



Confidential

Supervisor's Review of USB RIFCH PhD Thesis

Surname of the PhD student: Mujahid Ali Shah, MSc.	Name of supervisor: Martin Pšenička, doc, Ing., Ph.D.
Title of PhD thesis: Sturgeon (Acipenser) represents the evolutionary transition from the holoblastic to meroblastic cleavage pattern and unique gut development.	

OVERALL COMMENTARY ON THE PhD THESIS

The PhD candidate presented a dissertation on cleavage, endoderm and gut development in sturgeon embryos. The thesis consists of a general introduction, two published original articles, one unpublished original article, and a general discussion.

In the first paper, the author developed and optimized a method of targeted cleavage inhibition. In the second paper, he described the development and role of the blastomeres of the vegetal hemisphere of sturgeon eggs. In this paper, he used the developed method of cleavage inhibition and blocked the cleavage of the vegetative pole of the sturgeon embryo. The resulting individuals cleaved "meroblastically" and were fully viable. In this work, the author demonstrated that the blastomeres formed in the vegetative part of the egg have only a nutritional function.

The last comparative study describes the unique development of the endoderm and intestine of sturgeons. As noted in the paper, the sturgeon digests the yolk inside the intestine. No similar development has been observed in any animal to date.

I can state with a clear conscience that the work presented is of a high standard, and I can recommend the candidate for the 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

23.5.2022
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Date and place

PŠENIČKA
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surname and signature