



CCGP Newsletter

Issue #09 - December 20, 2022

Contents

- 01:** Happy holidays from the CCGP!
- 02:** CCGP Special Issue published in JOH
- 03:** Brad Shaffer invited to BGE
- 04:** Reference genome assembly progress
- 05:** PI Spotlight: Greg Grether
- 06:** CCGP at PAG Jan 2023

Happy Holidays from the CCGP!

The CCGP wishes all of you a restorative holiday break full of family, friends, and good cheer. It is an understatement to say that this has been a productive year. The CCGP was presented at numerous conferences and featured in several major publications. We held a successful and inspiring All-Hands meeting at UCLA and have since met with every project to review progress and find solutions to any roadblocks. This year, over one-third of the high-quality reference genomes planned have been assembled. Many projects completed sampling despite previous setbacks from the pandemic and state-wide drought, while others completed bench work and sequencing. Our bioinformatics team wrangled thousands of whole genome sequence reads and their metadata and also created a comprehensive variant calling pipeline. Our landscape genomics team developed an extensive landscape genomics analysis toolkit, *Algatr*, in R that will be used on all CCGP taxa and prompt

comparative analyses. With that, we are looking forward to the next stages of the CCGP and are excited to share our future findings.

A massive thank you to every PI, team member, collaborator, and staff member for all of their hard work this year!



CCGP Special Issue Published in JOH!

We are excited to share that the CCGP-dedicated special issue in the Journal of Heredity is out! This issue features four general articles that present the CCGP as a whole, its timely role in California conservation policy, how our data relates to the published macrogenetic dataset CaliPopGen, and how the CCGP captures California's phylogenetic diversity. It also includes a whopping 16 Genome Resource articles on a variety of taxa - a great snapshot of CCGP progress!

[Click here to access the issue!](#)



Brad Shaffer invited to BGE

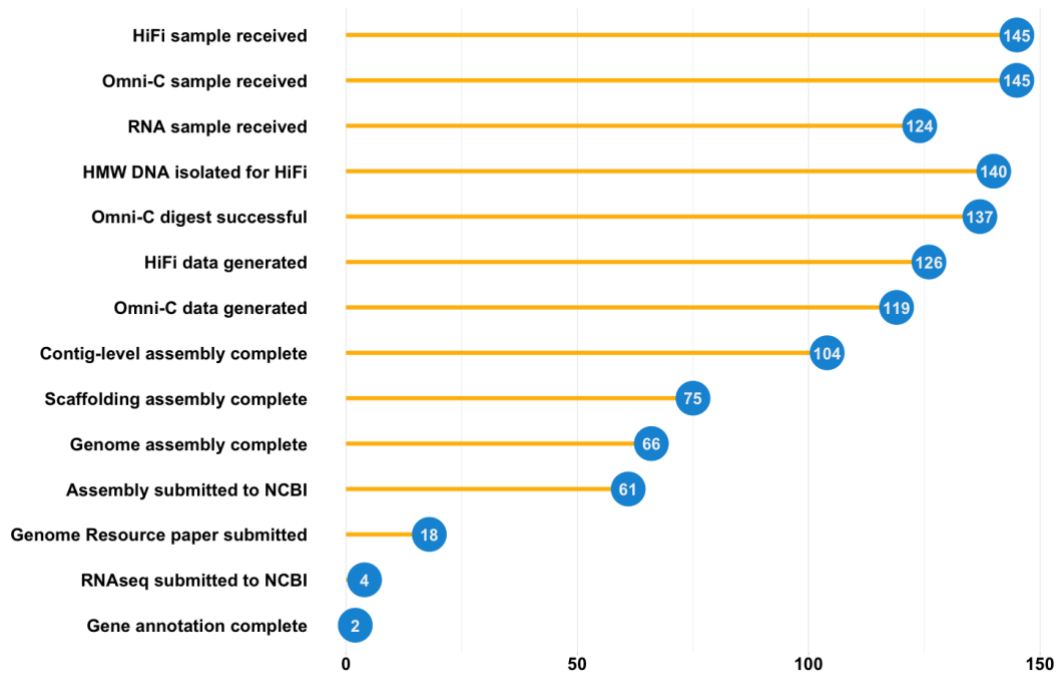
CCGP Director and PI Brad Shaffer has been invited to join the External Expert Advisory Board (EEAB) of [the Biodiversity Genomics Europe \(BGE\)](#).

[Project](#). BGE is a multi-partner international project co-funded by the European Union, the UK, and the Swiss governments. The project aims to accelerate the application of genomic science to enhance understanding of biodiversity, monitor biodiversity change, and guide interventions to address its decline.

As a member of the EEAB, Brad will give advice on how to assess the project's performance as a whole and inform decisions on matters relating to his expertise and experience: evolutionary biology, ecology and conservation biology of amphibians and reptiles and beyond. He will collaborate with other

internationally renowned experts to bring in scientific, policy and technological points of view. This is an exciting opportunity to involve the CCGP in international discussions on conservation genomics!

Reference genome sequencing progress



Number of Species Completed (as of December 20, 2022)

We expect to wrap up the bench work for reference genome assemblies shortly after the new year! The lab teams at UCD and UCSC have prepped over 90% of our species for sequencing. Sequencing is also keeping pace with HiFi and Omni-C data generated for over 80% of all reference genome species. Finally, our genome assembler, Merly Escalona, has assembled 65 reference genomes with nearly all of these submitted to NCBI.

CCGP PI Spotlight: Greg Grether

CCGP PI and UCLA professor of ecology and evolutionary biology, Greg Grether and his lab recently published the article [Aggression in a western Amazonian colonial spider, *Philoponella republicana* \(Araneae: Uloboridae\)](#) in the Journal of Arachnology. The study examined colony dynamics, with a specific focus on aggressive behaviors, in this understudied spider. Amongst several interesting findings, this study found that when there were more female spiders in a colony of orb-weaving spiders, male spiders fought less with one another. In general, they determine that patterns of aggression in *P. republicana* suggest a balance

between aggression and tolerance towards conspecifics - which raises new questions regarding how evolutionary pressures shape coloniality in spiders.



CCGP at PAG January 2023

CCGP Director Brad Shaffer and genome assembler, Merly Escalona, will both be presenting at the [Plant & Animal Genomics \(PAG\) Conference](#).

The meeting will take place in San Diego, CA from January 13-18th. PAG is intended to provide a forum on recent developments and future plans for plant and animal genome projects. Brad will speak on the CCGP

as a whole and highlight project progress and future plans. And of course, Merly will share her exciting and challenging efforts to assemble genomes for such a diverse group of taxa.

Have anything to share?

As always, if your lab has any interesting information to share or you come across something that may be of interest to the CCGP community, please don't hesitate to let us know. [Click here to get in touch!](#)

CCGP Contacts:

Brad Shaffer (Director) brad.shaffer@ucla.edu

Erin Toffelmier (Associate Director) etoff@ucla.edu

Courtney Miller (Fund/Project Manager) courtneymiller@ucla.edu

Andrew Tully (Lab Technician) andrewtully@ucla.edu

Merly Escalona (Reference genomes) mmescalo@ucsc.edu

Mara Baylis (WGS data wrangler) mbaylis@ucsc.edu

Erik Enbody (BioInformatics) eenbody@ucsc.edu

Ryan Harrigan (Landscape analysis & mapping) iluvsa@ucla.edu

Anne Chambers (Landscape genomics) eachambers@berkeley.edu

California Conservation Genomics Project

ccgproject.org

[Unsubscribe](#)

