

Confidential**Review of USB RIFCH PhD Thesis**

Surname of the PhD student: Sayyed Mohammad Hadi	Name of supervisor: . prof. Ing. Otomar Linhart, DrSc.
Title of PhD thesis: Sperm Motility and Behaviour in Model of Teleostean and Chondrosteian Fish	

REVIEWER:

Surname: Pěkníková	Institution: Institute of Biotechnology AS CR, v. v. i. Videnska 1083 142 20 Prague 4
Name: Jana	
Titles: doc., RNDr., CSc.	E-mail: jpeknic@img.cas.cz
Please describe your professional relationship to the PhD student: Cooperation in the grant project (GACR)	Please describe your field of expertise: Reproductive biology, mammalian fertilization, role of selected sperm proteins in sperm/zona pellucida binding

QUESTIONNAIRE**Originality, scientific importance, prospects of the PhD thesis and benefits for basic or applied research**

Evaluate its competitiveness in the international context and compare its level with the current state of the art in the field:

The aim of PhD Thesis was done on biological aspects of sperm in some models of teleostean (*Barbus barbus*, *Perca fluviatilis*, *Esox lucius*) and chondrosteian (*Acipenser ruthenus*) fishes focused on sperm morphology, characterization of seminal plasma and sperm motility. The answers on these aims are important for phylogenesis and systematics.

The results are original and are in the context of global science.

Preparation of the PhD thesis, targets of the work and deliverables

Evaluate the overall level of preparation of the PhD thesis and the originality of the selected approaches; evaluate publications and whether the targets set in the PhD thesis correspond with the declared purpose of the thesis:

This PhD Thesis is standard structured on Introduction, specific chapters (describing biology of sperm in *Barbus barbus*, *Perca fluviatilis*, *Esox lucius* (Teleostei) and *Acipenser ruthenus* (Chondrostei) and at last General Discussion.

The aim of work is brightly defined, experiments attentively performed and results are precise documented, the aim is detailed discussed in the General Discussion.

PhD thesis is in context with 82 refereces in the Introduction and 102 in the General Discussion an other references are in the own publications.

Submitted thesis is satisfactory for acceptance as a PhD thesis.

OVERALL COMMENTARY ON THE PhD THESIS

The aim of present PhD thesis submitted by Sayyed Mohammad Hadi, was study and description sperm morphology, seminal plasma characteristics and sperm motility in three teleostean fishes (*Barbus barbus*, *Perca fluviatilis*, *Esox lucius*) and one chondrosteian (*Acipenser ruthenus*).

Author has great experience in the preparation of publications (documented by 30 publications!), one special issue in peer-reviewed journal and in book and book chapter.

My questions relate to differences in ultrastructure and morphology of sperm, the seminal plasma and sperm motility.

1. Can you explain inter-family and inter-species difference in the morphology and other parameters in the sperm fish?
2. K^+ and Na^+ ions are important for sperm fish motility – do you know something about seminal plasma proteins?
3. Do you know something about binding of seminal plasma proteins to sperm surface?
4. Can these proteins play some role in fertilization?
5. Reflected interspecific differences in morphology and other parameters in the phylogenesis?

The present work goes beyond the limits of high-PhD Thesis. The Thesis is sufficient to obtain a PhD degree.

FINAL RECOMMENDATION

- can be recommended for defence of PhD Thesis
 can be recommended with reservations for defence of PhD Thesis
 can not be recommended for defence of PhD Thesis

2009-07-08, Prague

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Date and place


Běknicová Jana

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surname and signature