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CONTENTS / СОДЕРЖАНИЕ

**Olesia N. Makhutova, Nadezhda N. Sushchik,
Galina S. Kalachova, Alexander V. Ageev**

Fatty Acid Content and Composition of Freshwater Planaria
Dendrocoelopsis sp. (Planariidae, Turbellaria, Platyhelminthes)
from the Yenisei River

— 135 —

**О.С. Таранов, Е.М. Малкова, А.А. Сергеев,
А.Н. Шиков, Е.И. Рябчикова**

Ультраструктурные особенности поражения эпителия бронхов
мышей при заражении разными штаммами вируса гриппа
A/H5N1

— 145 —

Dao Thi Van

Physiological and Cultural Properties of the Luminous Fungus
Omphalotus Af. Illudent

— 157 —

Д.В. Дементьев, А.Я. Болсуновский

Содержание техногенных радионуклидов в кустарниковых
растениях и грибах в зоне влияния Горно-химического
комбината (Красноярский край)

— 172 —

Tamara I. Pisman

Specific Features of Mixed Culture of Invertebrates Maintained
under Laboratory Conditions

— 182 —

Компьютерная верстка **Е.В. Гревцовой**

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Виталий П. Семенченко, Владимир И. Разлуцкий

Факторы, определяющие суточное распределение и перемещения зоопланктона в литоральной зоне пресноводных озер (обзор)

— 191—

Т.А. Зотина, Н.А. Гаевский, Е.А. Радионова

Оценка токсичности тяжелых металлов для водного растения
Elodea canadensis

— 226 —

Elena S. Kravchuk, Elena A. Ivanova

Spatial and Temporal Dynamics of *Anabaena flos-aquae* Akinetes in Bottom Sediments of a Small Siberian Reservoir

— 237 —

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Fatty Acid Content and Composition of Freshwater Planaria *Dendrocoelopsis* sp. (*Planariidae*, *Turbellaria*, *Platyhelminthes*) from the Yenisei River

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For the first time the fatty acid content and composition of freshwater planarian Dendrocoelopsis sp. has been studied in a station of the large Siberian River, the Yenisei. The dominant fatty acids were palmitic, oleic, eicosapentaenoic and docosapentaenoic acids. The characteristic feature of planarian fatty acid composition was that ω 3 docosapentaenoic acid was 2-10 times higher than docosahexaenoic acid. The average content of ω 3 PUFA in the planarian was significantly higher than that of ω 6 PUFA, 7.20 ± 1.21 and 1.22 ± 0.22 mg/g of wet weight, respectively. The content of sum ω 3 PUFAs which are essential for the nutrition of aquatic organisms of the higher trophic levels in the studied planarian was comparatively high.

Keywords: fatty acid, planaria, invertebrate, Turbellaria, Platyhelminthes

Introduction

Planarians are non-parasitic ancient flatworms, which are common representatives of benthic communities in both freshwater and brackish ponds and rivers worldwide. In rivers with high current velocity they occupy and attach on back sides of stones and pebbles, or on algae thallus. The size of the most of planarians specimen ranges from 3 to 12 mm. These flatworms have two or more eye-spots that can detect intensity of light and very simple nervous system (Dogel, 1975). The nervous system includes the ganglion, located at the head of the

planarian and two nerve cords which connect ganglion to the tail. There are many transverse nerves connected to the nerve cords. Digestive system consists of a mouth, located in the center of the underside of the body, pharynx and gastrovascular cavity. The pharynx connects the mouth to the gastrovascular cavity. The digestive system has three main branches throughout the body that increase assimilation and delivery of nutrients to all tissues (Dogel, 1975).

Regeneration processes are active in planarians due to simplicity of the organ systems, therefore, planarians have often been used as an

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