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Speciation in Cicada Populations: Data Management in Ecology & Evolutionary Biology

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Speciation in Cicada Populations

Data Management in Ecology & Evolutionary Biology

Carey MacDonald | Simmons College School of Library & Information Science | Carey.macdonald@simmons.edu

Introduction

This case study was developed for the Scientific Research Data Management course at Simmons College, and focuses on research led by an ecology & evolutionary biology laboratory at a reputable research university in New England.

Research Goals

To understand the effects of landscape & climate changes on speciation in New Zealand cicadas.



Case Study Method

An interview instrument was developed using the Johns Hopkins University DMP template and the New England Collaborative Data Management Curriculum simplified DMP template to interview a postdoctoral researcher over Skype, and twice more over email. A case study and DMP were subsequently written.

Data Management Modules

Module 2: Data Types & Products

Current Specimens, DNA, JPGs, SHPs, RAW Audio
+ Use archival-quality TIFF

Module 3: Contextual Details (Metadata)

Current Specimen code applied at each stage
+ Apply metadata schema as well

Module 4: Data Storage, Backup & Security

Current Hard drive & Cloud storage & backups
+ Migrate from paper to ELNs as well

Module 5: Legal & Ethical Concerns

Current No anonymization or animal welfare concerns

Module 6: Data Sharing & Reuse

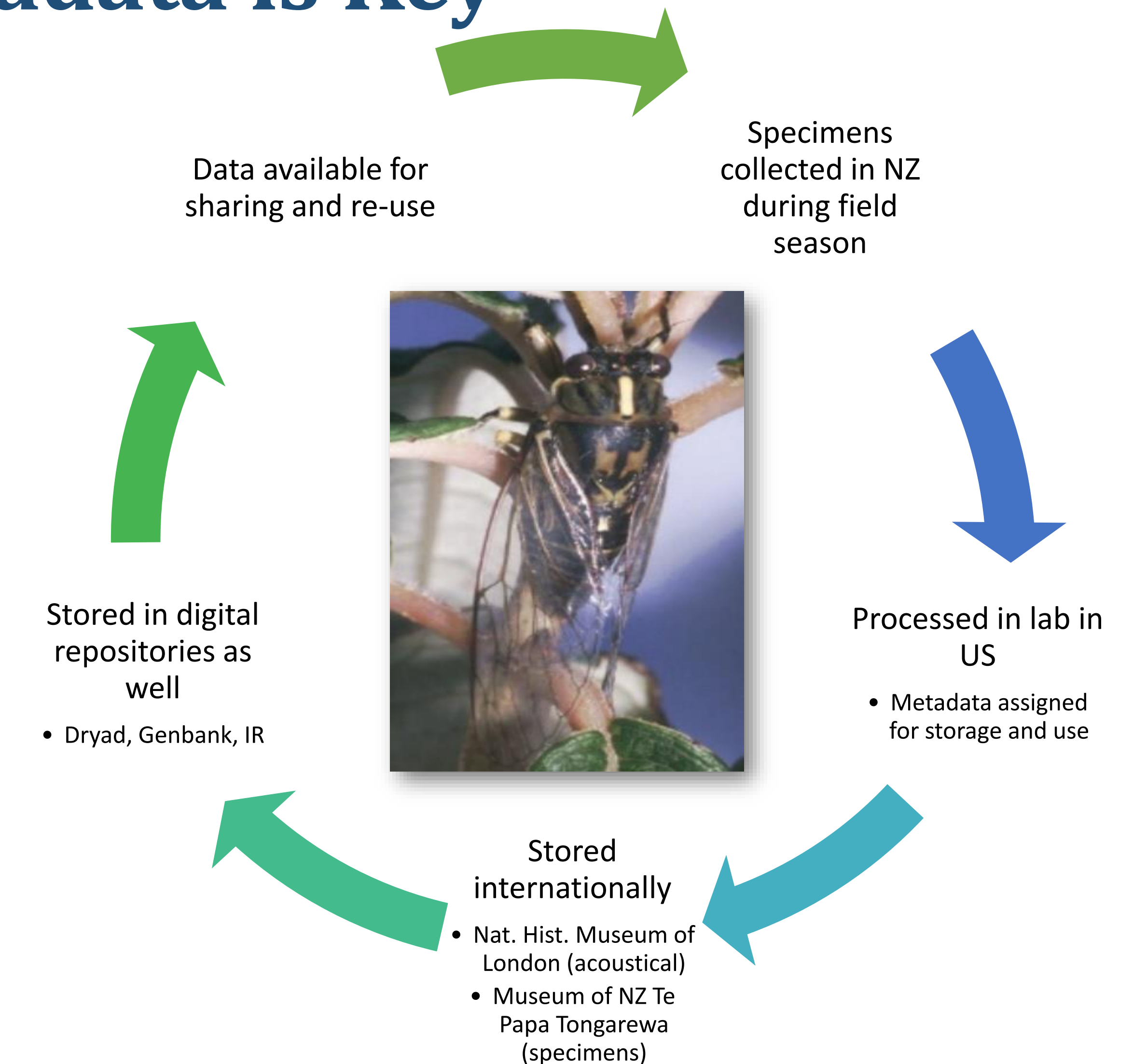
Current Data available for sharing and reuse
+ Reduce amount of embargoed data

Module 7: Data Archiving & Preservation

Current Dryad, Genbank, museum repositories & lab website databases
+ Migrate from website to IR & Dryad

+ = DMP proposed change

Metadata is Key



Conclusion

Metadata and the storage and preservation of research data are critical to sharing and reuse for future research, as stipulated by the DMP.

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