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| Towards a better understanding of the diversity, phylogeny and life cycles of blood flukes in freshwater fishProject leader: Dr. Olena KudlaiPostdoctoral fellow: Dr. 2024 - 2026Source of funding: Programme of investment actions of European Union funds |
| Blood flukes are important pathogens of fishes worldwide. These flukes require one intermediate host (gastropods, bivalves or polychaetes) to complete their life cycles. Their adults inhabit blood vessels, heart, liver and other highly vascularized organs of fish, and are associated with losses in aquaculture due to mortalities of the infected fi sh. However, despite their global distribution, and socio-economic and ecological importance, these flukes (especially of freshwater fishes) are understudied. The paucity of studies is attributed to methodological challenges that are associated with isolating and studying them, and the scarcity of parasitologists who study these parasites. Thus, the diversity, life cycles, infection rates and distribution of most freshwater fish blood flukes are largely unknown. In principle, two families (Acipensericolidae and Sanguinicolidae) are currently known to infect freshwater fish. Unfortunately, for most species assigned to the family Sanguinicolidae, morphological descriptions are incomplete and genetic data is lacking. Therefore, the proposed study intends to fill this gap by (i) providing comprehensive morphological descriptions, (ii) assessing genetic variations, species richness, infection parameters and(iii) elucidating the life cycles of blood flukes in freshwater fish from Lithuania and South Africa, distinct bioregions with similar blood fluke taxa. Moreover, this study will optimise a protocol for efficiently collecting blood flukes from freshwater fish. It is envisaged that new taxa of fish blood flukes will be discovered and described. The obtained results will be published in high impact journals, communicated to a broad scientific audience in international conferences, and voucher specimens and genetic data will be made available in the public data bases. The project will contribute to sharpening the skills of the postdoctoral researcher, who will in turn train the next generation of parasitologists. |