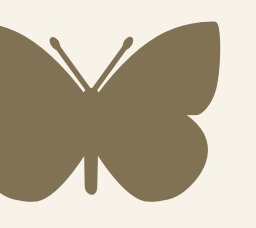


THE SPECIATION/SPECIALIZATION CONTINUUM



DIVERSIFICATION LINKED TO HOST PLANT IN THE BUTTERFLY *EUMEDONIA EUMEDON*

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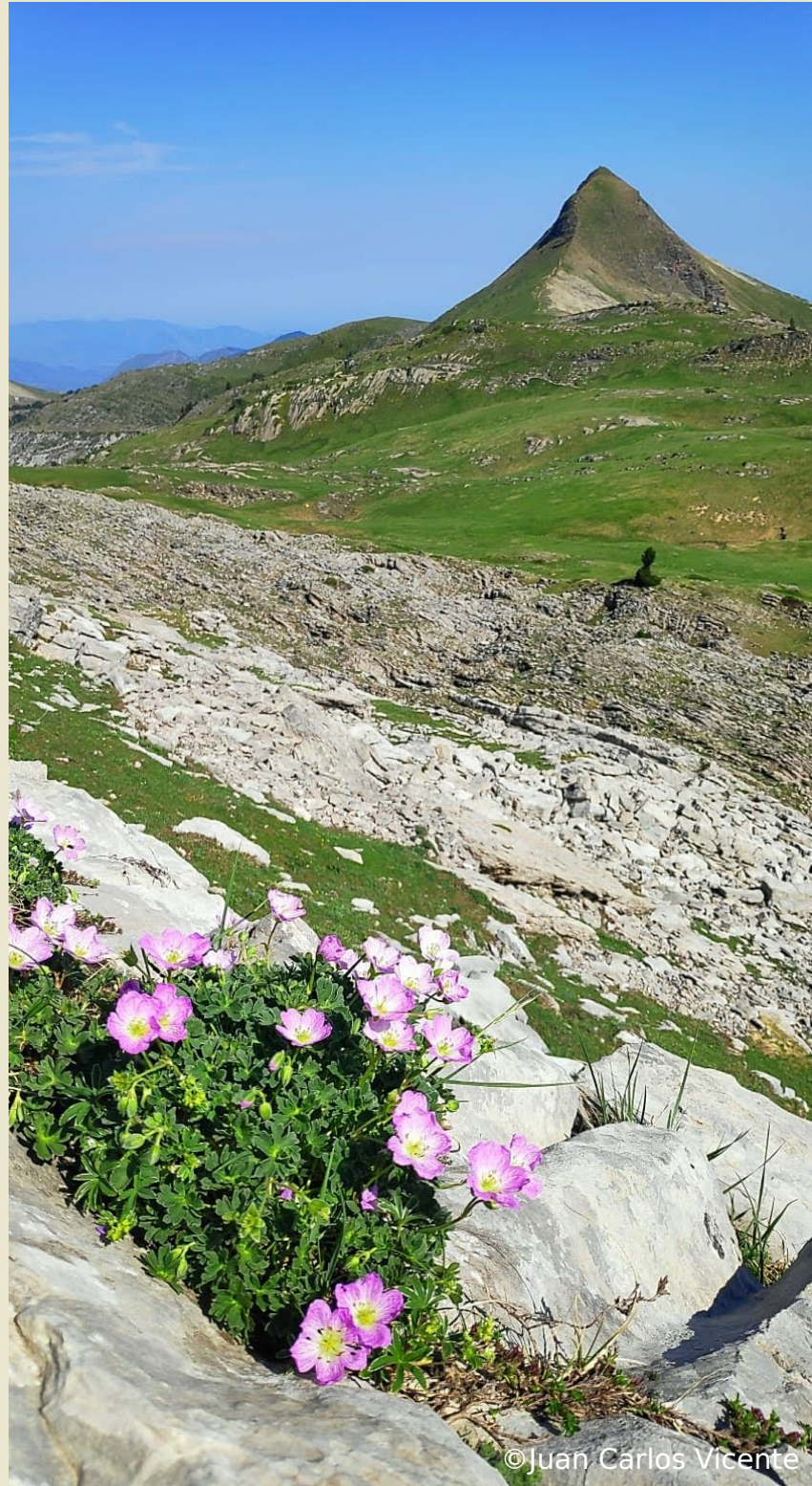
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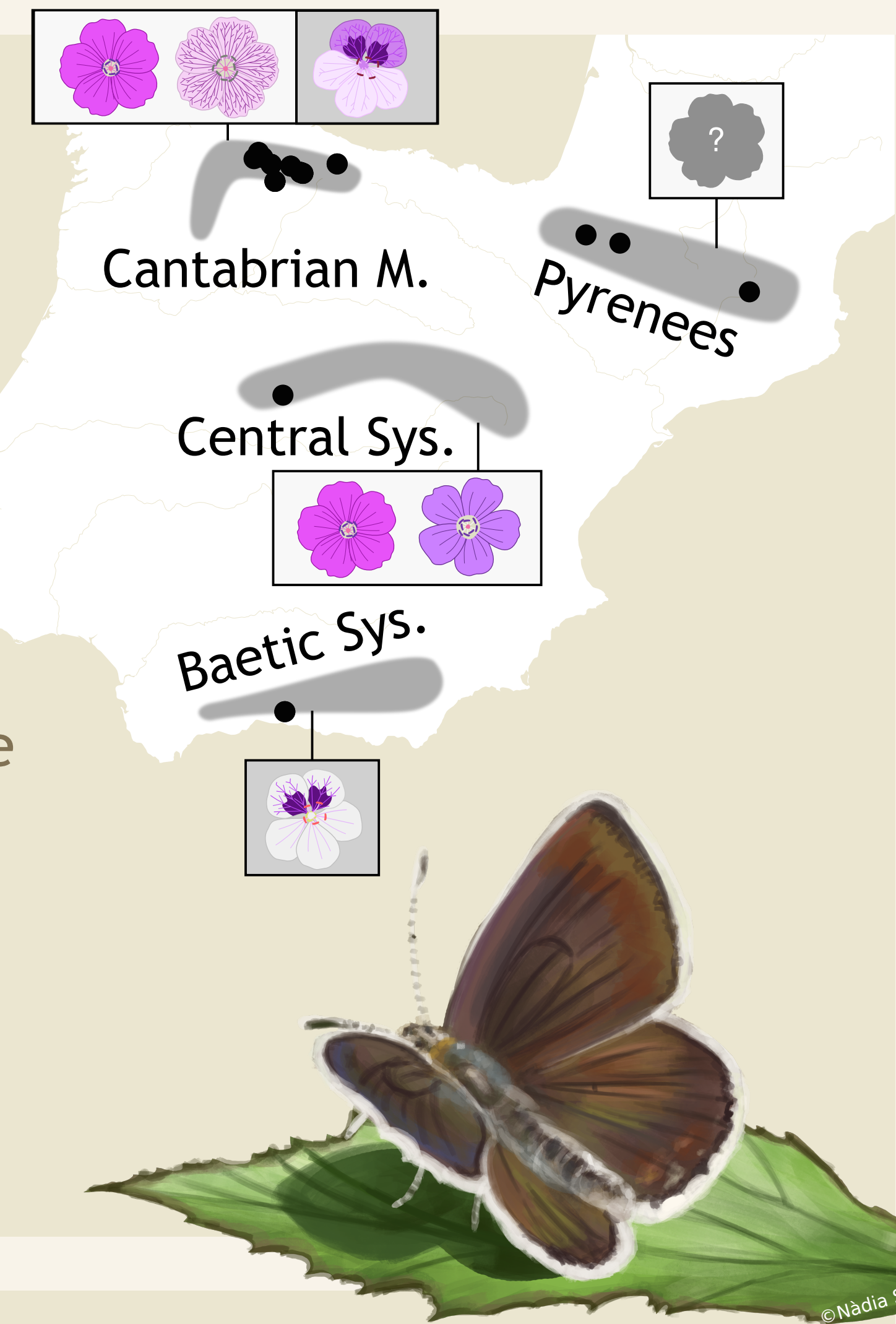
A tight connection



- *Eumedonia eumedon* is a Palearctic butterfly occurring in temperate and humid climates.
- It is tightly associated with its larval host plant, *Geranium* spp.

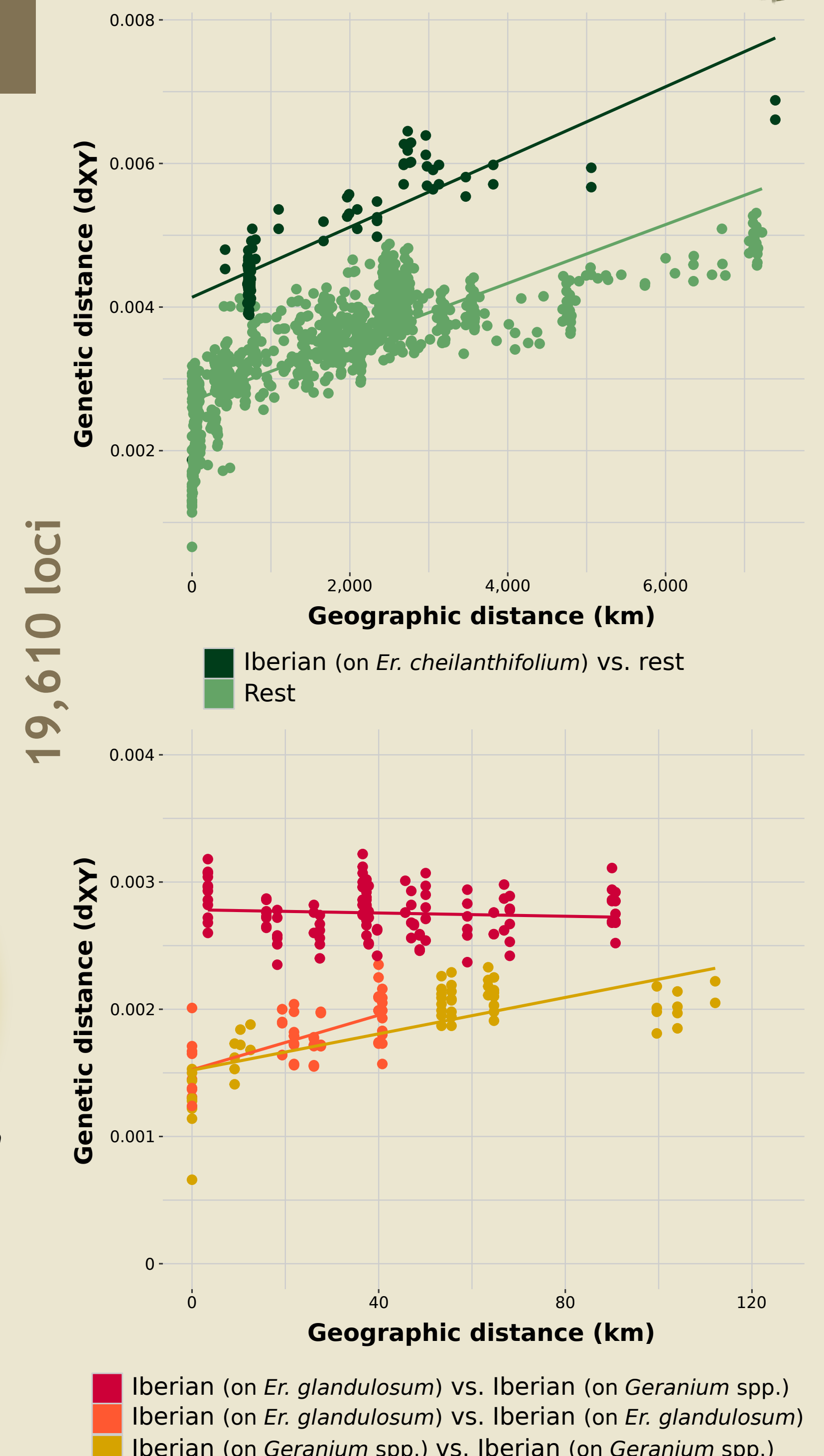
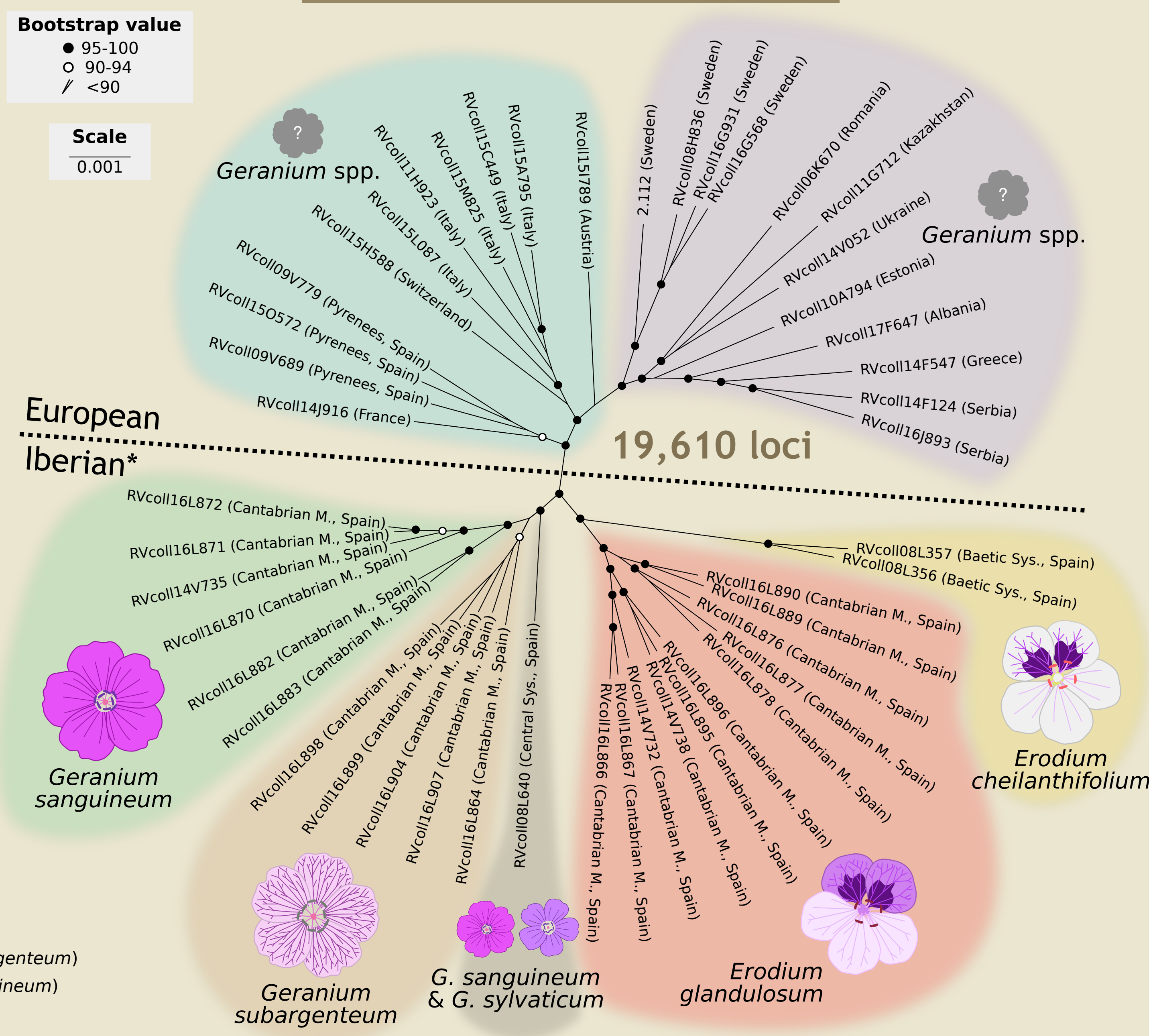
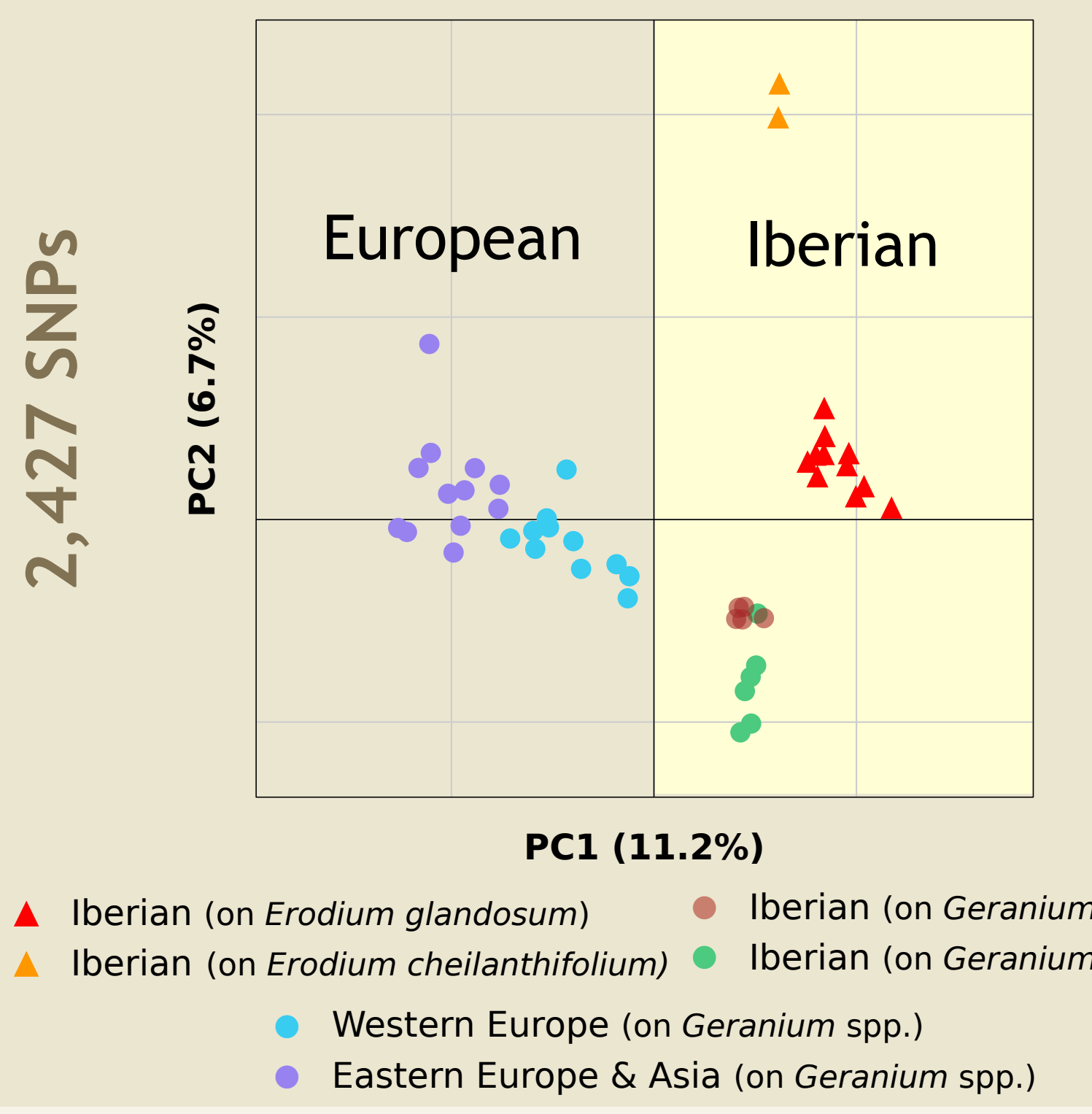
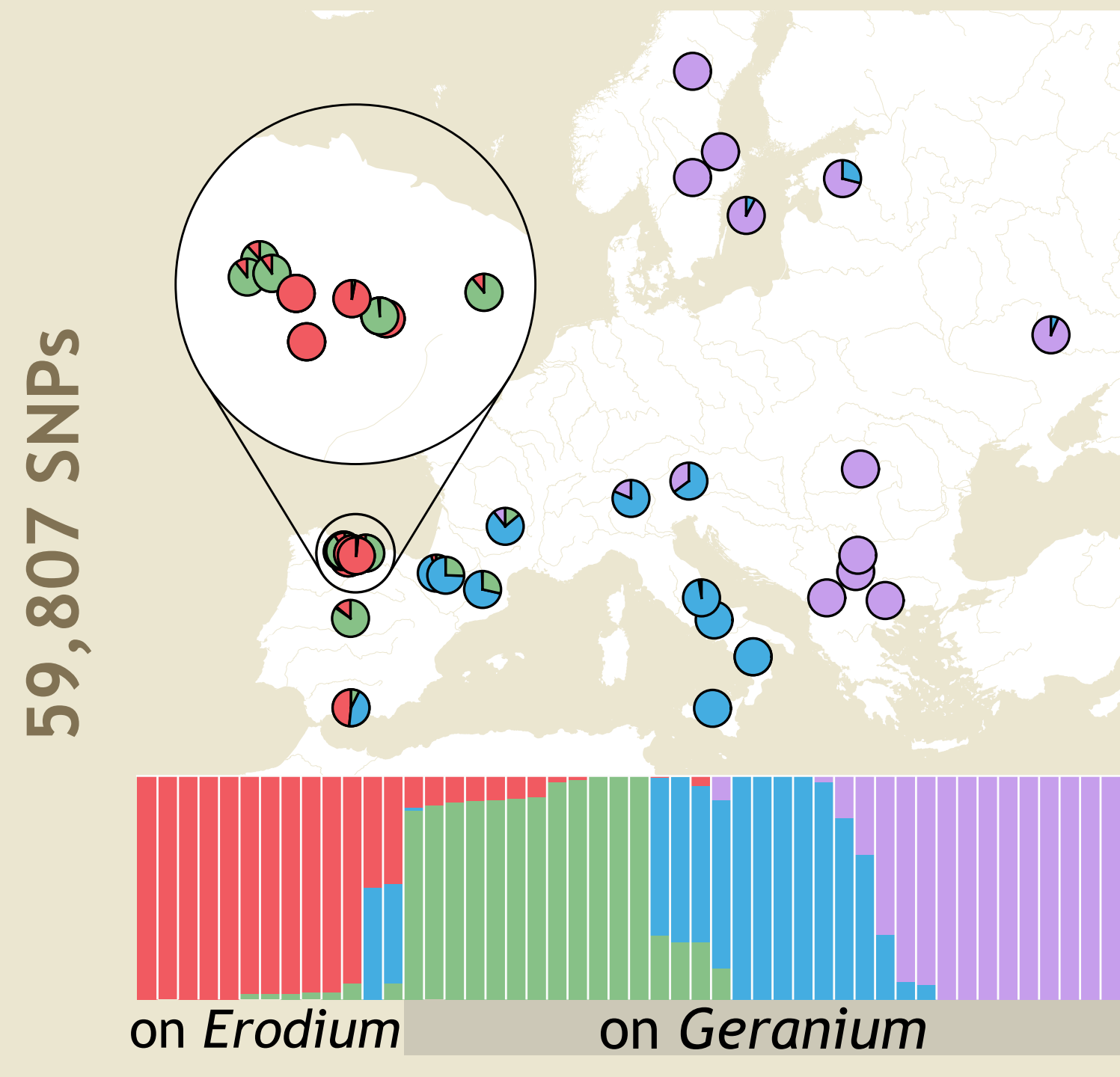
E. eumedon in Iberia

- It is much more localized and rare in central and southern Iberia.
- In the Cantabrian Mountains and the Baetic System they can use *Erodium* spp. as host plant.



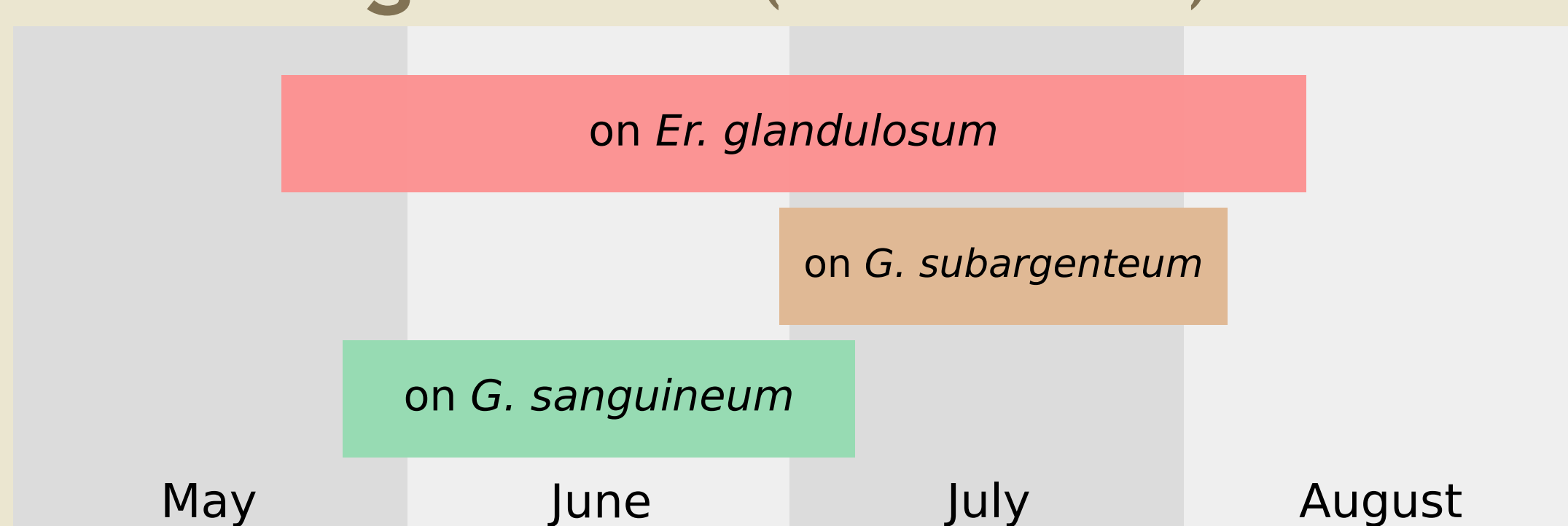
Divergence linked to host plant

ddRADseq data



An obligated synchronization

Flight time (Cantabrian M.)



- Imagos oviposit on flowers.
- Flight time must be synchronized with blooming time.
- The two *Geranium* species bloom in different months.

Conclusions

- The butterfly *Eumedonia eumedon* can locally specialize on a single plant species, which may trigger diversification processes.
- In the Cantabrian Mountains, lineage divergences depended on the taxonomic relatedness of the host plants. This exemplifies how the speciation continuum can be mirrored by a process of specialization.
- Populations associated with *G. sanguineum* and *G. subargenteum* would rarely meet due to different flight times. Allochrony seems to mediate diversification in this case, but not in *Erodium*-specialist populations.

