

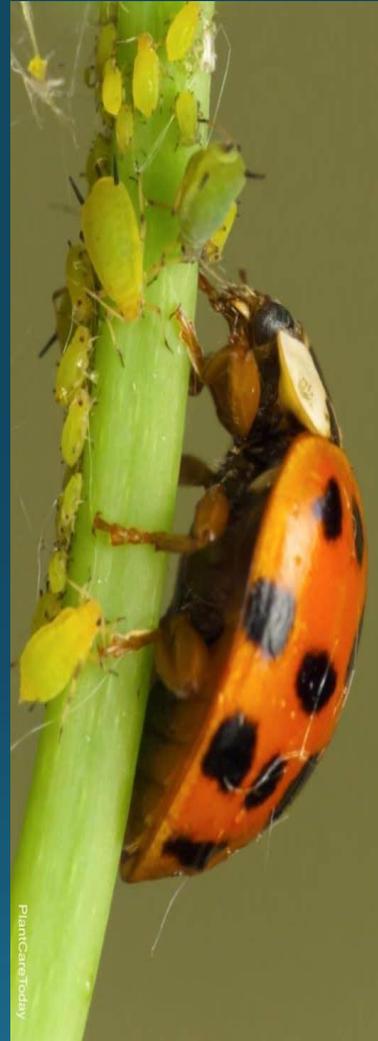


Phylogeny and Historical Biogeography of *Uroleucon* Aphids

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Genus *Uroleucon*

- Aphididae: Aphidinae: Macrosiphini
- 230 species
- Identification:
 - Color: often dark red – black; some green
 - Winged and wingless forms



Distribution



Asteraceae

Questions

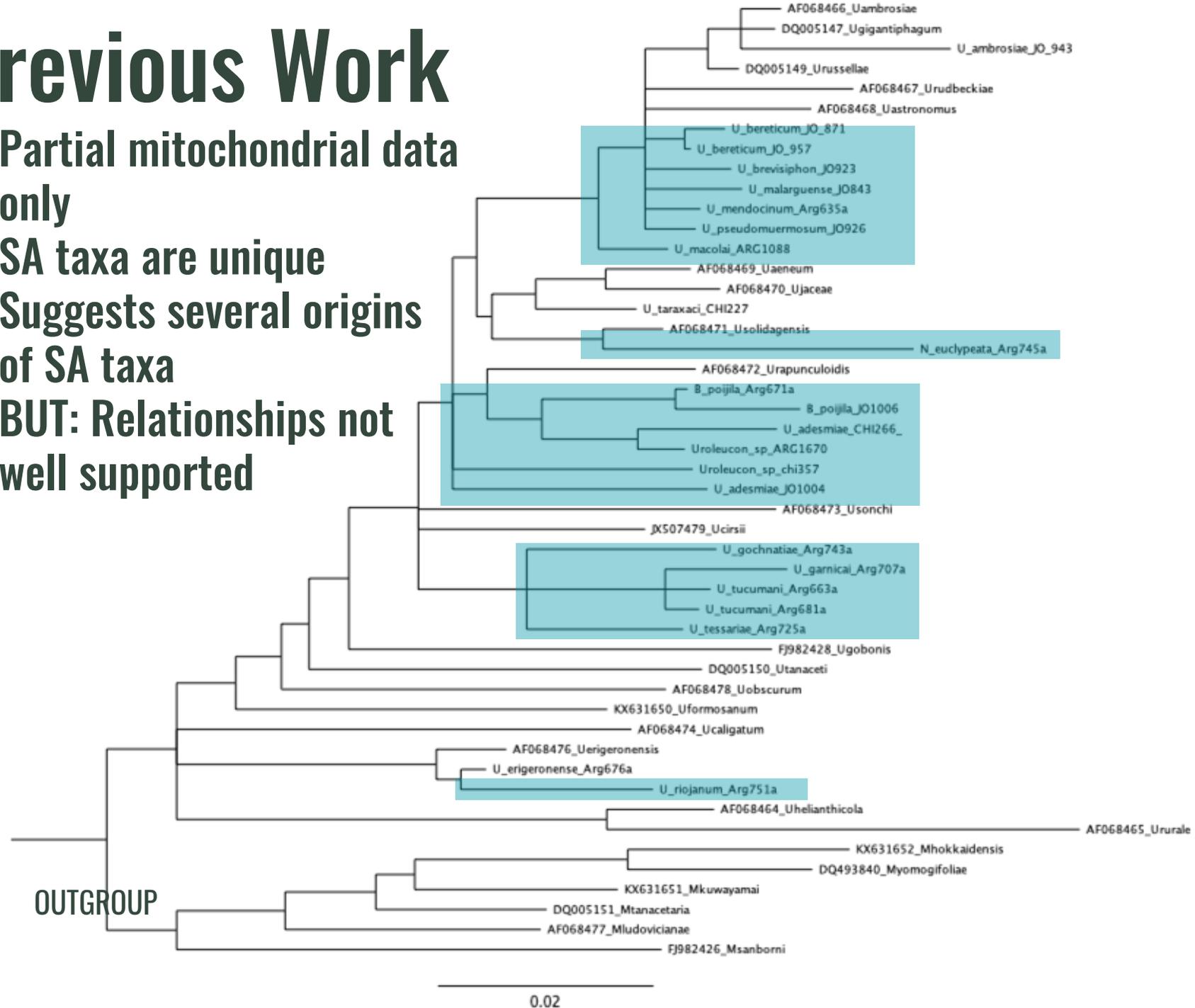
- Are South American *Uroleucon* endemic or recently introduced?
- If they are endemic, where from and when?
- Did *Uroleucon* aphids cross through equatorial tropical forest?

How to answer?

- Reconstruct *Uroleucon* phylogeny
- Use this to determine
 - Genetic distance to northern species (endemicity)
 - #s of SA lineages
 - Geographic origins of SA taxa
 - Dates of dispersals to SA
 - Correlates with geological events (dispersal corridors)

Previous Work

- Partial mitochondrial data only
- SA taxa are unique
- Suggests several origins of SA taxa
- BUT: Relationships not well supported



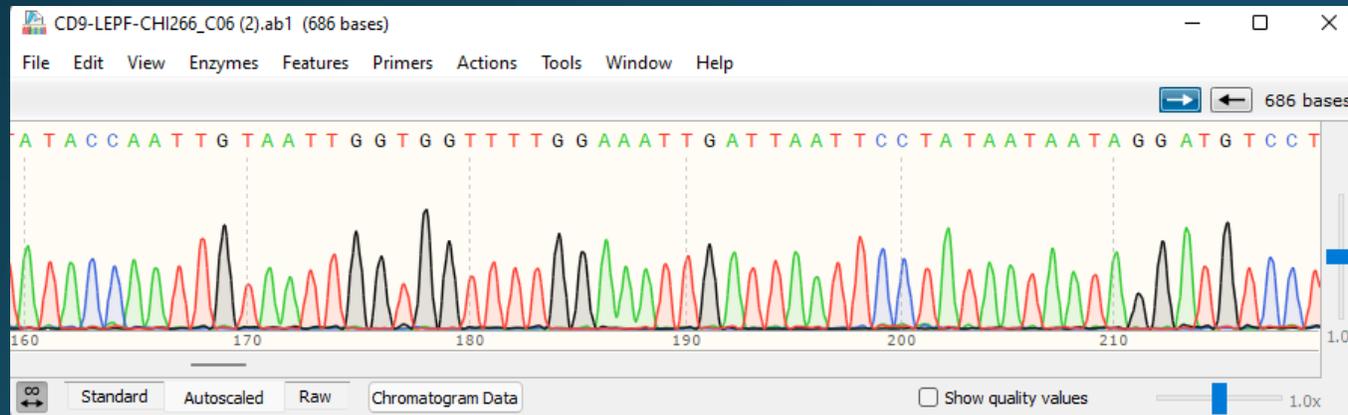
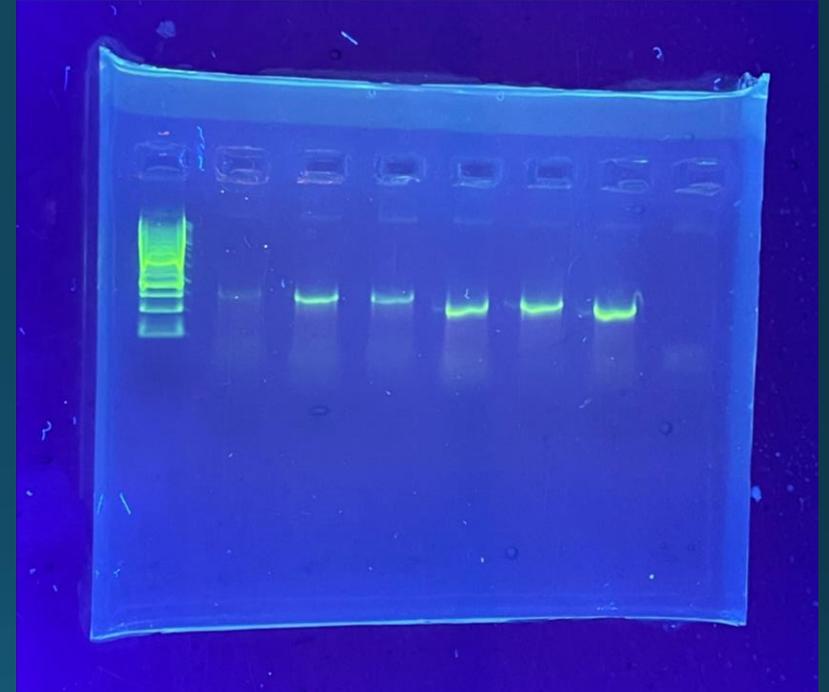


My Objectives

- Add more molecular data
- Reconstruct *Uroleucon* phylogeny
- Determine geographic origins of SA taxa
- Determine ages of SA lineages
- Infer dispersal corridors

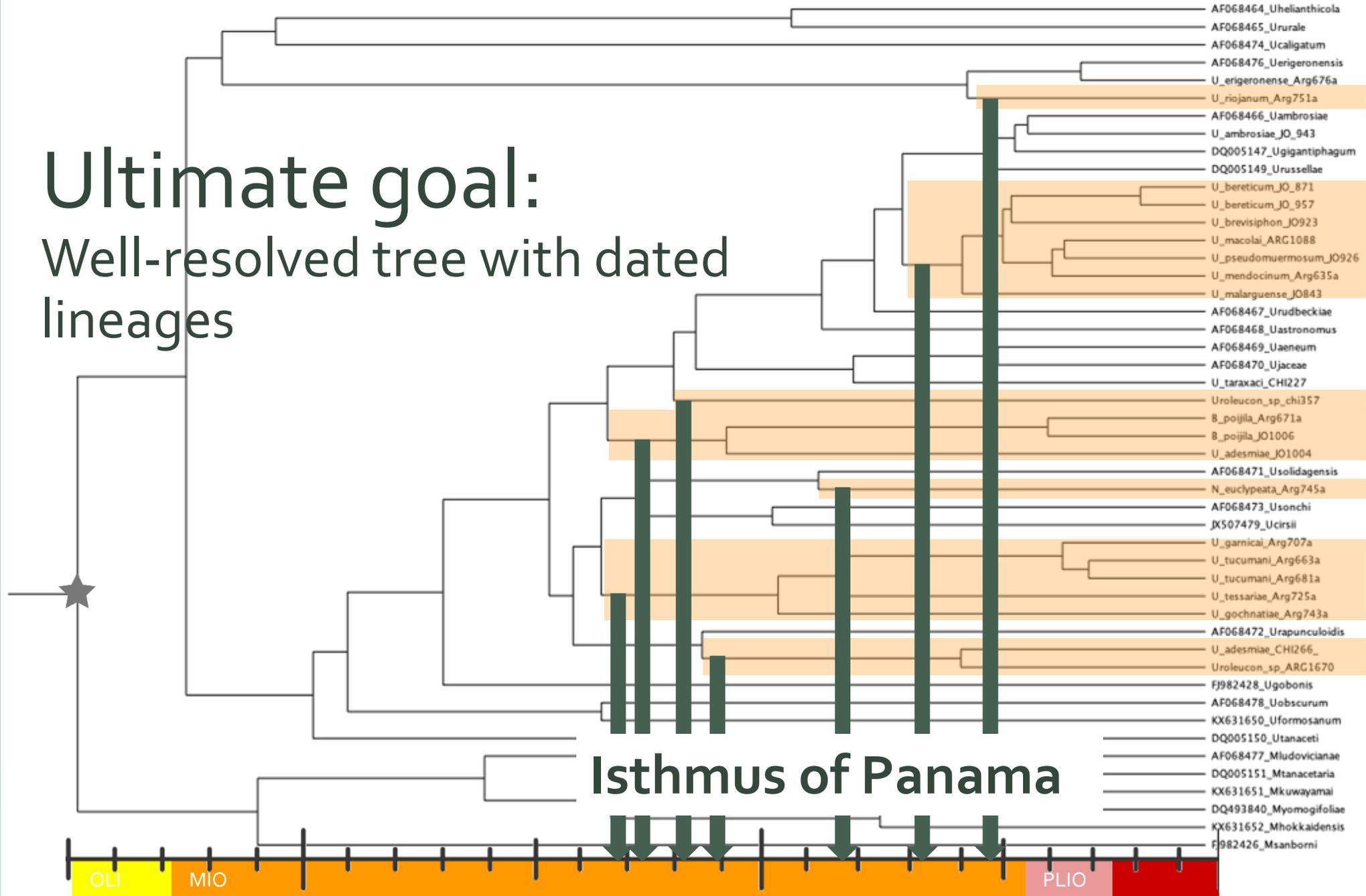
Methods: PCR, sequencing, contig assembly, phylogeny reconstruction

Cytochrome Oxidase I + Cytochrome Oxidase II - mitochondrial
Elongation Factor 1 alpha - nuclear



CHRONOGRAM

Ultimate goal:
Well-resolved tree with dated
lineages



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