SCWIBLEs

Santa Cruz-Watsonville Inquiry-Based Learning in Environmental Sciences

NSF GK-12

...PRESENTS:

# VIKRAM BALIGA

## WHS SCIENTIST IN RESIDENCE, 2013-2014

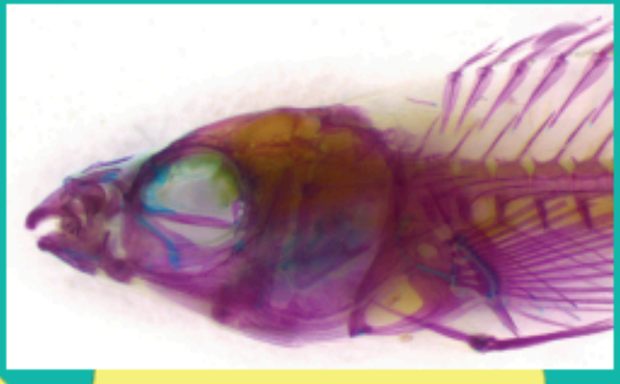
I frequently make trips to natural history museums such as the California Academy of Sciences. Once, the curators even put me on display to the public as a "Scientist in Action". It was really fun to show people how I conduct my research.

## Some stuff about me:

- **Age:** 25
- **Where I grew up:** Irvine, California
- **High School:** Woodbridge High School (another WHS!)
- **Favorite subjects in high school:** Biology
- **College (undergraduate):** UC Berkeley
- **Some of my favorite things:** board games, dogs, tv, reading
- **Something weird about me:** I love reading Norse mythology and even minored in Scandinavian Studies in college
- **What I think or do when I get frustrated:** I take a deep breath and think carefully before I talk

This fish is named the señorita (*Oxyjulis californica*) and is one of the few cleaner fishes found in California coastal waters. Look for it next time you're at the Monterey Bay Aquarium!

Cleaners often set up "cleaning stations", which are dedicated spots where other fishes line up to be cleaned. Often, cleaners (such as this Hawaiian cleaner wrasse) will safely enter the mouths of their clients to inspect for parasites.



I use a technique called "clearing and staining" to view the skeletons of preserved specimens. In this photo of *Labroides bicolor*, I used a combination of stains to color all of the cartilage blue and all of the bones purple. This technique can be used to look at the skeletons of almost any vertebrate.

## What I study

I am really interested in cleaning behavior as we see it in fishes. In this context, cleaning is a mutualistic behavior wherein fish eat parasites that live on other animals' bodies. Over 130 species of fishes exhibit this behavior. I'm interested in knowing how morphologically diverse these species are. Are we seeing convergent evolution in traits of the skull or body? What does it take, anatomically speaking, to be a cleaner?

More broadly, I try to understand how evolution works. My approach is to study how natural selection has led to the morphological diversity we see. In studying cleaners, I can see how closely linked a species' morphology and ecology are.

This year will be my second year as a SCWIBLES Fellow. I am excited to get to know you guys more. If you see me around, say hi and feel free to ask me any questions about being a scientist. It's a fun job!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http://scwibles.ucsc.edu