

Early stage biology of the Neotropical skipper *Artines angelica* Medeiros, 2019 (Hesperiidae: Hesperinae: Hesperini: Moncina)

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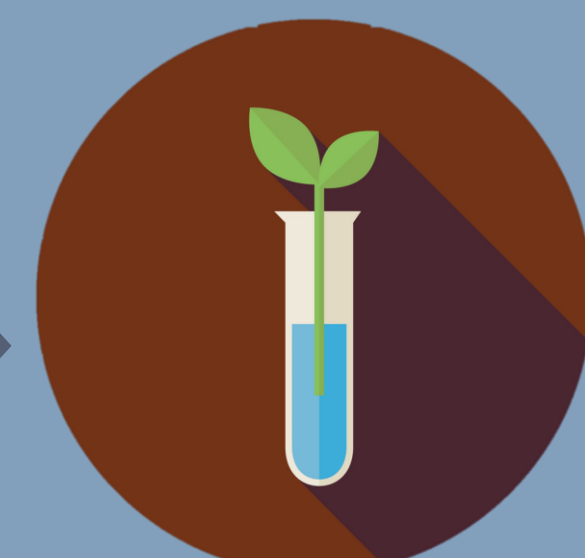
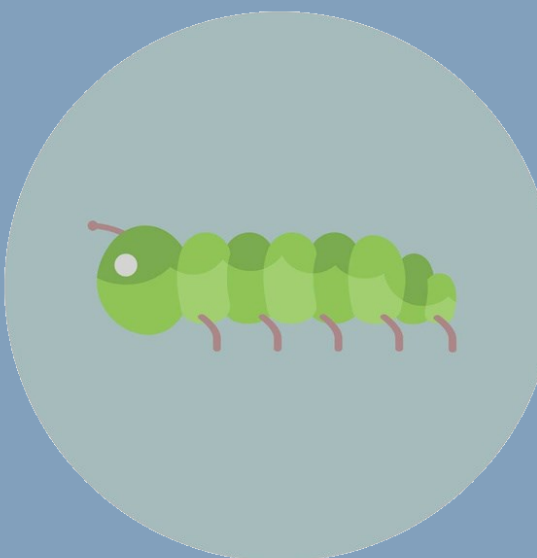
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Background & Aims

With over 650 valid species-group names in 100 genera (unpublished data), the skipper subtribe Moncina is a highly diverse radiation within the subfamily Hesperinae. Despite their high abundance and widespread distribution throughout the Neotropics, Moncina diversity, ecology, biogeography, and natural history remain poorly understood, due in part to the group's extremely high species richness, as well as difficult identification (Dolibaina et al. 2015, 2017). The study of immature stage biology is one possible tool for improving our understanding of Hesperidae diversity, particularly highly diverse groups such as Moncina. In this study, we describe the immature life stages of *Artines angelica* Medeiros, 2019 for the first time, providing photos and descriptions of the egg, six larval instars, and pupa.

Methods

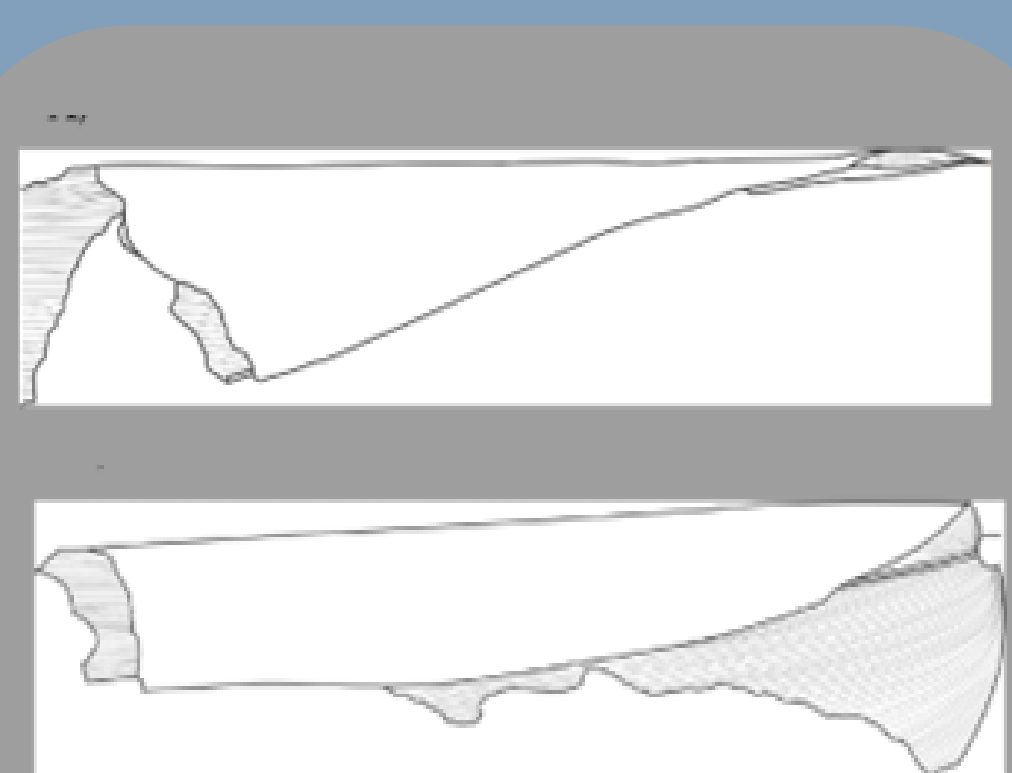
Finca Las Piedras, Puerto Maldonado, Peru; 48 km. lat. - 12.226348°, lon. - 69.112599°



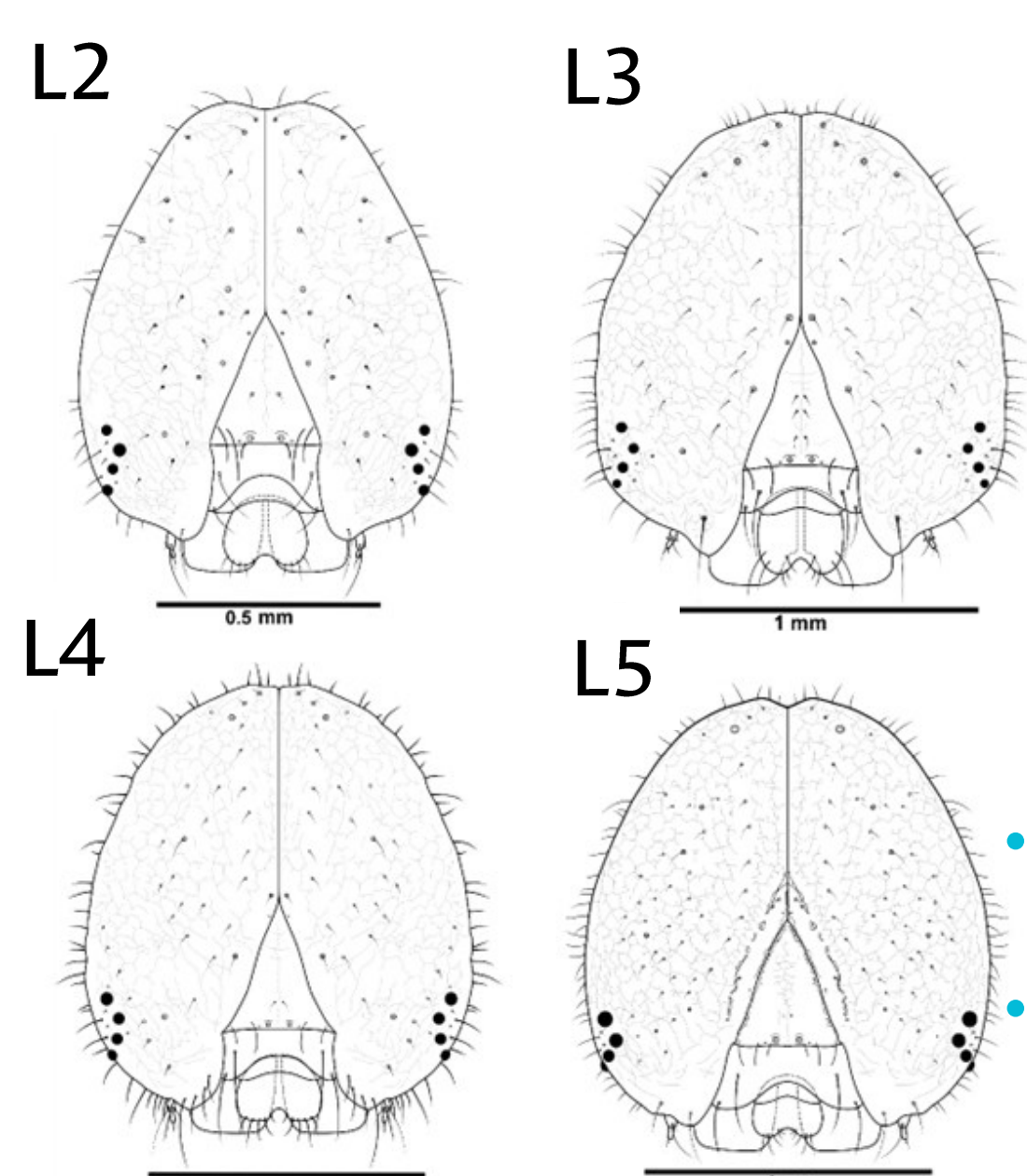
Id: Genitalia dissection; Medeiros et al (2019). Morphology: Minno (1994), Stehr (1987), Mosher (1915).

Results

- Life cycle spanned of **55 days**.
- Hostplants: *Olyra latifolia* L. & *Taquara micrantha* (Kunth) I.L.C. Oliveira and R.P. Oliveira
- In all instars, the larvae constructed **tubular shelters** by weaving several silk threads on the abaxial side of the leaf.

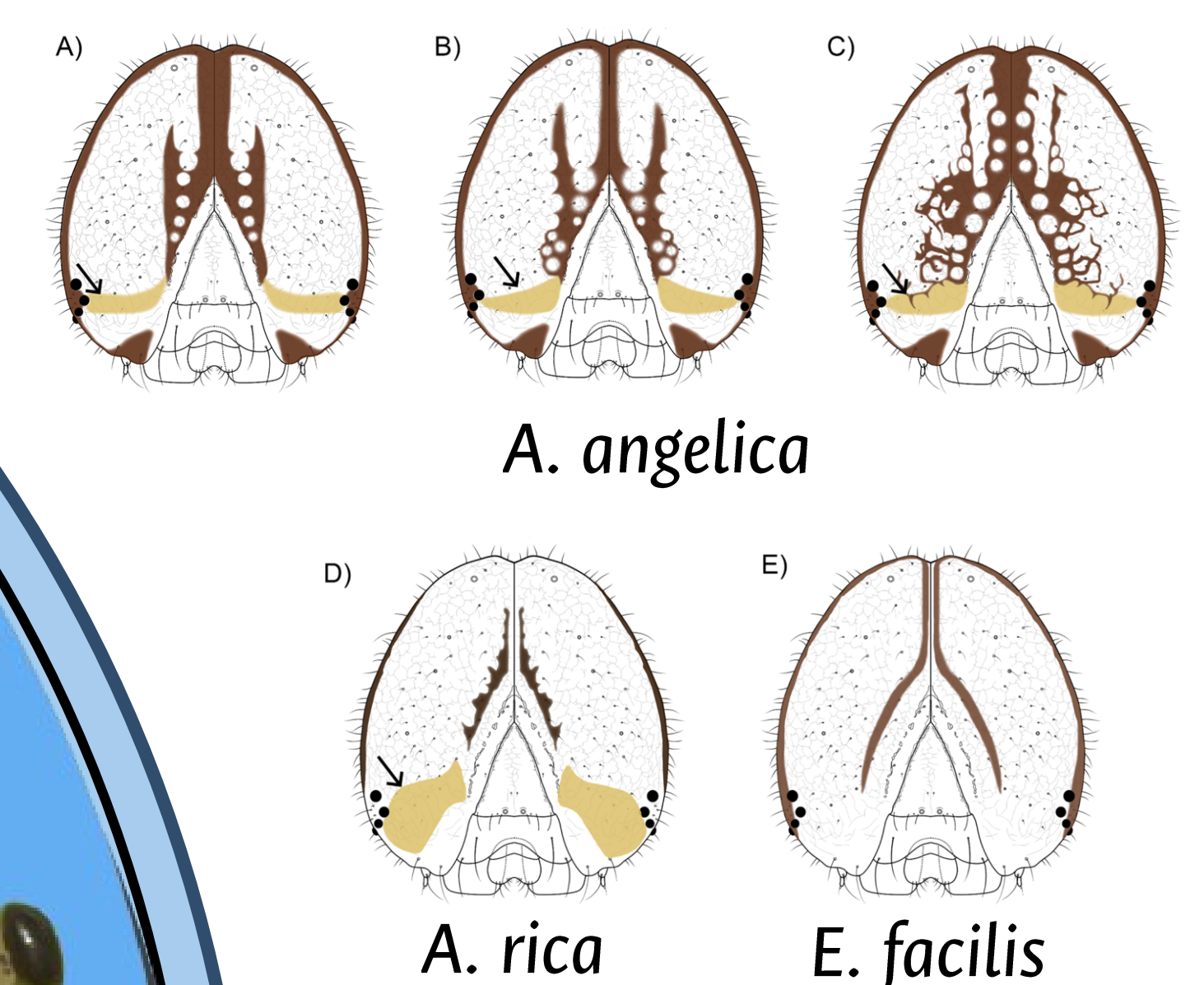
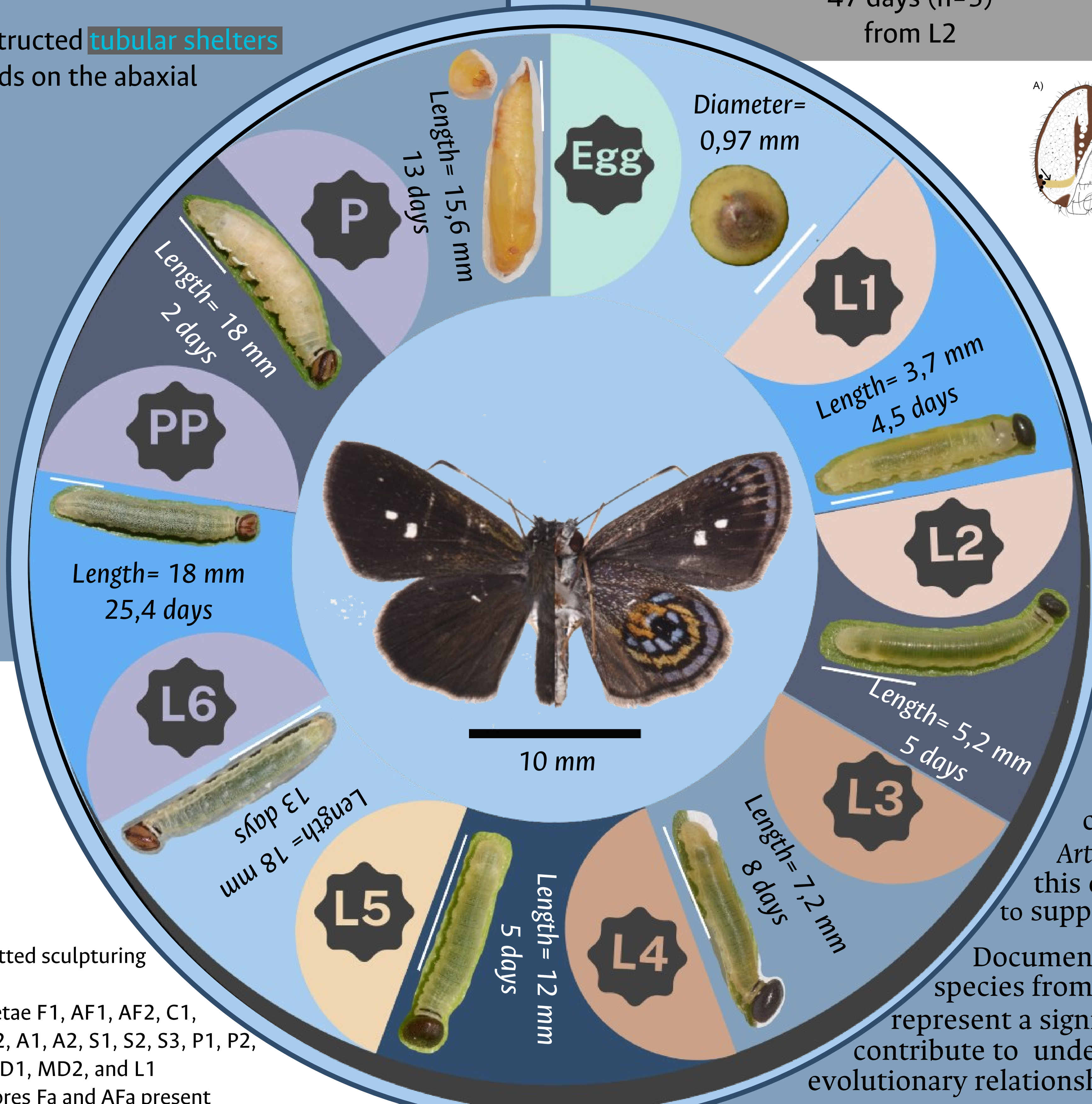
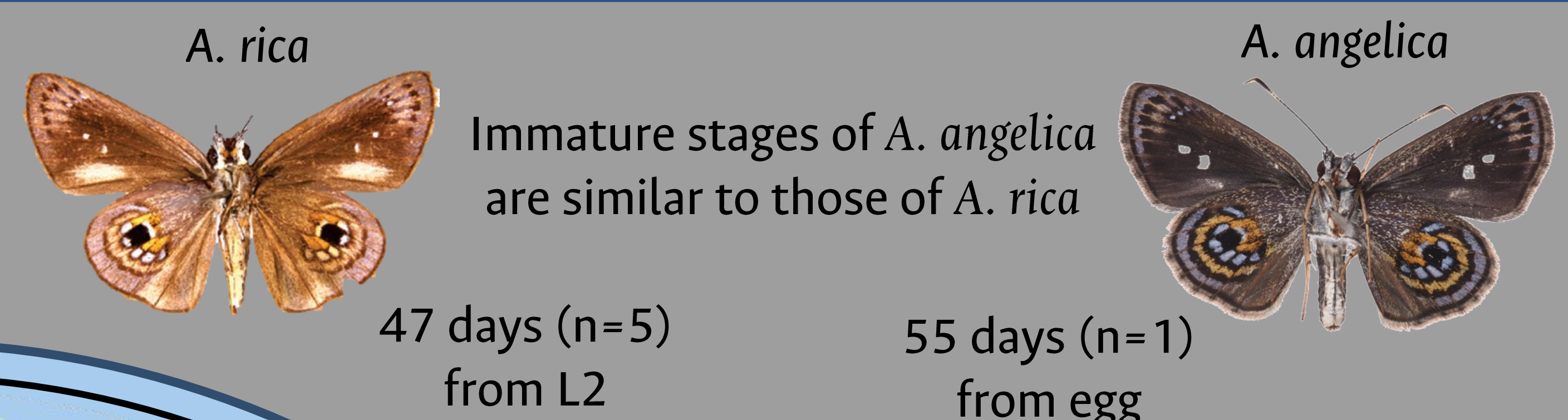


Group I, Type II, according to the classification by Greeney and Jones (1998).



- Pitted sculpturing
- Setae F1, AF1, AF2, C1, C2, A1, A2, S1, S2, S3, P1, P2, MD1, MD2, and L1
- Pores Fa and AFa present

Discussion & Future Directions



Some differences in head capsules

- Hesperiidae immatures have multiple characteristics that can provide another line of evidence to support classification hypotheses.

- The variation found in head capsule patterns between two *Artines* species may indicate that this characteristic can be informative to support taxonomic changes in skippers.

Documenting the immatures stages of species from related genera, which currently represent a significant knowledge gap, can better contribute to understanding and explaining the evolutionary relationships of these taxa.

Acknowledgements

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