

PIANOFORTE mobility program - Mission report:

Field mission to Fukushima – May 27-July 5, 2024

Léa Dasque

Thanks to the mobility grant generously provided by Pianoforte, I was able to carry out an essential field mission in Fukushima, Japan, which has been crucial for the advancement of my doctoral thesis. My research, titled "Study of the effects of environmental radio-contamination on the ecophysiology of an amphibian, the tree frog," is conducted at the French Institute for Radiological Protection and Nuclear Safety (IRSN) and Lyon I University.

The primary aim of the mission was to investigate whether the changes in energy allocation observed in male *Dryophytes japonicus* (tree frogs) from radiocontaminated areas, which were documented during the first year of my thesis, translate into modifications in their calls. Male calls are a critical aspect of reproductive success in this species, and understanding any alterations in these calls could provide deeper insights into the impact of environmental contamination on wildlife. Additionally, this mission provided a valuable opportunity to strengthen the scientific collaboration between our laboratory and the Institute of Environmental Radioactivity (IER) at Fukushima University, with whom we have a longstanding relationship.

During the mission in June 2024, I conducted a field campaign in Fukushima, where, with the support of IER researchers, we identified several sites that represented a gradient of radiocontamination. At each of these sites, I recorded the calls of male tree frogs using high-quality recording equipment, while simultaneously documenting the environmental conditions such as temperature and humidity. These recordings will be later analysed in the laboratory to compare the acoustic characteristics of the calls, including their frequency, duration, and intensity, relative to the contamination levels at each site.

Beyond the immediate research findings, this mission significantly reinforced the collaboration between our laboratory and the IER. The exchange of field methodologies and analytical techniques not only enriched our team's technical capabilities but also laid the groundwork for potential future research projects, particularly those exploring the long-term impacts of radioactive contamination on other sentinel species in the region.

On a personal level, this field mission was an invaluable experience that contributed greatly to my professional development. It allowed me to hone my project management skills in the field, adapt to unforeseen challenges, and enhance my intercultural communication abilities. This experience also increased my autonomy and confidence as an emerging researcher, particularly in the domain of radioecology.

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