BIOTOXMET PROJECT

overview after third project period

(28. 6. 2023. - 27. 2. 2025.)

PI: Vlatka Filipović Marijić

Ruđer Bošković Institute

THIRD MEETING

Integrated evaluation of aquatic organism responses to metal exposure: gene expression, bioavailability, toxicity and biomarker responses (BIOTOXMET)

Zagreb, 17th February 2025

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ANDRIJA STAMPAR TEACHING INSTITUTE OF PUBLIC HEALTH

WELLFISH DIAGNOSTICS

MONTAN UNIVERSITÄT WWW.UNILEOBEN.AC.AT

FFoQSI FEED AND FOOD QUALITY SAFETY AND INNOVATION

BIOTOXMET

PROJECT COLLABORATORS

Ruđer Bošković Institute – Division for Marine and Environmental Research, Zagreb, Croatia

Dr. Irena Vardić Smrzlić

Dr. Dušica Ivanković

Dr. Damir Valić

Dr. Zrinka Dragun

Dr. Tatjana Mijošek

Dr. Zuzana Redžović

Ivana Karamatić, mag. ing. techn. aliment.

Dr. Tomislav Kralj

Sara Šariri, PhD student

Marija Kuštro, PhD student

Dr. Željka Fiket

1st project period 28.12.2020.-27.12.2021.
2nd project period 28.12.2021.-27.6.2023.
3rd project period 28.6.2023.-27.2.2025.

28.12.2020.-27.2.2025.

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PROJECT COLLABORATORS

- **Institute for Medical Research and Occupational Health, Zagreb, Croatia**

Dr. Zorana Kljaković-Gašpić

Andrija Stampar Teaching Institute of Public Health, Zagreb, Croatia

Dr. Želimira Cvetković

- **Wellfish Diagnostics, Paisley, UK**

Dr. Josip Barišić

- **University of Leoben, Leoben, Austria**

Dr. Thomas Prohaska

Dr. Donata Bandoniene

Dr. Johanna Irrgeher

- **Austrian Competence Centre for Feed and Food Quality, Safety & Innovation, Tulln, Austria**

Dr. Andreas Zitek

PROJECT GOALS

1. seasonal and long-term trends of metal concentrations in the water and sediments of the Krka River and its tributaries

2. biological responses of aquatic organisms to metal exposure/impact under different environmental conditions

3. bioavailable and potentially toxic fraction of dietborne metals in fish

4. active cellular processes in acanthocephalans and fish intestine under different metal exposure regimes

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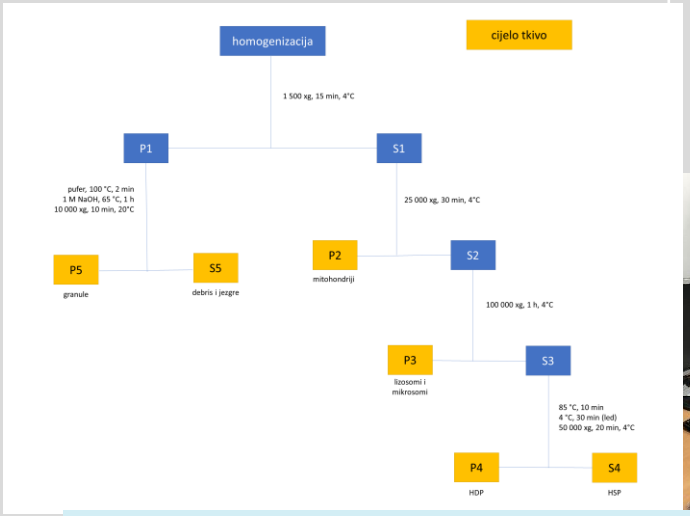
Work plan – 3rd project period

Results to be achieved	Team member
3.1. metal concentrations measured in the following intestinal fractions: **a) metal sensitive fraction (MSF)** **b) biologically detoxified metal fraction (BDM)** **c) trophically available metal fraction (TAM)**	D. Ivanković Z. Dragun T. Mijošek Z. Redžović V. Filipović Marijić S. Šariri



The data analyzed and report on bioavaialble fraction of dietary metals prepared

Presenter: Sara Šariri

P2 P3 P4 S4 P5 S5

P2 P3 P4 S4 P5 S5

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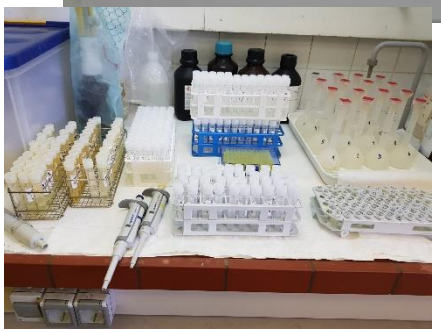
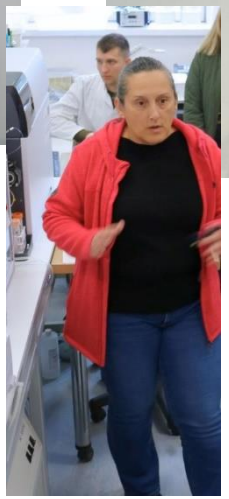
Work plan – 3rd project period

Results to be achieved	Team member
3.2. Gut content digested and total metal concentrations measured, conclusions and reports on the dietborne metal levels prepared	Z. Dragun T. Mijošek S. Šariri Z. Kljaković-Gašpić









Presenter: Zuzana Redžović

Work plan – 3rd project period

Results to be achieved	Team member
3.3. Cytosolic proteins of different molecular masses in fish intestine and acanthocephalans separated, data analysed and report prepared	S. Šariri T. Mijošek I. Karamatić

Presenter: Tatjana Mijošek Pavin

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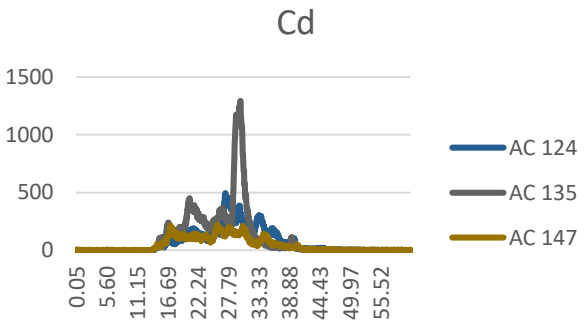
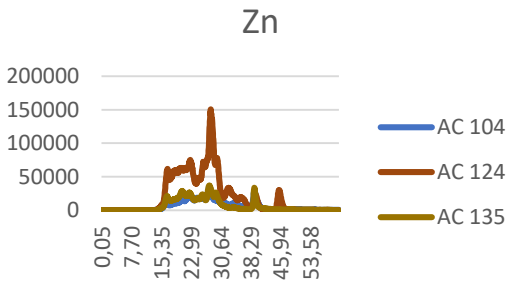
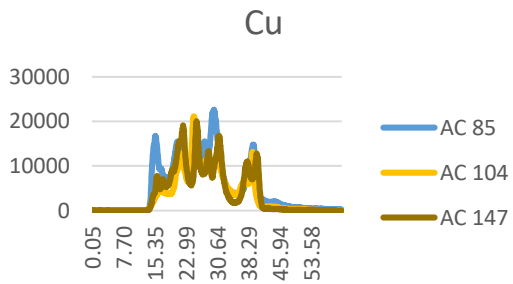
Work plan – 3rd project period

Results to be achieved	Team member
3.4. Metal concentrations in cytosolic protein fractions of different molecular masses in fish intestine and acanthocephalans analysed	T. Mijošek S. Šariri Z. Dragun







Presenter: Tatjana Mijošek Pavin

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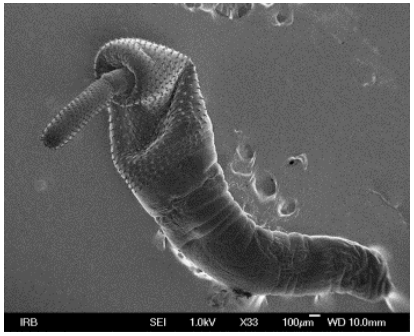
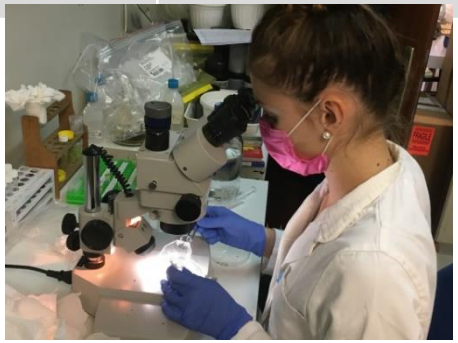
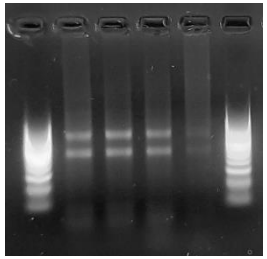
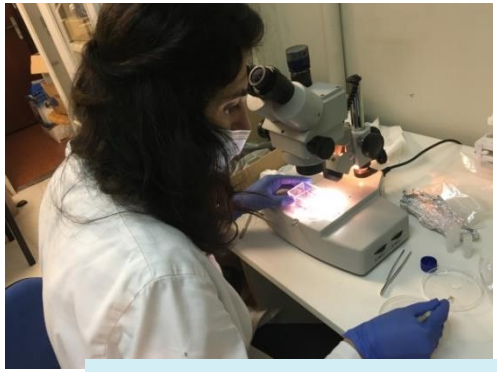
Work plan – 3rd project period

Results to be achieved	Team member
3.5. Expression of target genes in RT-qPCR reactions determined to confirm transcriptome analysis of fish intestine	I. Vardić Smrzlić S. Šariri





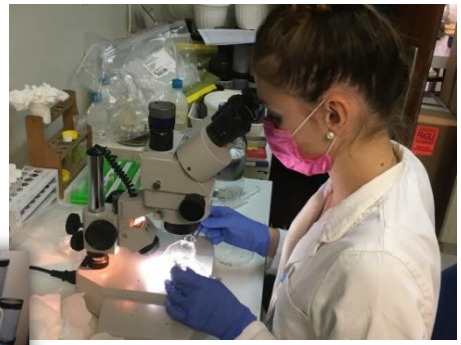




Presenter: Irena Vardić Smrzlić

Work plan – 3rd project period

Results to be achieved	Team member
New recearch filed – First insigh in microplastics presence in the water and fish from the Krka River	S. Šariri M. Kuštro



Presenter: Lara Vereecke

Overview of the project achievements

Presentations	Team member
General overview of the field work activities	T. Kralj
General overview of histopathological changes in fish soft tissues	J. Barišić
BIOTOXMET – overview of the project achievements and final words	V. Filipović Marijić
Art exhibition of primary school students (Primary School Braća Bobetko Sisak, Primary School Ivana Kukuljevića Sisak): Our vision of water pollution	prof. Goran Filipović
Lunch at Mlinarica Restaurant	All members

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