Evolutionary history of *Leopoldamys neilli*, a karst endemic rodent in Southeast Asia, and implications for its conservation

Alice Latinne[1], Surachit Waengsothorn[2] & Johan Michaux[1,3]

[1]Conservation Genetics Unit, University of Liège, Belgium

[2]Environment and Resources Technology Department, Thailand Institute of Scientific and Technological Research, Pathum Thani, Thailand

[3]Centre de Biologie et de Gestion des Populations, UMR INRA/IRD/Cirad/Montpellier Supagro, Campus international de Baillarguet, Montferrier-sur-Lez, France

In this study, we have investigated the phylogeography of *Leopoldamys neilli*, a Murinae rodent species endemic to limestone karsts in Southeast Asia, on the basis of mitochondrial and nuclear markers.

Both mitochondrial and nuclear markers support a large-scale population structure of four main groups within *L. neilli* and a strong finer structure within each of these groups. A deep genealogical divergence among geographically close lineages is observed and denotes a high population fragmentation. Our findings suggest that the current phylogeographic pattern of this species results from the fragmentation of a widespread ancestral population and that vicariance has played a significant role in the evolutionary history of *L. neilli* during Plio-Pleistocene.

This study revealed an unexpected high level of intraspecific diversity within *L. neilli*. Consequently, the four main *L. neilli* population groups should be considered as four distinct Evolutionarily Significant Units (ESUs) and require appropriate management and conservation plans.