Changes in Gene Expression and DNA Methylation of Evolutionarily Young AluY Repeats during Apoptosis of Human K562 Erythro-Myeloblastic Leukemia Cells

*I. N. Kabanov, G. R. Mavropulo-Stolyarenko, and L. I. Tishchenko* 30

The Diffusion Capacity of the Hematoparenchymal Barrier in Mammalian and Marine Fish Skeletal Muscles

*A. A. Soldatov* 43

---

## Comparative and Ontogenetic Physiology

Histamine-Mediated Regulation of Electrical Activity during the Bladder—Urethra Interaction in Rats

*K. V. Kazaryan, M. A. Danielyan, R. G. Chibukhchyan, and Sh. G. Margaryan* 50

Developmental Profiles of Hormonal and Metabolic Parameters in Male Rats Selected  
for Catatonic Type of Response

*L. V. Osadchuk and T. A. Alekhina*

59

---

**Morphological Basics  
for Evolution of Functions**

Calcium-Binding Proteins and Cytochrome Oxidase Activity in the Pigeon Entopallium:  
A Comparative Analysis of Interspecies Variability as Related to the Discussion on Avian  
Entopallium Homology

*M. G. Belekhova, D. S. Vasilyev, N. B. Kenigfest, and T. V. Chudinova*

68

---

**Short Communications**

The Influence of NASPM on Short-Term Memory in the Honeybee *Apis mellifera* L.

*N. G. Lopatina, A. I. Vaido, and T. G. Zachepilo*

83

Immunohistochemical Analysis of Renal Endocytic Receptors in the Frog *Rana temporaria*  
during the Spring–Summer Period

*N. P. Prutskova and E. V. Seliverstova*

86

---