MAXIMOS CHIN

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RESEARCH INTERESTS

I have broad interests in evolutionary biology, with most of my previous work focusing on hybridization, sexual selection, and the factors that guide rapid population-level differentiation. I am particularly interested in the integration of empirical techniques with evolutionary modelling and forward time population simulations to disentangle interacting components of selection and explore how environment and life history traits shape genetic and phenotypic change in hybrid populations. Most of my research experience is concerned with the *Xiphophorus malinche – X. birchmanni* hybrid zone study system of central Mexico.

EDUCATION

B.S.   Texas A&M University College Station, Biology   August 2019 -
Minors in Bioinformatics and Chemistry
GPA: 3.945
Relevant graduate level coursework: Digital Biology (BIOL 647)
                                                            Experimental Design in Biology (BIOL 683)
Thesis: Morphological trends in experimental and simulated populations of hybrid swordtails
- Advisors: Drs. Gil Rosenthal and Heath Blackmon

RESEARCH EXPERIENCE

Sexual antagonism and rates of chromosomal fusion and fission across a broad mammalian phylogeny   June 2022 -
PI: Dr. Heath Blackmon (coleoguy@gmail.com)
- Large scale stochastic mapping in R
- Evolutionary modelling and parameter estimation
- Package modification in R

Exploration of early generation hybrid evolution using forward time population simulations   August 2021 -
PI: Drs. Gil Rosenthal (gil.rosenthal@unipd.it) and Heath Blackmon
- Forward time population simulations in Admix'em
  (design of genomic architecture, modelling of selection functions, scripting in Bash)
- Comparative analysis of simulated and empirical datasets in R
  (sum mean error, decision trees)

- Talk: https://www.youtube.com/watch?v=ej5PSUEFftM

DNA extraction of swordtail tissue samples   June – August 2021
PI: Dr. Gil Rosenthal
- Agencourt DNAdvance bead based extraction protocol
- DNA quantification, PCR and gel electrophoresis

**Morphological evolution in experimental early generation
hybrid swordtail populations**   November 2019 -
PI: Dr. Gil Rosenthal
- Collection of morphometric data in ImageJ (quantitative and qualitative traits)
- Data analysis in R (linear mixed effect models, repeated measures ANOVA, principal component analysis)
- Talk: https://www.youtube.com/watch?v=vTvEhU6wT1w

SYMPOSIUM AND CONFERENCE PRESENTATIONS

**Morphological trends in experimental and simulated
populations of hybrid swordtails**   March 2022
Texas A&M Student Research Week, in-person

**Morphological trends in experimental and simulated
populations of hybrid swordtails**   February 2022
Texas A&M Undergraduate Research Scholars Symposium, recorded

**Morphological trends in experimental hybrid populations
of highland and sheepshead swordtails**   February 2021
Poeciliid Fishes Virtual Forum, virtual live

EMPLOYMENT

Student Research Technician   May – August 2022
Department of Biology, Texas A&M
PI: Dr. Heath Blackmon

SERVICE

TAMU Chapter of the Society for Conservation Biology   January 2020 -
- Treasurer: May 2021 – April 2022
- President: May 2022 – Present

TAMU Biology Honors Advisory Council   October 2020 -