Distribution of **iridescent colours** in **hummingbird communities** results from the interplay between selection for **camouflage** and **communication**.

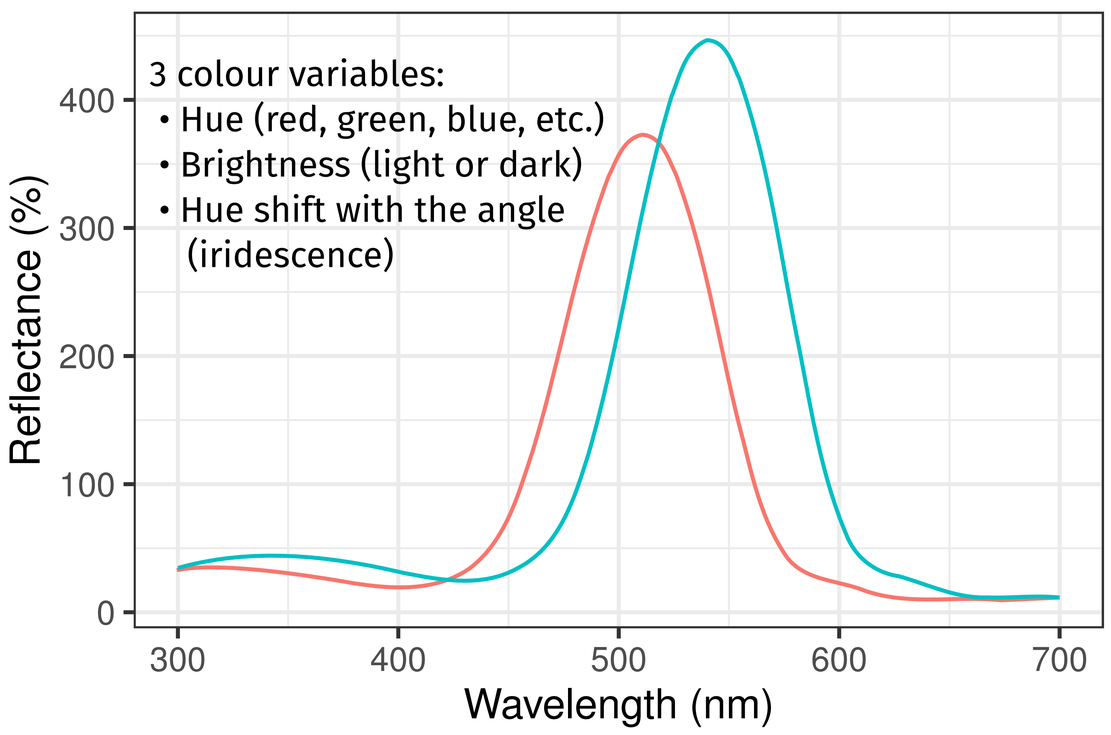
Aim: Test the phenotypic structure (clustering vs overdispersion) of iridescent colours at the community level on:

- **112 hummingbird species**
- spread accross **189 local assemblages in Ecuador**

Methods

Iridescent colours measurement

Spectral measurements at two angle configurations with a goniospectrometer:



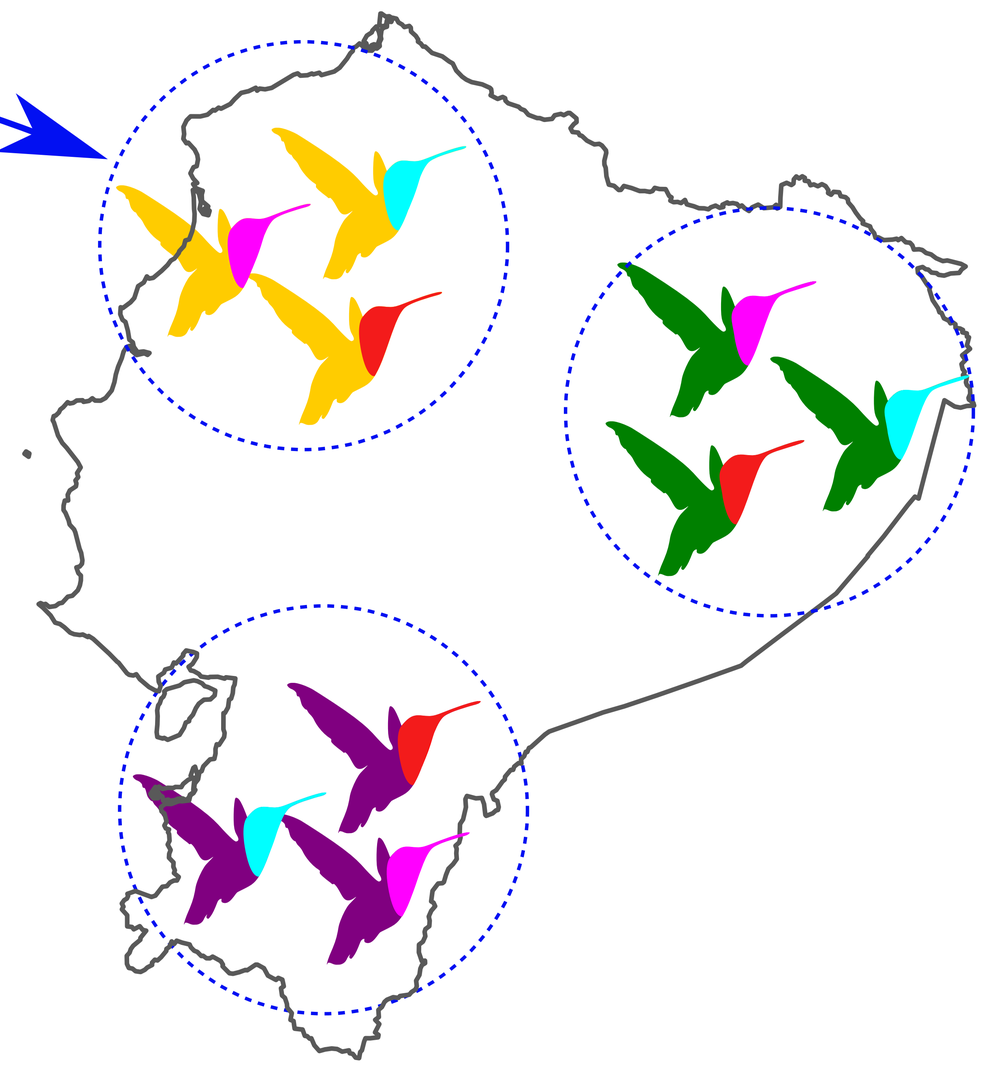
Phenotypic structure quantification

$$\tau_{st} = \frac{\text{global mean trait diversity - mean trait diversity within a community}}{\text{global mean trait diversity}}$$

↳ $\tau_{st}>0$: phenotypic clustering

↳ $\tau_{st}<0$: phenotypic overdispersion

Results & discussion



- Phenotypic clustering for hue and hue shift on dorsal patches ($\tau_{st}>0$).
  ↳ likely caused by selection for camouflage

- No phenotypic structure for hue and hue shift on facial patches and rump ($\tau_{st}=0$).
  ↳ likely caused by balance reproductive interference vs camouflage

Calypte anna, from a video by Mick Thompson, CC-BY-NC

Hugo Gruson, Marianne Elias, Juan L. Parra, Christine Andraud, Serge Berthier, Claire Doutrelant & Doris Gomez (2019), bioRχiv, https://doi.org/10.1101/586362