

National Amazon Research Institute - INPA
Center for Integrated Studies on Amazon Biodiversity - CENBAM
Biodiversity Research Program - PPBio/Núcleo Regional Humaitá
Federal University of Amazonas - UFAM
Laboratory of Ichthyology and Fisheries Management Vale do Rio Madeira LIOP

RAPELD Training Course Activity Report

“RAPELD Protocol: methods for collecting fish from streams and temporary pools at the Cuniã Ecological Station, Rondônia”

Realization: CENBAM and LIOP/UFAM

Support and Financing: PELD-PSAM/CNPq (Public Call No. 021/2020-PELD), BACIAS/CNPq, Banzeiro da Educação/CNPq and PPBio Amazônia Oeste.

Course period: 01/9/2024 to 01/19/2024.

Speaker: Mariel Acácio de Lima.

Course organizer: Mariel Acácio, Education Coordinator - LIOP/UFAM.

ABOUT PELD

PELD (Long-Term Ecological Research) is an extremely relevant initiative to obtain environmental information for the conservation of biodiversity and sustainable use of Brazilian natural resources. Created in 1996, PELD provides the investigation of topics such as the composition, functioning and dynamics of ecosystems and the effects of changes caused by natural and/or anthropogenic disturbances, as well as the understanding of key ecological processes and patterns that shape the planet's biodiversity and its environmental services (adapted from the PELD website).

ABOUT PPBIO

The Biodiversity Research Program - PPBIO aims to promote biodiversity studies in Brazil, reduce regional inequalities in scientific research, integrate research activities and disseminate knowledge to promote environmental management and education (Rosa et al., 2021). The current structure of PPBIO increasingly integrates national and international researchers, with similar networks in other countries (Australia, Nepal and Argentina), indicating the success of the program. Furthermore, human resources and training are essential for the maintenance and expansion of PPBIO. Many of the masters and doctors trained today are coordinators and researchers in different regional centers, reflecting the quantity and quality of scientific studies produced by the PPBIO team (Rosa et al., 2021).

COURSE OBJECTIVES

Train local researchers and students to carry out the standardized fish collection protocol using the RAPELD method in fixed aquatic plots and temporary puddles, and guide the basic procedures that will help in the identification of fish from streams in the Esec Cuniã research grid.

COURSE INFORMATION

The course was taught by researcher Mariel Acácio de Lima, master in Freshwater Biology and Inland Fisheries – BADPI/INPA, biologist graduated from the Federal University of Acre – UFAC, with experience in ecology and conservation of aquatic organisms. He is currently a CNPq fellow, Banzeiro da Educação project – SALAS/CNPq and collaborator of the Biodiversity Research Program in the Western Amazon - PPBio AmOc.

Participants had the opportunity to carry out the collection protocol in streams of RAPELD modules, using various equipment essential for collecting abiotic data and fish capture traps. Furthermore, this training course will contribute to the research being carried out with fish from streams in the research grid located at the Cuniã Ecological Station, southwest of the Amazon. This area is also known as the Purus Madeira interfluvium, full of endemic fish species that could be compromised by changes caused by road paving, deforestation and land use for agricultural purposes.

Workload: **90h**

Period: **09-01-2024 to 19-01-2024**

Number of participants: **7**

Speaker: **Mariel Acácio de Lima.**

Target Audience: **research fellows, undergraduate and postgraduate students, teachers and professionals from different areas of scientific research.**

SUPPORT and FINANCING



COURSE PROGRAMMING AND CONTENT.

Theoretical program (10h):

- Presentation of PPBio and PELD;
- Studying biodiversity;
- Species distribution models;
- Diversity indices;
- Characterization of aquatic habitats;
- Standardized collections: RAPELD;
- Safety in the field and use of PPE;
- Use and safety of Equipment;
- Collection of abiotic components;
- Fish catching methods;
- Organization and management of data;
- PPBIO metadata/data repository;

Practical Program (80h):

- Measurement of abiotic data (physical and limnological);
- Fixed aquatic plots (igarapés);
- Fish sampling in temporary pools;
- Active collections (sieves, puçá) and passive (gill nets);
- Screening of fish from streams.

METHODOLOGY

The course was held from January 9th to 19th, 2024, lasting 90 hours, divided into theoretical (10h/class) and practical (80h/class) content. The theoretical content was taught at the Laboratory of Ichthyology and Fisheries Management – LIOP/UFAM, which acts as the Humaitá Regional Center of PPBioAmOc. Theoretical classes were presented on slides with a multimedia projector. The practical classes took place in 15 plots of 50 m in streams of Esec Cuniã, located on BR-319.

PROGRAM AND CONTENT

Theoretical content (10h):

- Streams and associated habitats;
- Introduction to the ichthyofauna of streams;
- Fish collection methods;
- Methods for collecting abiotic variables;
- Wealth, abundance and diversity.

Practical content (80h)

- Demarcation of aquatic parcels;
- Collection of physical data from the stream (width, depth, current speed and flow rate);
- Collection of abiotic data;

- Collecting fish in streams and puddles;
- Sorting (storage, fixation and conservation of specimens).

Participants:

- Jairo Ildefonso Guimarães Piñeyro, Fisheries Resources Technician, UNIR, Rondônia;
- Samuel Elias de Souza Rosa, Biology Student at UNIR, Rondônia;
- Cidiane Melo Oliveira, Fisheries Engineer, Master in Environmental Sciences, PhD candidate in the PGDRA-UNIR program, Rondônia;
- Uécson Suendel Costa de Oliveira, Biologist, Master in Conservation and Use of Natural Resources, LABIOGEOQ/UNIR;
- Igor Hister Lourenço, agronomist, Master in Environmental Sciences, LIOP/UFAM, Humaitá;
- Jeissy Adiene Queiroz Santana, Environmental Engineer, Master in Environmental Sciences, LIOP/UFAM, Humaitá;
- Matheus Mendes Nina, biologist, master's student at PPGCA/UFAM, Humaitá.

ATTACHMENTS - Photos from the Training Course at Esec Cuniã



Figure 1. Participants of the RAPELD Training Course held at Estação Ecológica Cuniã, Rondônia, BR-319, Brazil.



Figure 2. Delimitation of the 50 m aquatic plot and researcher Cidiane Melo writing down information from the abiotic data.



Figure 3. Training course participants practicing the use of active traps to capture fish from streams.



Figure 4. Training course participants practicing the use of active traps to capture fish from streams.



Figure 5. Fish screening at the camp located inside the Esec Cuniã Research Grid, Rondônia, Brazil.