The karyotype of *Myotis daubentonii*: A first step towards chromosome evolution of the species

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1. Introduction

- Medium size bat;
- Insect predator;
- Daubenton’s bats catch their prey from still water surfaces using slow hawking and gaffing techniques.
- The fur is characterized as brown-gray to a slightly red dark bronze on the dorsum and silver-gray to white on the belly;
- Some diagnostic characters of Daubenton’s bats include a large foot;
- Unique trawling bat specie strictly associated with riparian habitats in Portugal;
- Conservation status: Least Concern.

Myotis daubentonii
1. Introduction

**Myotis daubentonii**

Cytogenetics is important to evolutionary, taxonomic and phylogenetic studies.

Main objective:

Obtainment of the organized karyotype of *M. daubentonii daubentonii* and chromosome evolution analysis.
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2. Methods

**Mist netting**

**biometric collection**

**biologic sampling collection (3mm punch)**
2. Methods

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- **Methods**
  - C-banding
  - G-banding

- **Chromosome preparations**
  - Primary cell culture
  - Cell line
  - Cryopreservation (Bat Cell Bank)
  - Further studies
  - Further studies
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3. Results and discussion

G-banding

C-banding
3. Results and discussion

Myotis daubentonii daubentonii

2n=44

Most of Myotis species exhibit 44 chromosomes, however their organization isn’t yet fully known. The repetitive fraction (constitutive heterochromatin and transposable elements) of these genomes is poorly understood.
4. Conclusions and future perspectives

Why is *M. daubentonii* *daubentonii* karyotype important?

- **Knowledge** about the species itself;
- First step to complex **evolutionary studies**.

What's next?

- Obtainment and comparison with the karyotype of *M. daubentonii nathalinae*;
- Obtainment of the **karyotype** of all the bat species existing in **Portugal**;
- Analysis of the **mobile genome** (set of transposable elements in each genome) of these species and its involvement in their karyotype organization and evolution that may impact on the diversity and peculiar biology of bat species.
Thank you!