

Molecular phylogeny of genus *Gerbilliscus*



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Goals

- Detail phylogeny of eastern african *Gerbilliscus*
- Evolutionary scenarios
- Comparative phylogeography (*Acomys*, *Arvicanthis*)



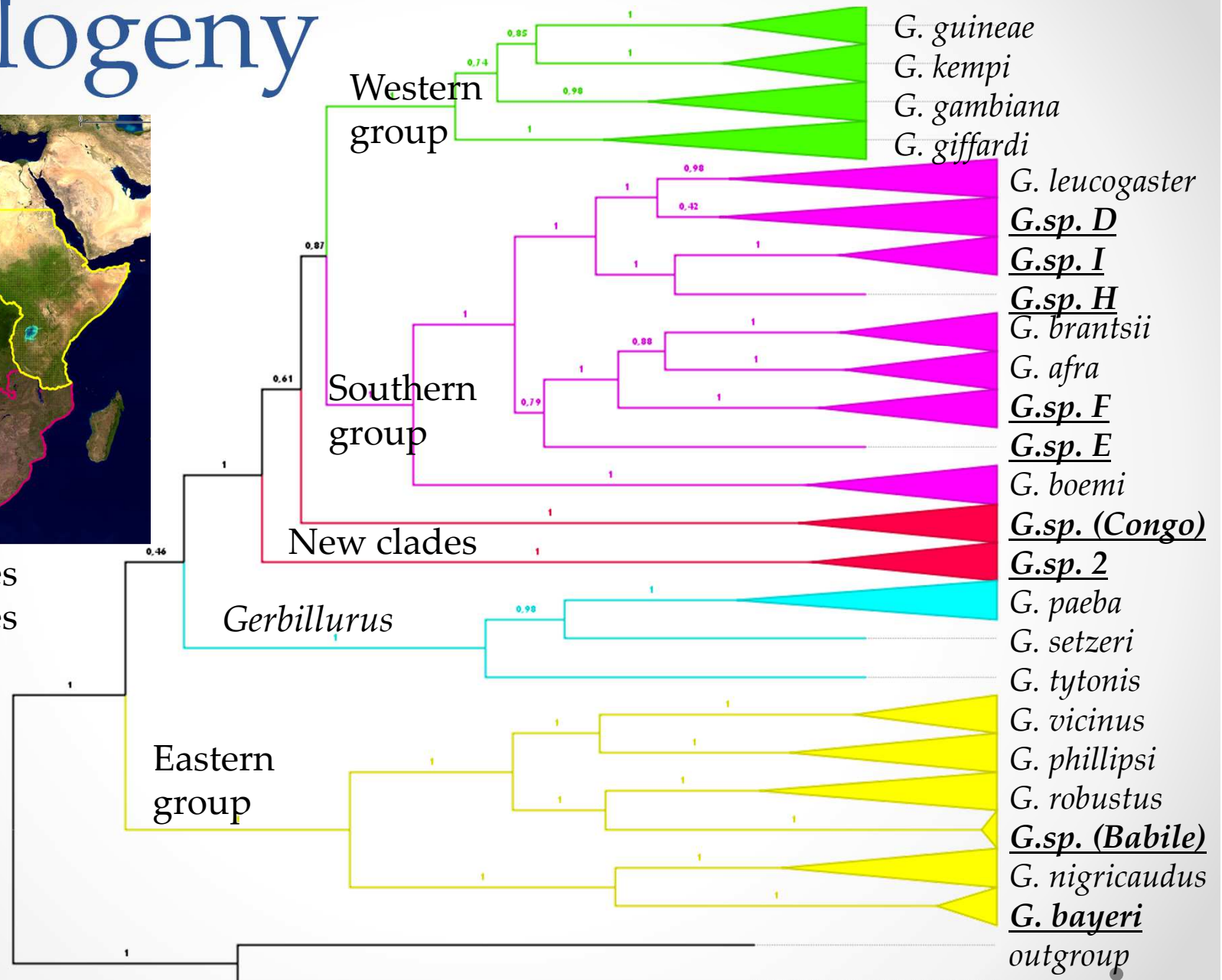
Methods

- Samples (fresh/museum)
- Sanger sequencing
 - mtDNA (cyt b), nDNA (BRCA1, fgb-I7, IRBP)
- 454-pyrosequencing
 - DNA-minibarcoding of cytochrome b 136 bp (Galan et al. 2012)
- Analysis:
 - Phylogeny (RAxML, MrBayes, BEAST, concatenation/species tree)
 - Phylogeography (GIS, MaxEnt)

Phylogeny



14 valid species
7-9 new species



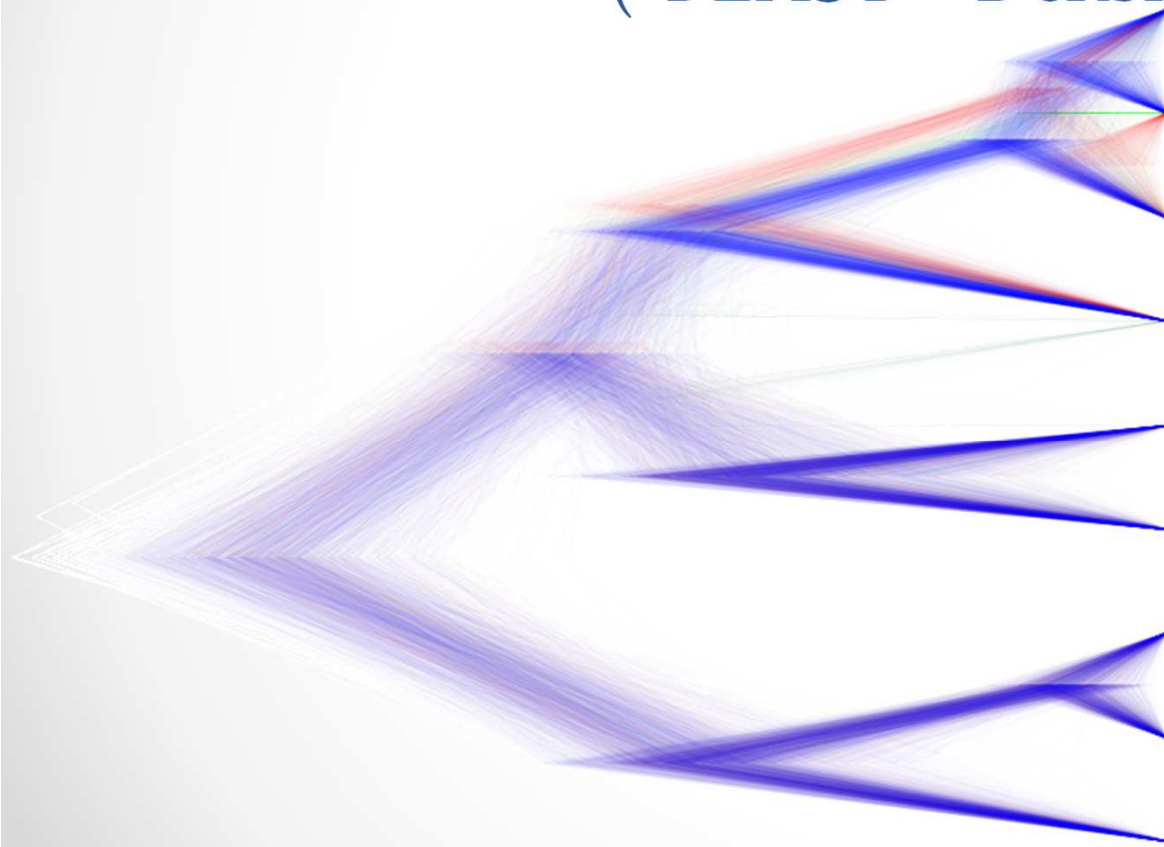
Eastern group

Western group

New clades

Species tree

(*BEAST + Densitree)



G. vici

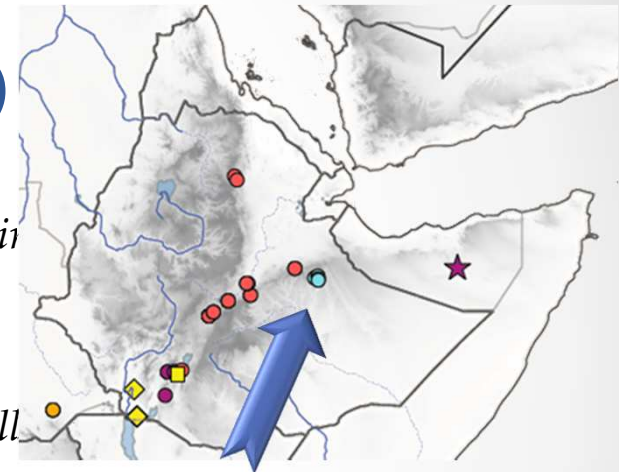
G. phill

G. sp. n. (Babile)

G. robustus

G. nigricaudus

G. cf. bayeri

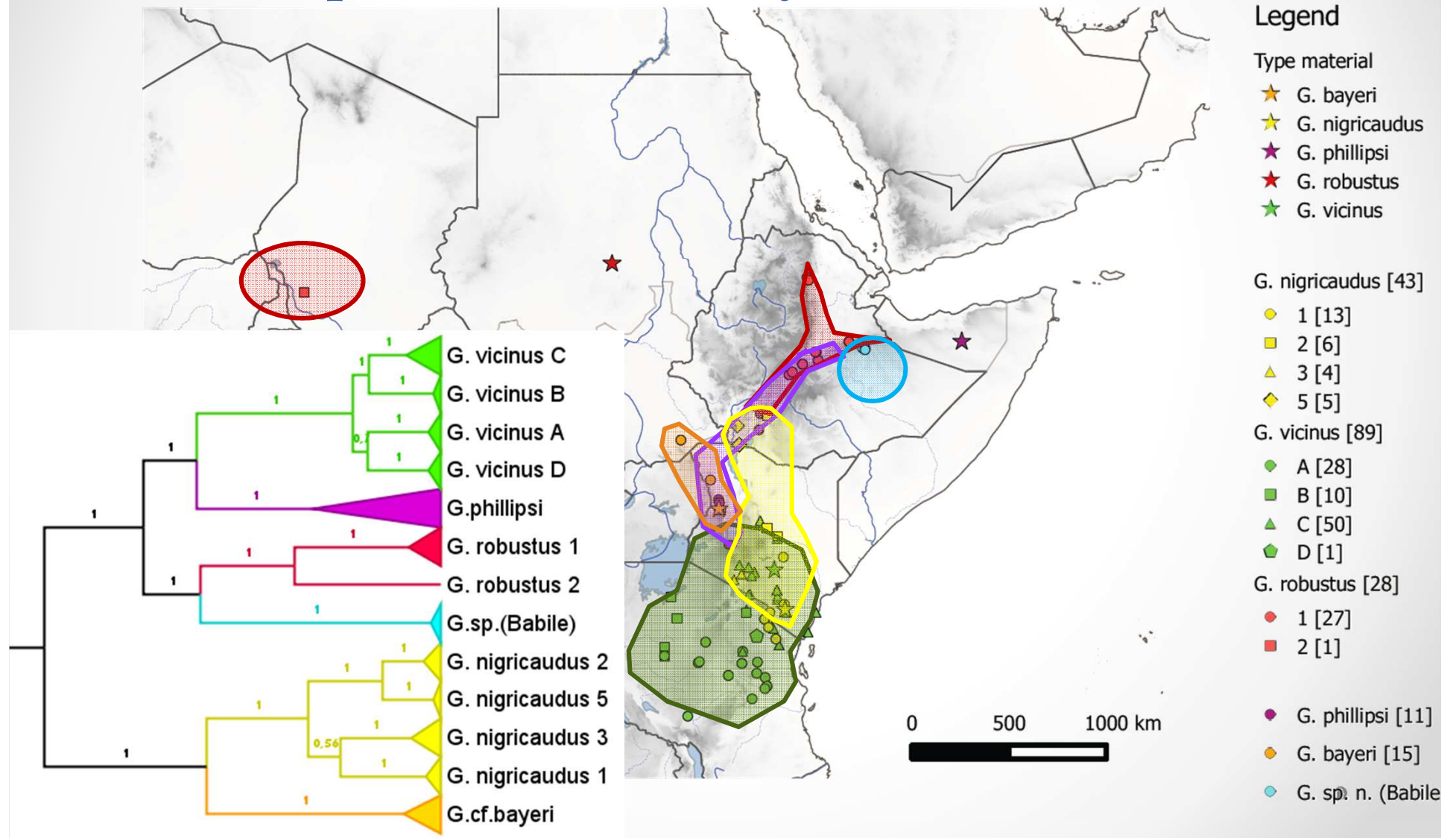


Eastern group

Western group

New clades

Intraspecific variability and distribution

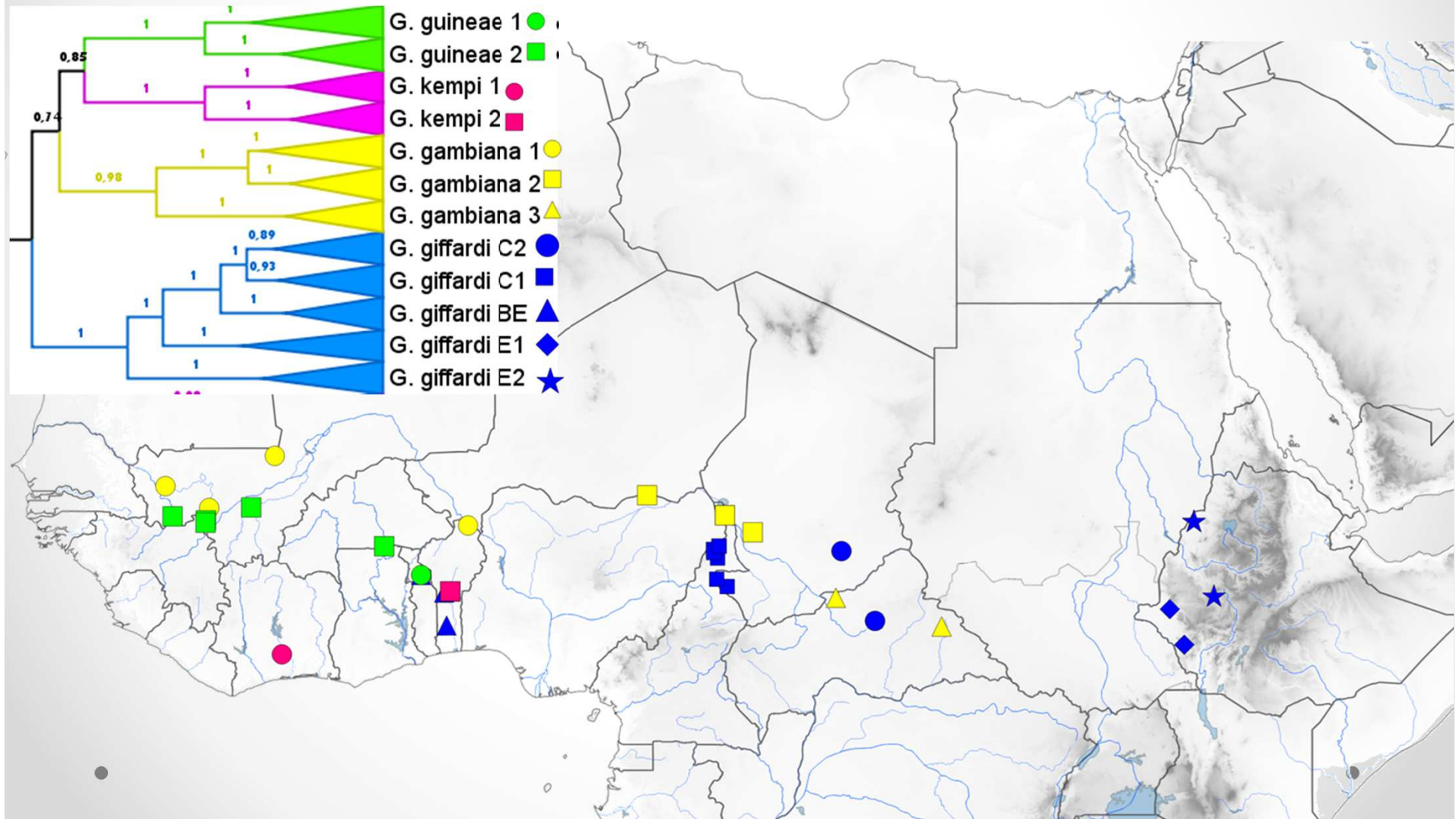


Eastern group

Western group

New clades

Phylogeny and distribution

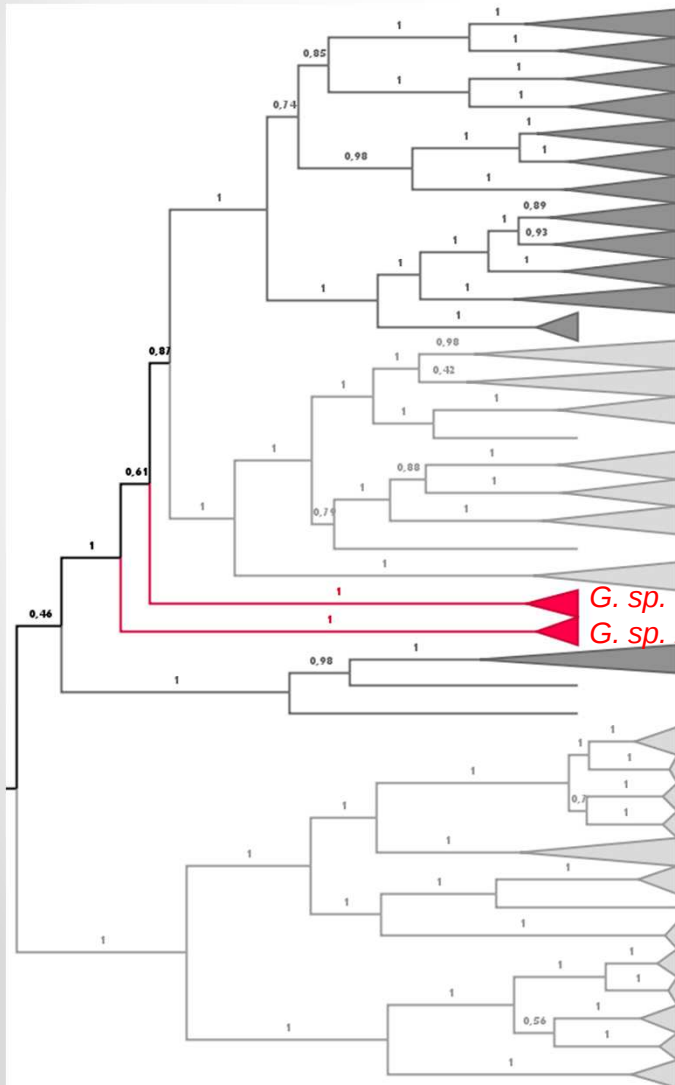


Eastern group

Western group

New clades

New clades



G. sp. (Congo)
G. sp. 2

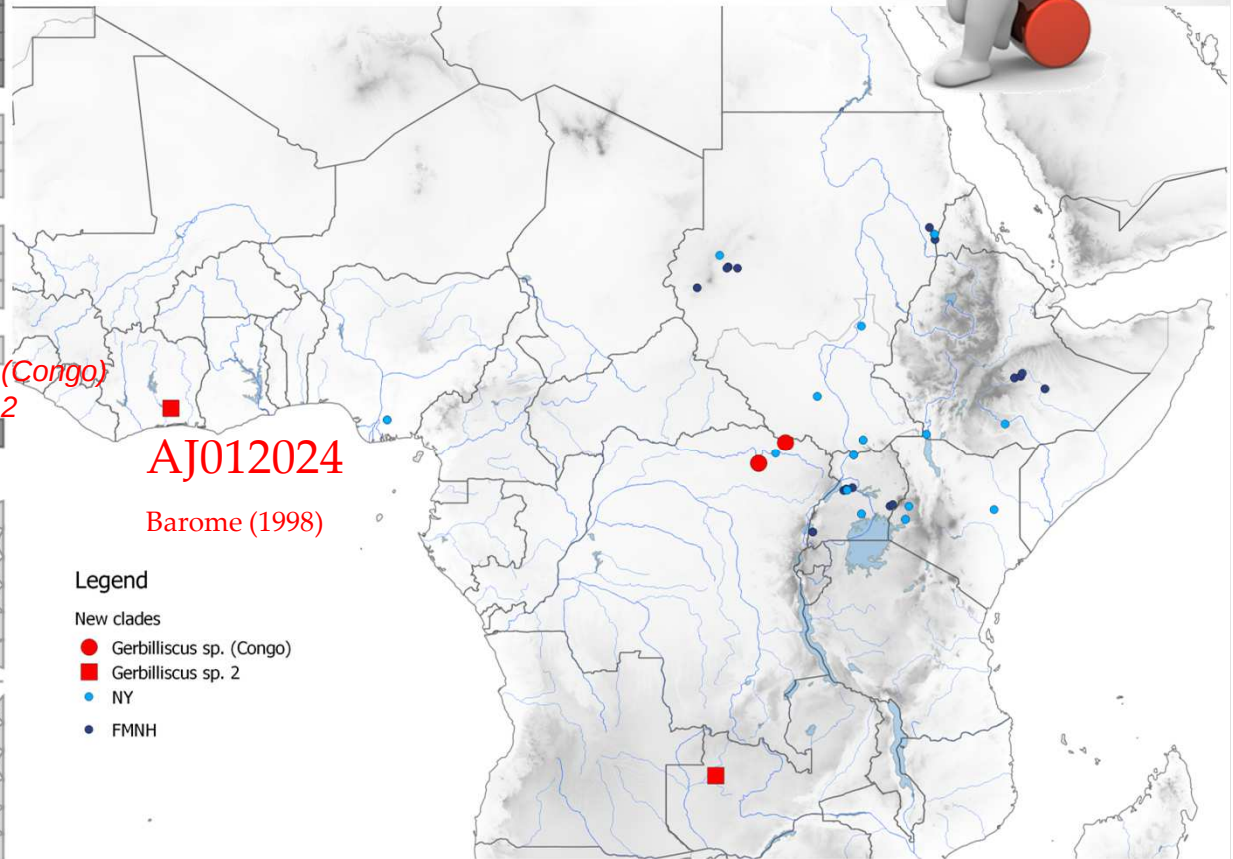
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Barome (1998)

Legend

New clades

- *Gerbilliscus sp. (Congo)*
- *Gerbilliscus sp. 2*
- NY
- FMNH



Conclusions

- 6 species of *Gerbilliscus* in Eastern African clade
 - first phylogeographic data for Somali-Maasai biogeographic region
- New data from the Sudanian savanna delimit the eastern border of this bioregion
- New very distinct clades may represent the real *G. Validus* – *can change the phylogenetic reconstructions; morphology is necessary (in progress)*

Merci pour votre attention

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