EN

Title of the project:

Advanced technologies for the culture of barbel (Barbus barbus) for effective stocking: optimisation of stocking material production...

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Project Information:

The project aims to develop and optimise technologies for the production of high-quality stocking material of European barbel (Barbus barbus), with particular emphasis on the conservation and restoration of freshwater fish populations.

The research will integrate practical fish-culture approaches with modern reproductive biotechnology. The project will focus on optimisation of broodstock management and reproduction, larval rearing, feeding strategies, gamete quality, short-term gamete storage, cryopreservation and fertilisation procedures.

A particular objective will be to improve the efficiency and predictability of barbel reproduction under hatchery conditions and to develop methods allowing preservation of genetic material from local populations. The project will also investigate the relationship between broodstock nutrition, including the use of insect-derived dietary components, and reproductive performance and gamete quality.

The work will combine controlled experiments with practical implementation under aquaculture/hatchery conditions. Research will be conducted in cooperation between the InLife Institute of Animal Reproduction and Food Research of the Polish Academy of Sciences and the Polish Angling Association, District in Wrocław, including the Szczodre Fish Stocking Centre. The cooperating centre provides RAS systems, hatchery infrastructure, broodstock facilities and extensive experience in the production of rheophilic cyprinid fish.

The expected outcome of the project is the development of scientifically validated and practically applicable procedures for barbel reproduction, gamete handling, cryopreservation, larval rearing and production of stocking material, followed by their implementation in fish hatchery practice..

The successful candidate will be responsible for:

• conducting experiments on broodstock management and controlled reproduction of European barbel (*Barbus barbus*);

• handling broodstock and performing practical hatchery procedures related to spawning, egg incubation and larval production;

• monitoring and optimising environmental and husbandry conditions, including water temperature, oxygenation, water quality and stocking conditions;

• conducting experiments on broodstock and larval nutrition, including evaluation of diets containing insect-derived components;

• collection, handling and quality assessment of fish gametes, particularly sperm;

• conducting experiments on short-term gamete storage and sperm cryopreservation, including testing extenders, cryoprotectants and freezing protocols;

• performing fertilisation experiments and assessing reproductive outcomes, including fertilisation, embryo development, hatching and larval survival;

• analysing experimental data, preparing scientific publications, conference presentations, doctoral dissertation and practical protocols/guidelines for implementation in fish hatcheries.

Requirements:

1. A Master's degree or equivalent qualification entitling the candidate to enrol in a doctoral school, obtained before the project start date (1 October 2026), together with documented academic or specialist education in fisheries, ichthyology or aquaculture, obtained through university studies, postgraduate studies or an equivalent recognised programme of education.;
2. A condition for participation in the project is full-time employment, no later than 1 October 2026, by the Polish Angling Association, Wrocław District, which is the cooperating entity in the project. The candidate must therefore either already be employed by the cooperating entity or be eligible for employment there before the project start date.
3. Practical experience in fish culture/aquaculture, including work with live fish under hatchery or experimental conditions;
4. Practical experience in fish reproduction, preferably including broodstock handling, spawning, gamete collection, egg fertilisation, incubation and/or larval rearing;
5. Knowledge of the biology, husbandry and reproduction of freshwater fish; experience with cyprinid fish will be particularly appreciated;
6. Very good command of spoken and written English;
7. Strong motivation for scientific research, analytical thinking, the ability to critically analyse scientific literature, good organisational skills, reliability, and the ability to work both independently and as part of a team.

<u>Additional assets:</u>

• practical experience in a commercial, research or stocking fish hatchery;
• experience in reproduction and culture of rheophilic or cyprinid fish;
• experience in fish sperm quality assessment, gamete storage, cryopreservation or assisted reproduction techniques;
• experience in designing and conducting experiments with fish;
• knowledge of basic laboratory techniques, microscopy and quantitative biological measurements;
• experience in statistical analysis of biological data;
• scientific publications, conference presentations or participation in research projects;
• driving licence and readiness to participate in experimental work conducted at collaborating fish hatcheries.

Selection process:

- Applications will be assessed in accordance with the criteria set out in the regulations for awarding research scholarships in research projects financed by the National Science Centre;

- Only online applications will be considered;
- Candidates evaluated with the highest score will be invited to an actual interview, which will take place face-to-face or online;
- During the interview, the candidate will be asked to deliver a 10-minute presentation on their Master's thesis and research interests;
- The final recruitment results will be published on InLife webpage within 10 days after final decision;

Important information:

- **Application submission period:** September 11, 2026
- **Application method:** application form
- **Interviews: September** 15-16, 2026
- **Location:** Olsztyn, Poland
- **Duration of the scholarship:** 48 months
- **Expected start date:** October 1st, 2026
- **Number of positions:** 1