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[home](#) [page](#) [about us](#) [contact](#)

us

Table of Contents

IN PRESS

CJFS 2014

CJFS 2013

CJFS 2012

CJFS 2011

CJFS 2010

CJFS 2009

CJFS 2008

CJFS 2007

CJFS 2006

CJFS 2005

CJFS 2004

CJFS 2003

CJFS 2002

CJFS 2001

CJFS Home

Editorial Board

For Authors

- **Authors Declaration**
- **Instruction to Authors**
- **Guide for Authors**
- **Copyright Statement**
- **Submission**

For Reviewers

- **Guide for Reviewers**
- **Reviewers Login**

Subscription

Czech J. Food Sci.

**Kopicová Z.,
Vavreinová S.:**

Occurrence of squalene and cholesterol in various species of Czech freshwater fish

Czech J. Food Sci., 25 (2007): 195-201

The triterpenoid hydrocarbon squalene, $C_{30}H_{50}$, abundantly occurring in nature, is known as a substance with a high anti-tumour activity proven by a number of research studies. A high content of squalene was found mainly in shark liver oil and also in olive oil and amaranth seed oil. Our work was aimed at examining squalene contents in fresh water fish. Altogether 20 fish species were analysed. Squalene was determined in the unsaponifiable matter of muscular and visceral fat by a capillary gas chromatography method using a flame ionisation detector; the analysis of the unsaponifiable matter was augmented by cholesterol assay. The quantity of squalene found in muscular and visceral fat of individual fish averaged hundreds of mg/kg, ranging from 98.0 to 1536.8

mg/kg in muscular fat and from 70.1 to 1803.8 mg/kg in visceral fat. Muscular cholesterol amounted from 0.011% to 0.170% and visceral cholesterol from 0.104% to 0.297%.

Keywords:

squalene; cholesterol; fat; shark liver; olive oil; amaranth, anti-tumour effects; antioxidant; freshwater fish; unsaponifiable matter; GC

[[fulltext](#)]

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