The Texas *Eurycea*, a Rising System for the Study of Evolutionary Developmental Biology (and the collaborative village behind it)

Aquatic-subterranean environments pose unique challenges for organisms, with limited food, constant temperatures, and complete darkness. These conditions often lead to convergent traits such as eye and pigment reduction. In central Texas, a radiation of paedomorphic Brook salamanders (*Eurycea*; Subclade: *Paedomolge*) has repeatedly colonized subterranean habitats, creating a continuum of traits associated with life in perpetual darkness. This makes them an excellent system for studying the molecular and developmental basis of eye loss. For example, eye tissue structure differs dramatically between surface and subterranean species: visual proteins are absent in the Texas blind salamander (*E. rathbuni*) but present in the surface-dwelling San Marcos salamander (*E. nana*; Tovar et al., 2021). To further investigate, Tovar et al. (2025) collected six lineages and bred them to generate developmental series. Across lineages, two sensory changes repeatedly evolved in parallel: eyes became smaller and less developed, while the lateral line system (neuromasts that detect water movements) expanded significantly. Notably, this expansion was linked to persistent activity of the protein PAX6, typically associated with eye development. In surface salamanders, PAX6 labeling was reduced in neuromasts, whereas in subterranean species it was maintained. Together, these findings suggest that when vision is lost in darkness, other senses compensate—and that this sensory shift has evolved multiple times independently.