Comparative phylogeography of rodents from Sudanian savanna: new inside in supermatrix

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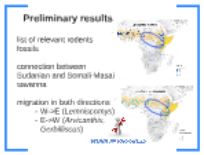
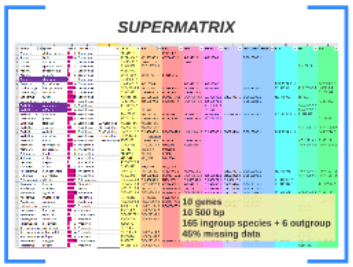
Aghová T., Dobigny G., Granjon L., Bryja J. & Kergoat G.

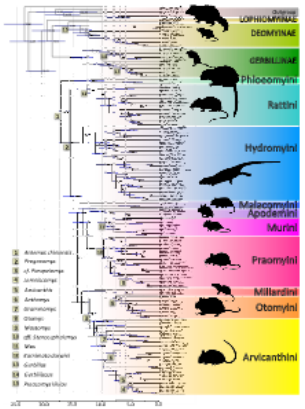
Summary

- specialists
- big multilocus phylogeny
- fossils selection
- first integrative phylogeography of Sudanian savanna



1. Molecular dating for family MURIDAE

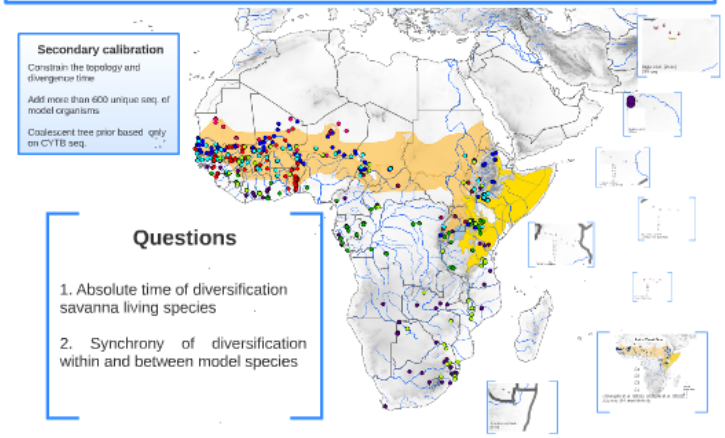




Molecular clock

- rapid increase of molecular methods
- stagnation of fossil calibration points
- Mus-Rattus split

2. Phylogeography of rodents from Sudanian savanna



Questions

1. Absolute time of diversification savanna living species
2. Synchrony of diversification within and between model species

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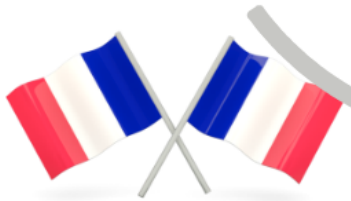
Sudanian savanna



Somali-Masai savanna

CBGP

INRA SCIENCE & IMPACT cirad IRD Institut de recherche pour le développement SupAgro Montpellier

UNIVERSITAS MASARYKIANA BRUNENSIS

Design of project

multilocus phylogeny of family Muridae

primary calibration

secondary calibration

comparative phylogeography

1. Molecular dating for family MURIDAE

SUPERMATRIX

10 genes
10 500 bp
165 ingroup species + 6 outgroup
45% missing data

Molecular clock

- rapid increase of molecular methods
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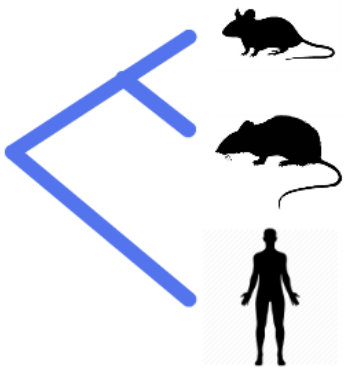
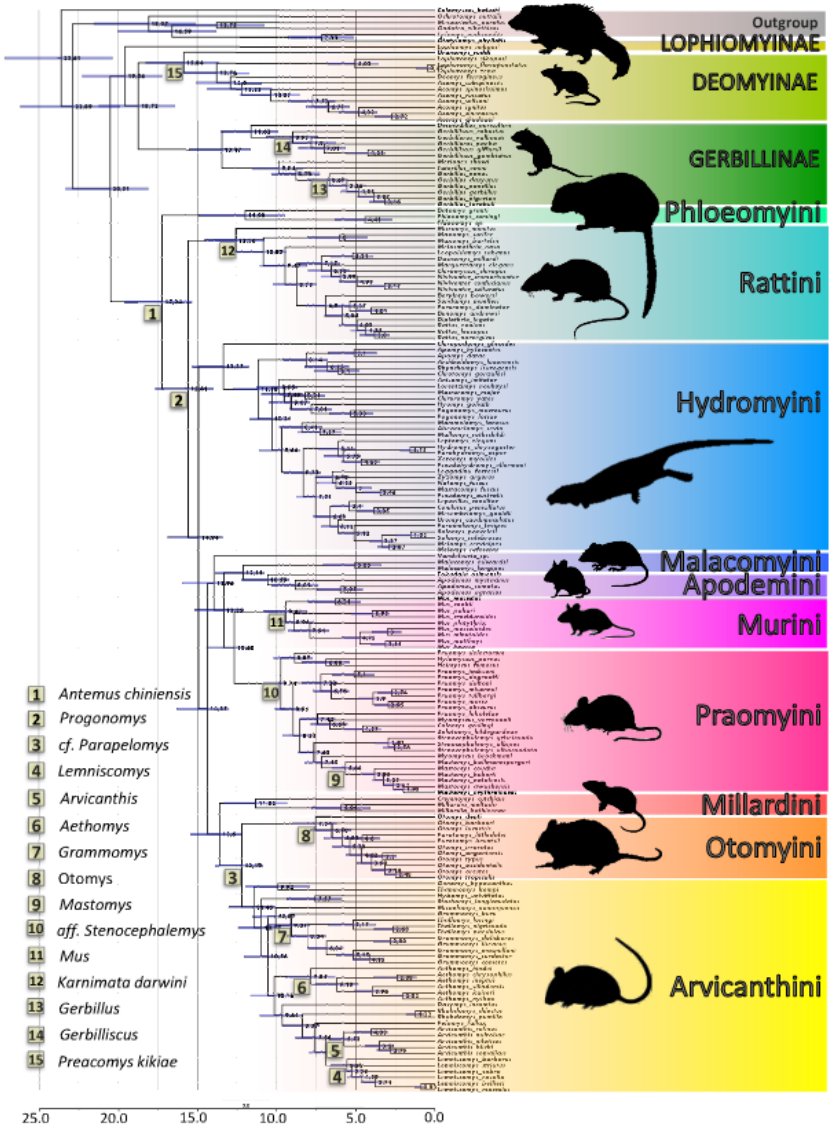




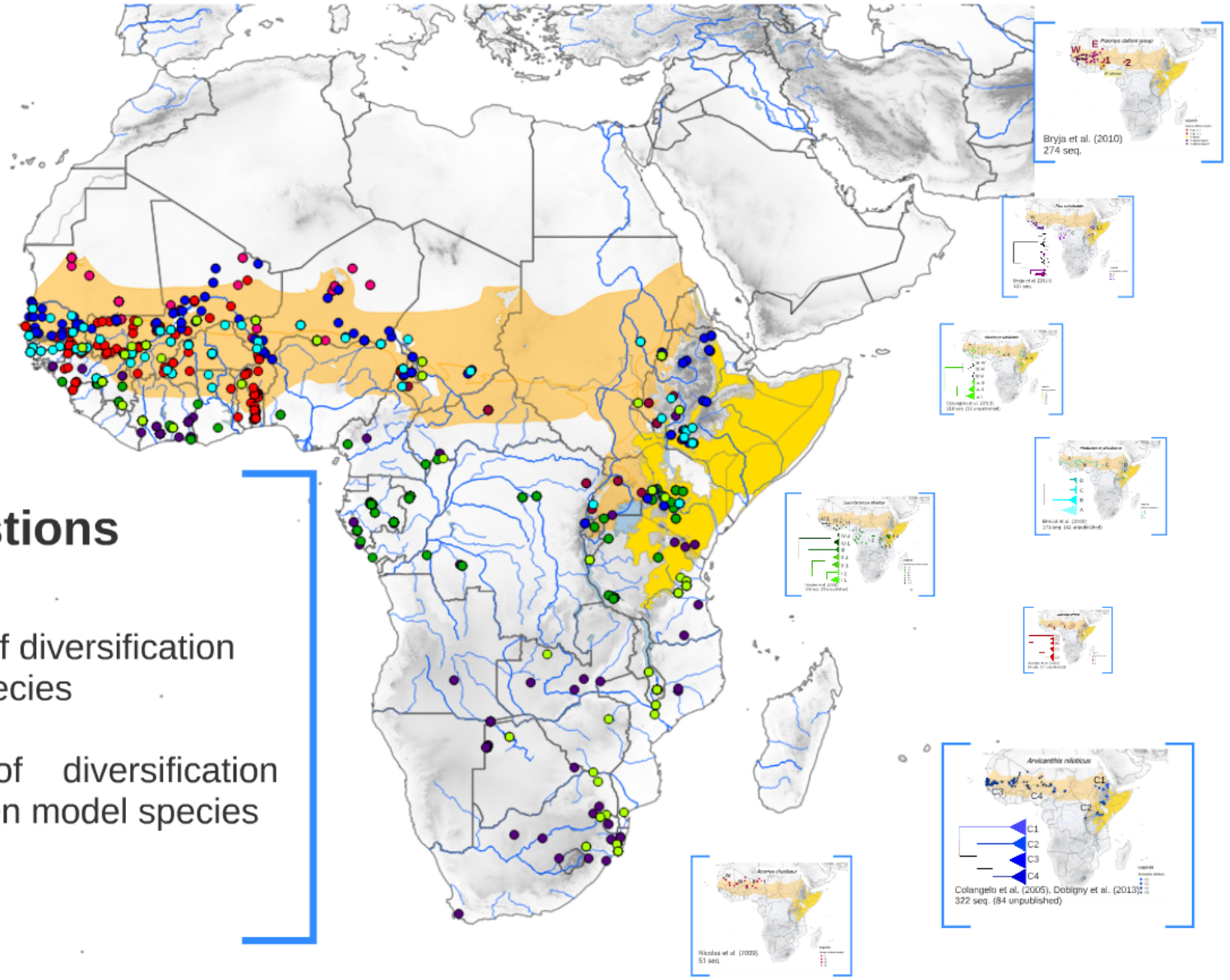
2. Phylogeography of rodents from Sudanian savanna

Secondary calibration

Constrain the topology and divergence time

Add more than 600 unique seq. of model organisms

Coalescent tree prior based only on CYTB seq.



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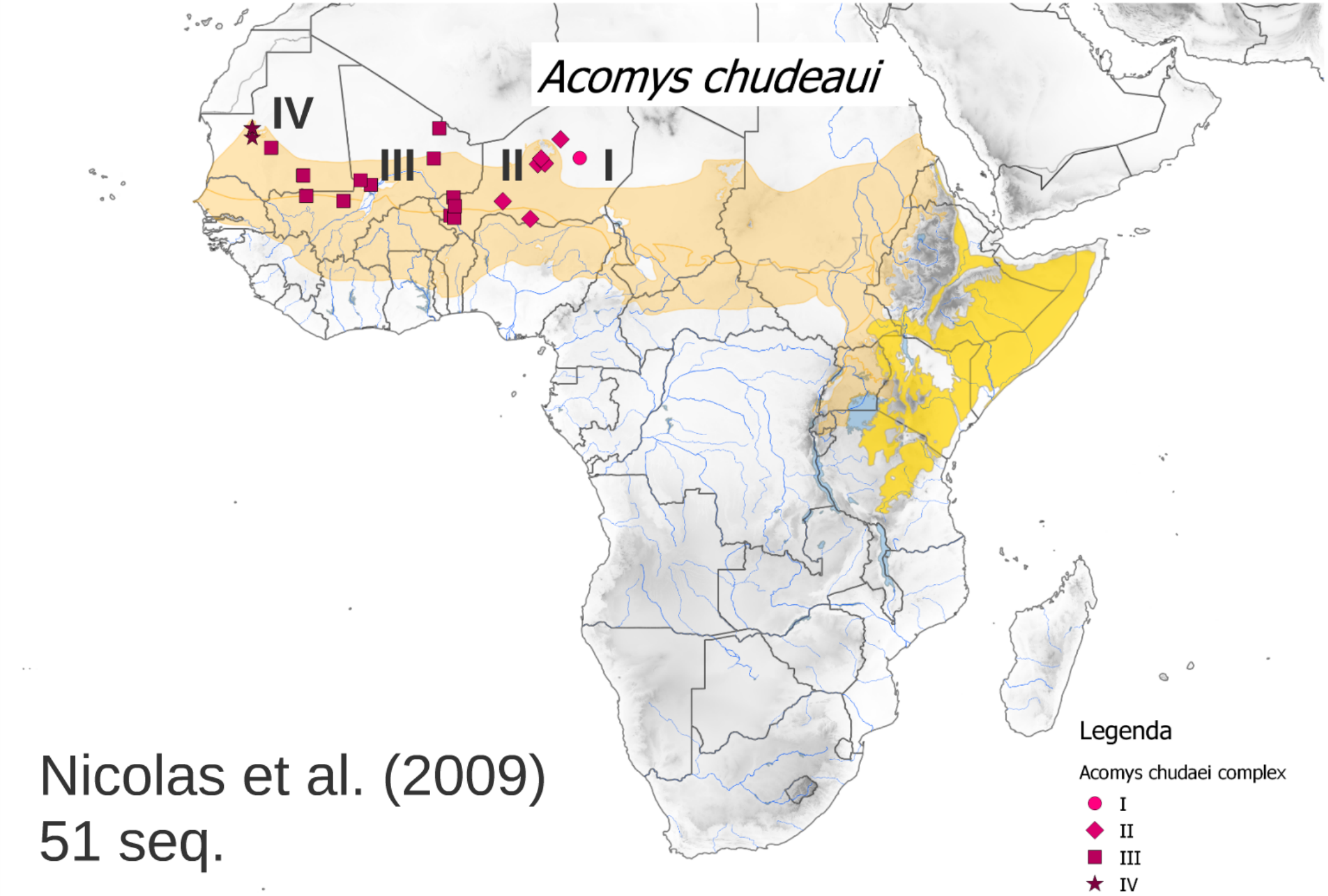
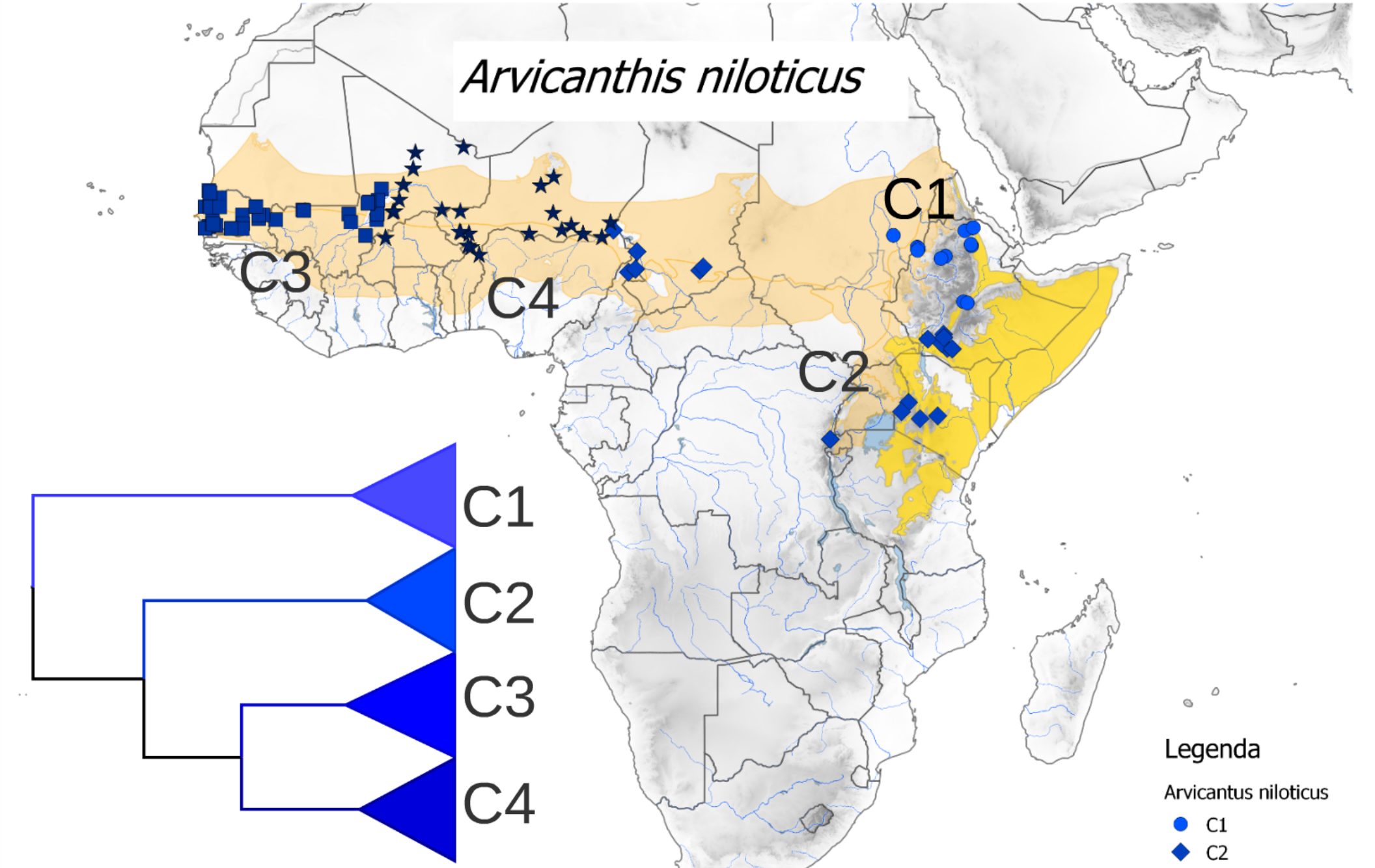
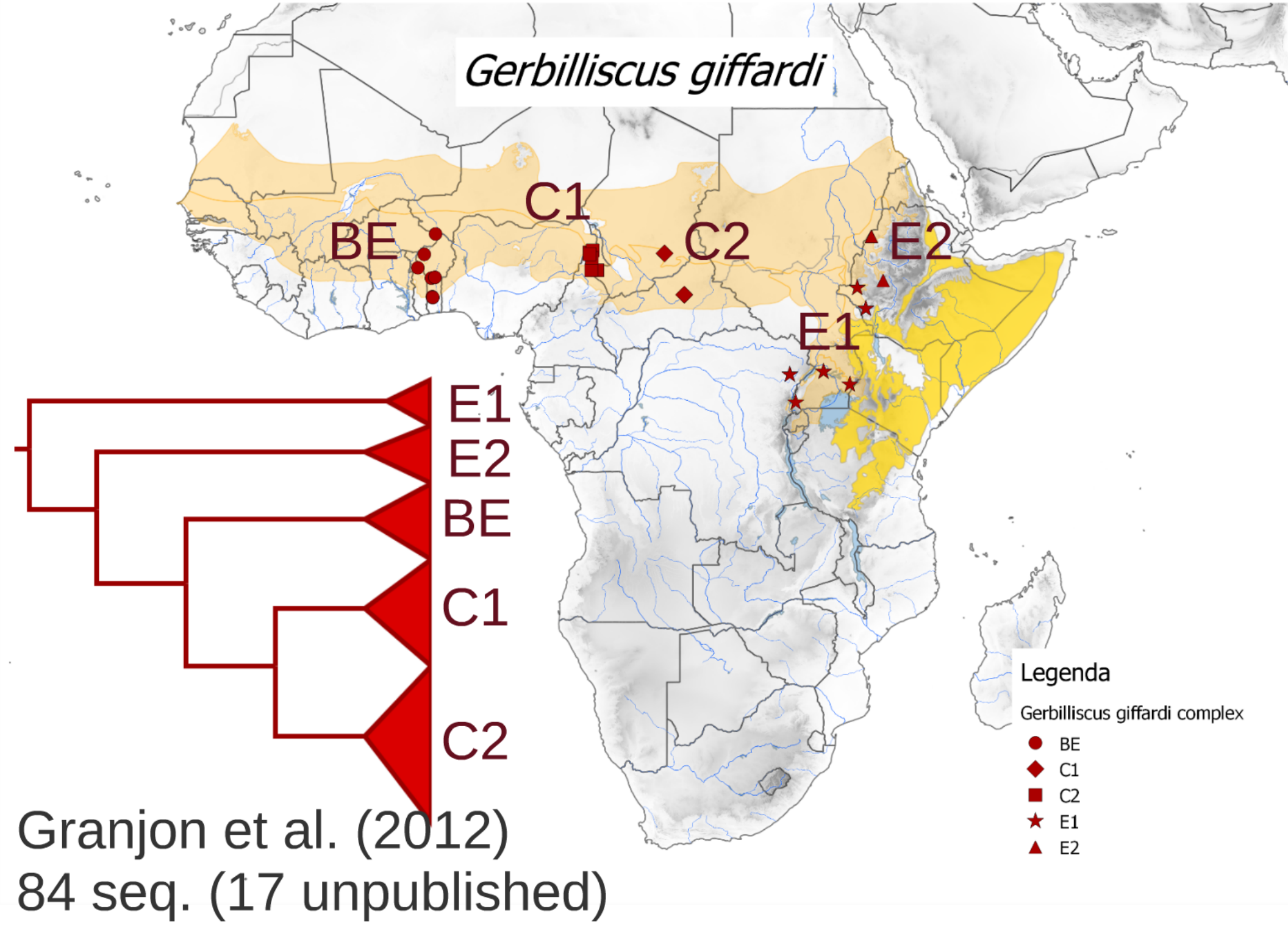


Nicolas et al. (2009)
51 seq.

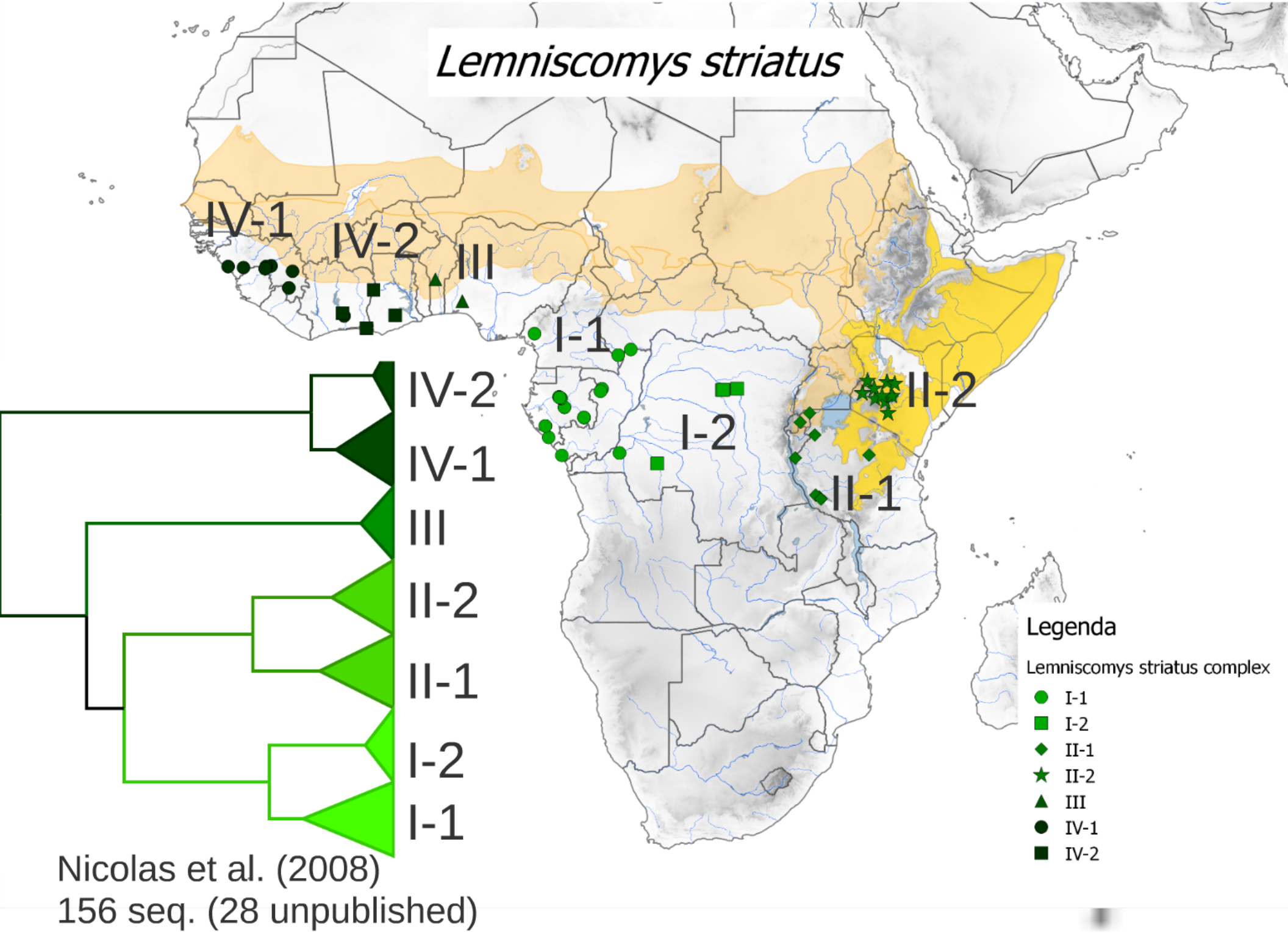


Colangelo et al. (2005), Dobigny et al. (2013)

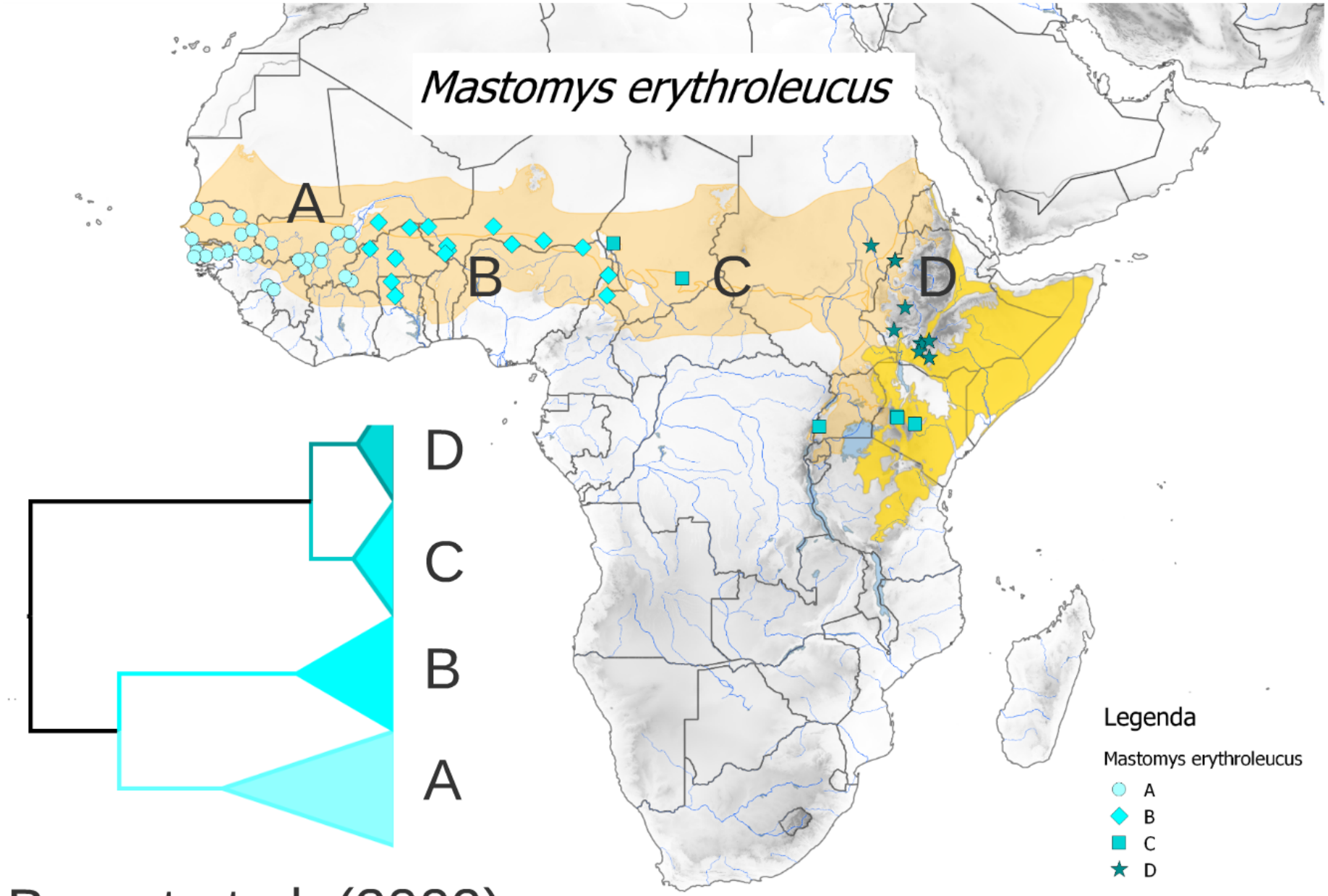
322 seq. (84 unpublished)



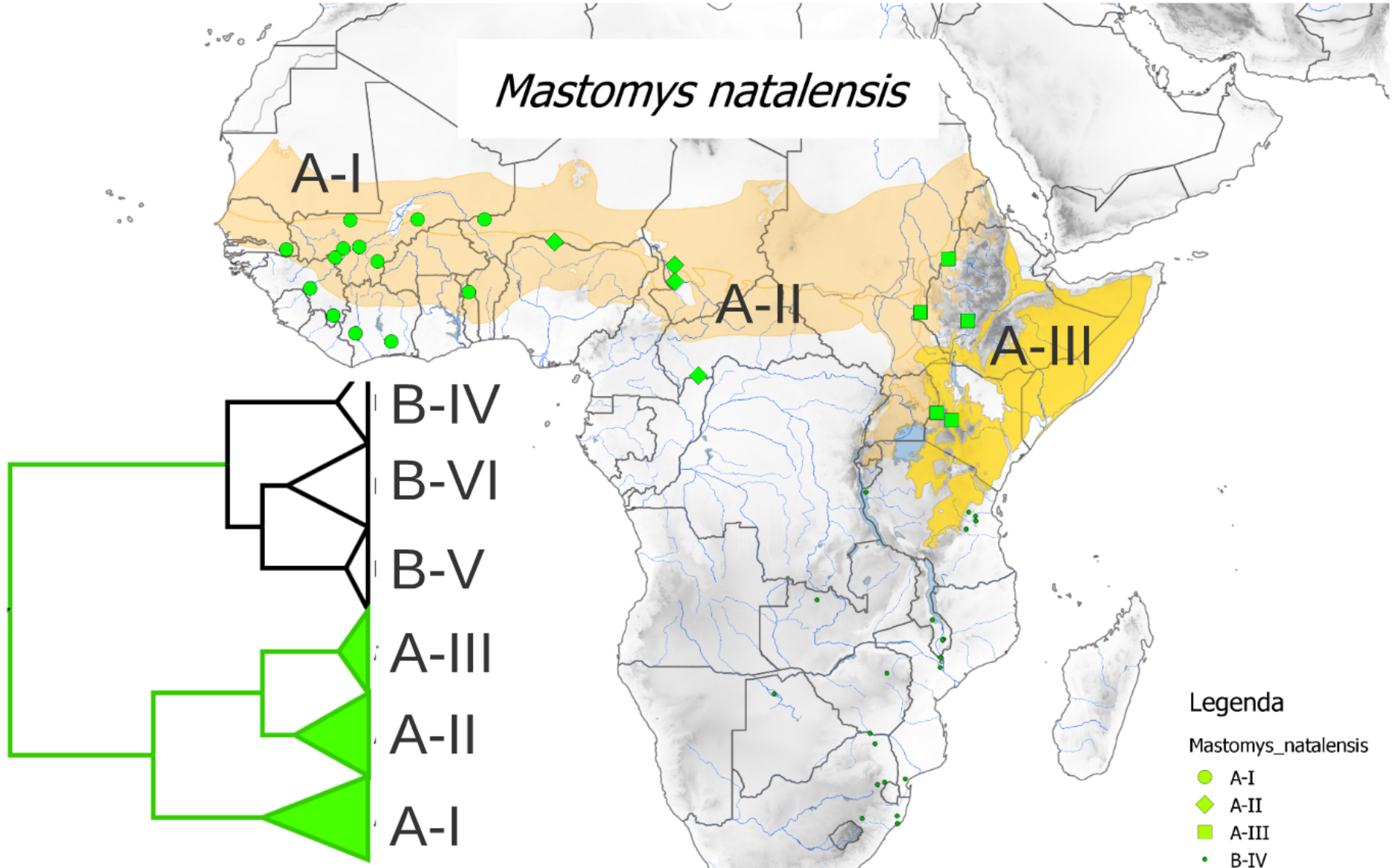
Granjon et al. (2012)
84 seq. (17 unpublished)



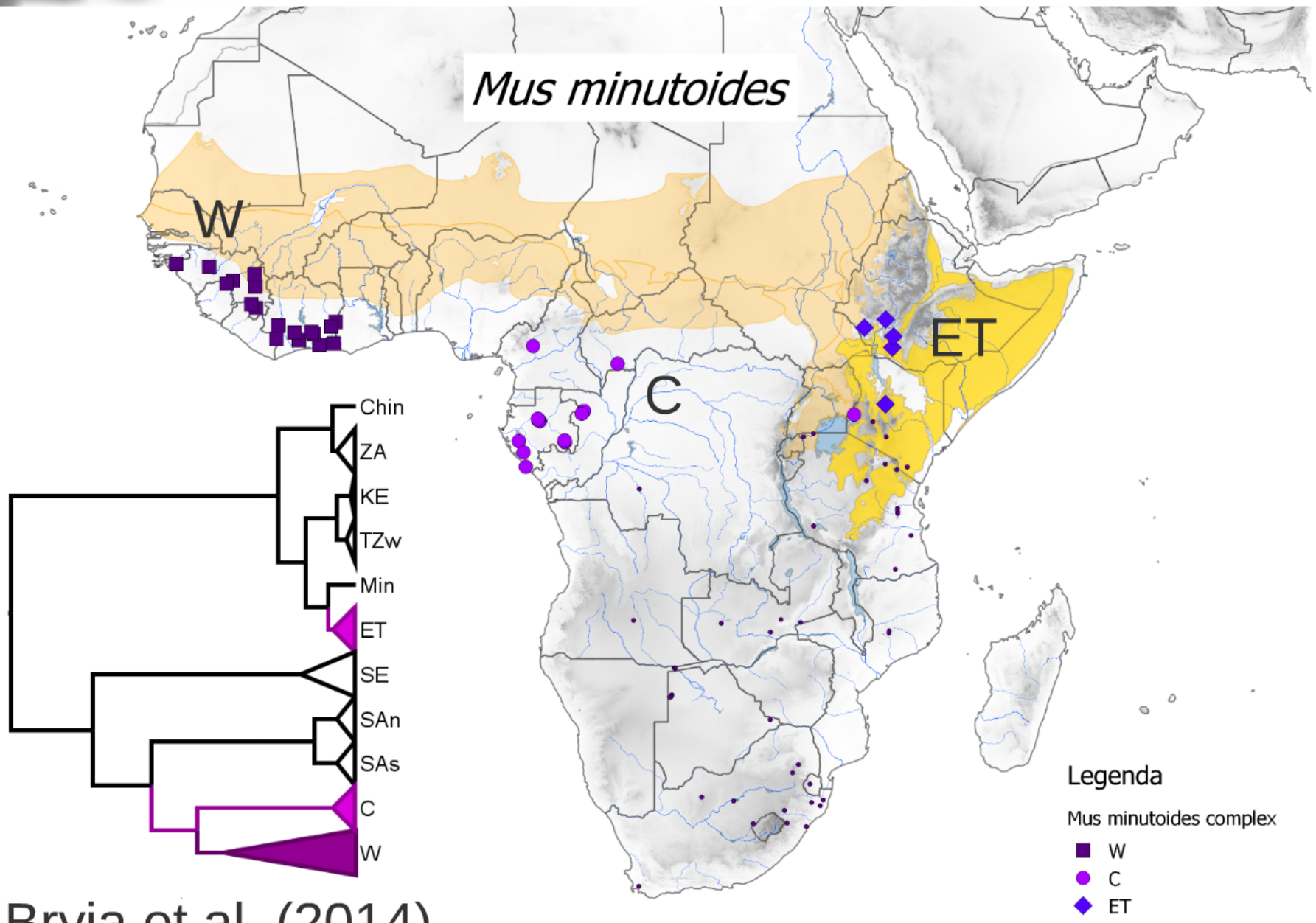
Nicolas et al. (2008)
156 seq. (28 unpublished)



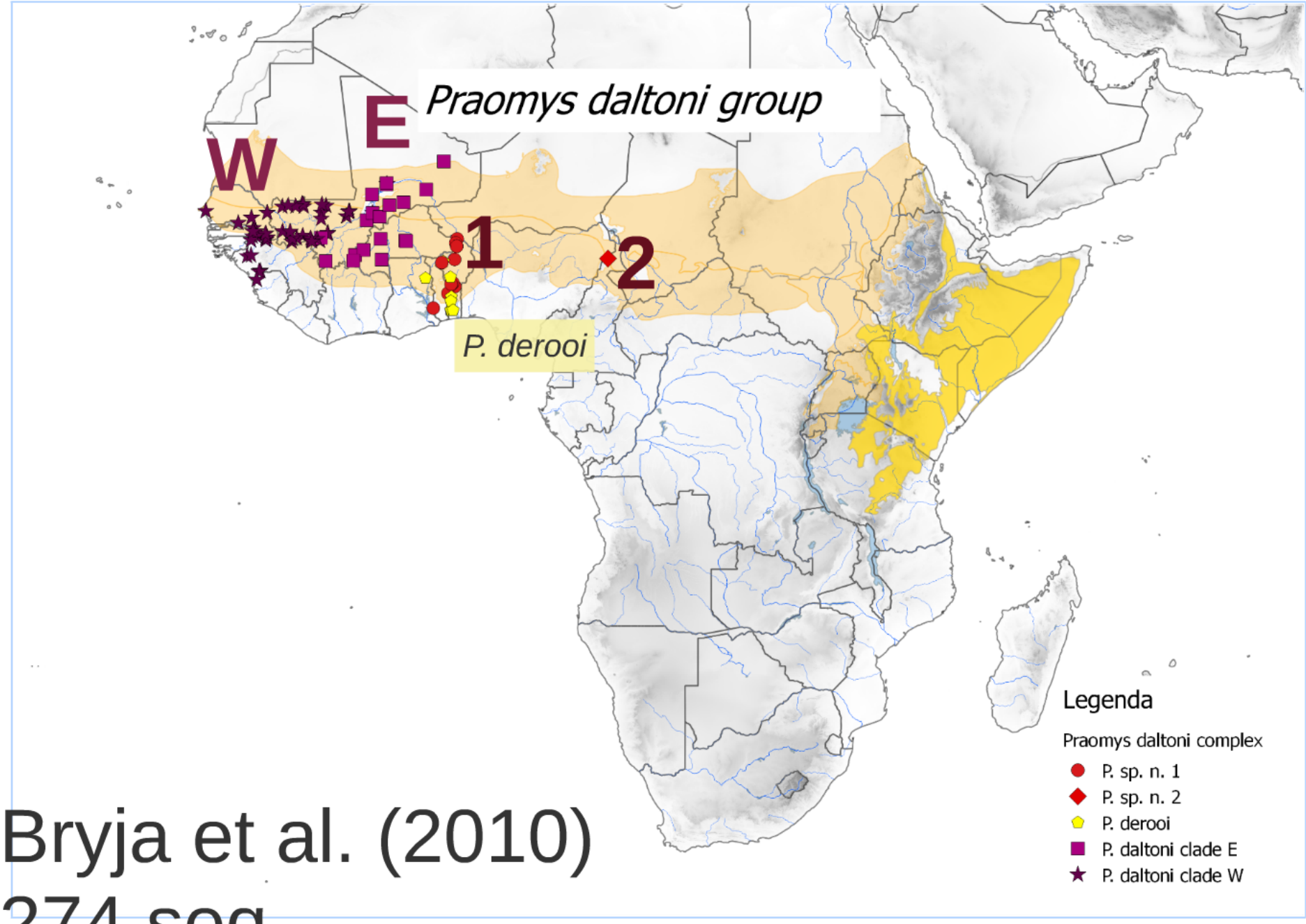
Brouat et al. (2009)
173 seq. (42 unpublished)



Colangelo et al. (2013)
219 seq. (10 unpublished)



Bryja et al. (2014)
131 seq.



Bryja et al. (2010)
274 seq.

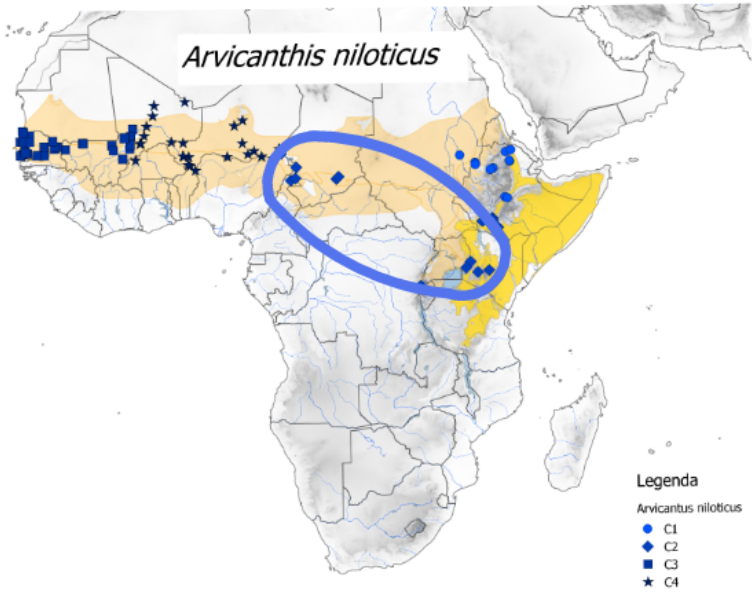
Preliminary results

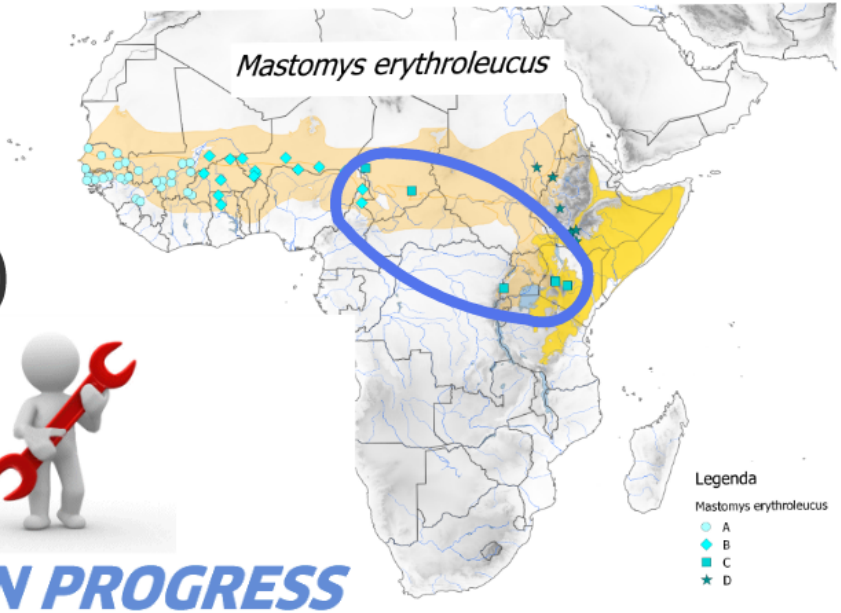
list of relevant rodents fossils

connection between Sudanian and Somali-Masai savanna

migration in both directions

- W->E (*Lemniscomys*)
- E->W (*Arvicanthis*, *Gerbilliscus*)





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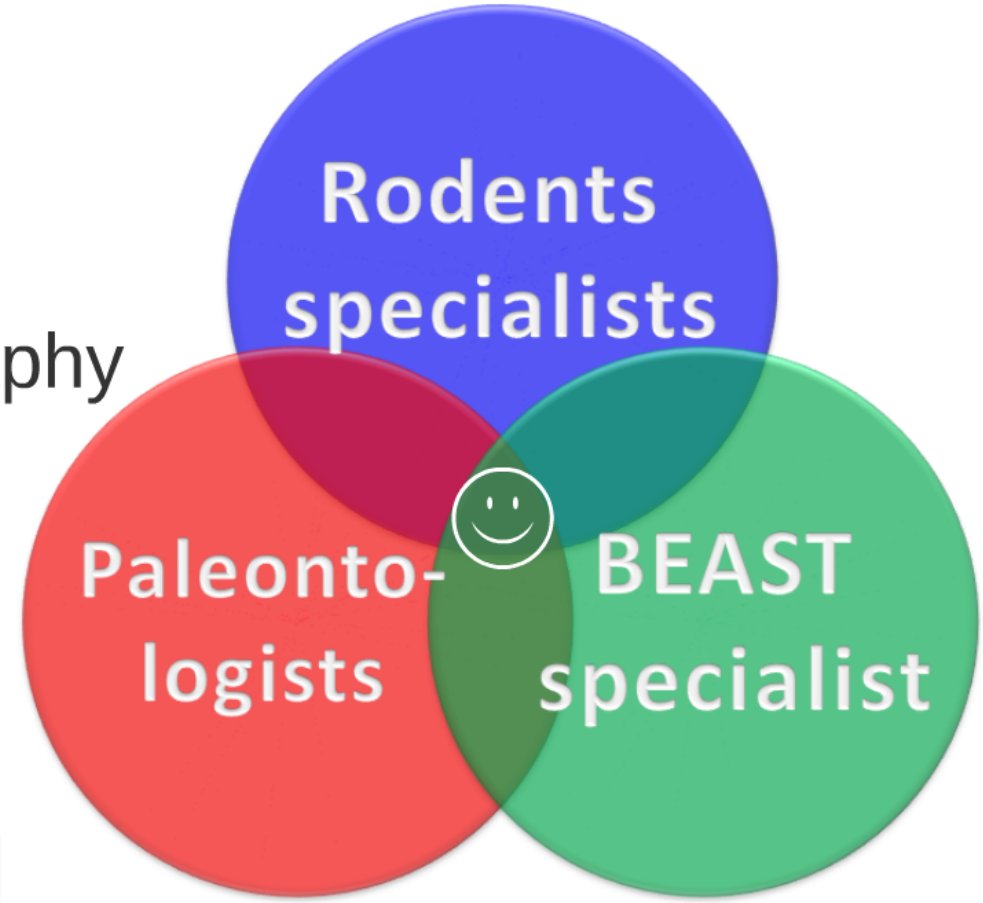

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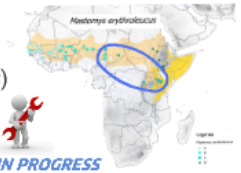

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Merci pour votre attention

Alex Dehne Garcia, Alisa Winkler, Christian Denys, Yuri Kimura, Arame Ndiaye, Pascal Chevret

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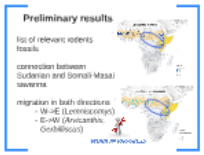

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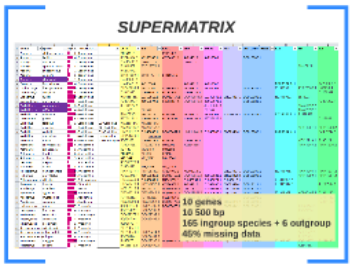

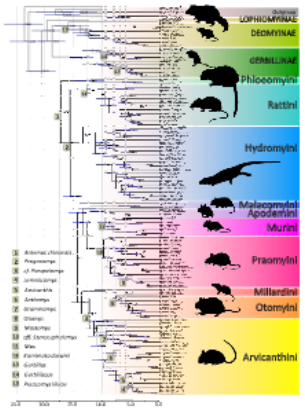

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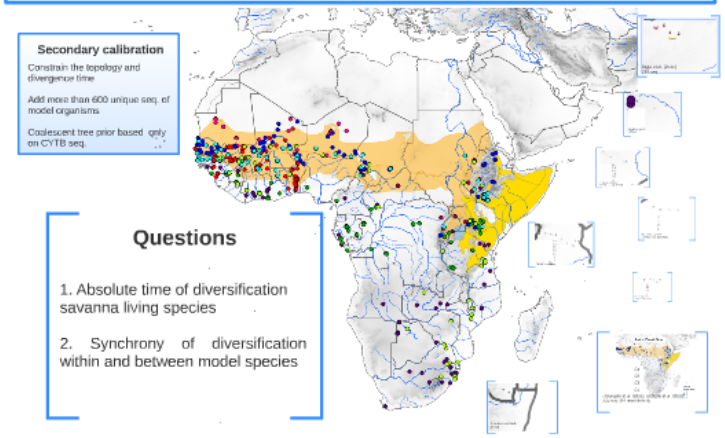

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