



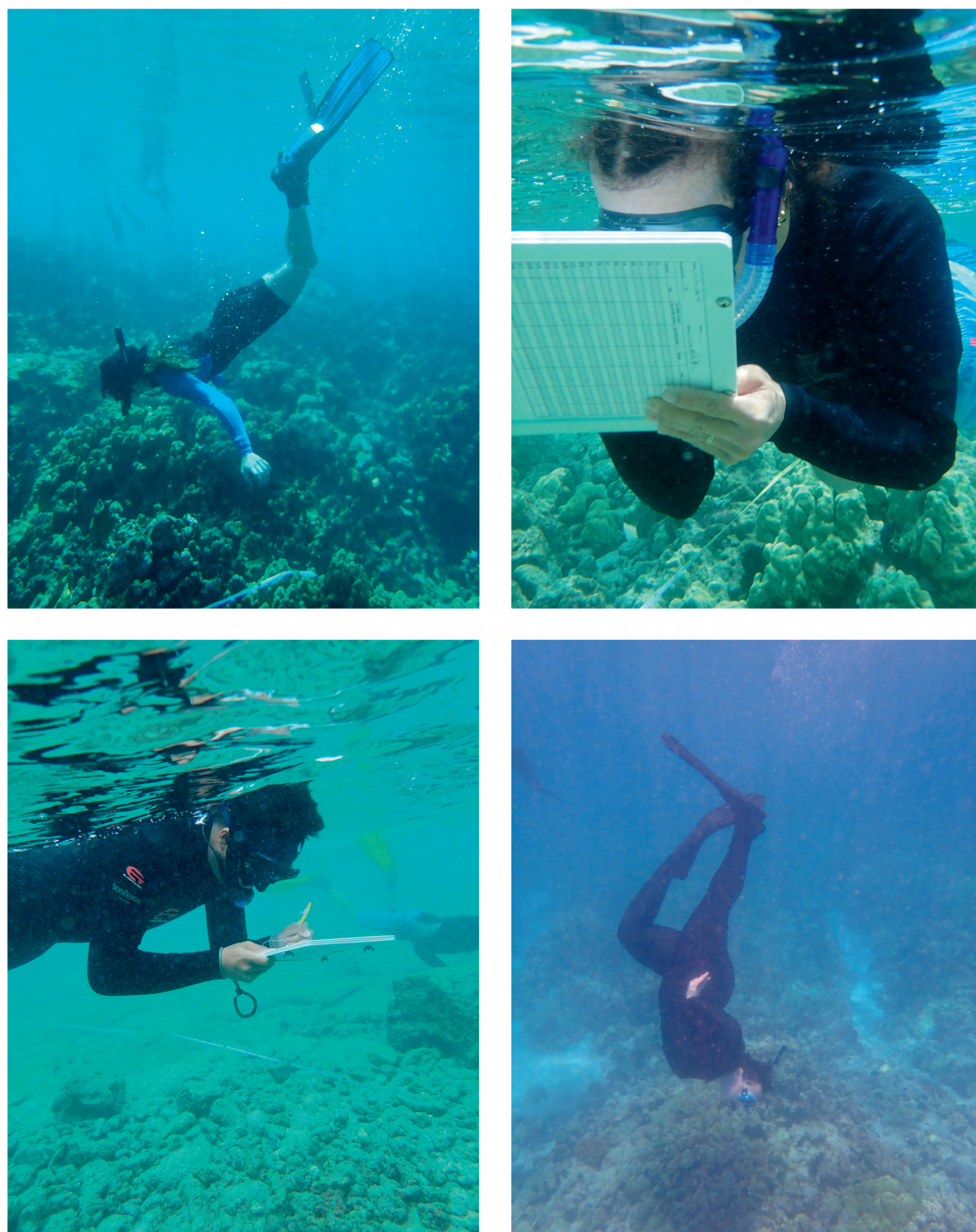
Convict Tang feed at higher rates than Yellow Tang.

Background

- Convict Tang and Yellow Tang are similarly-sized herbivorous reef fish of the family Acanthuridae commonly observed off the Big Island of Hawai'i.
- Bite rate, with bite volume, can be an effective metric for measuring herbivory rates (Hamilton et al., 2014).

Methods

- Puako Bay (Hawai'i Island, USA)
- 3 minute observation per fish
- Bite rate recorded as in Fox & Bellwood (2007).



BIO 4550 students collecting data, clockwise from right: Ashton Espino, Anthony Rondon, Amaris Bellord, and Casey Pua.

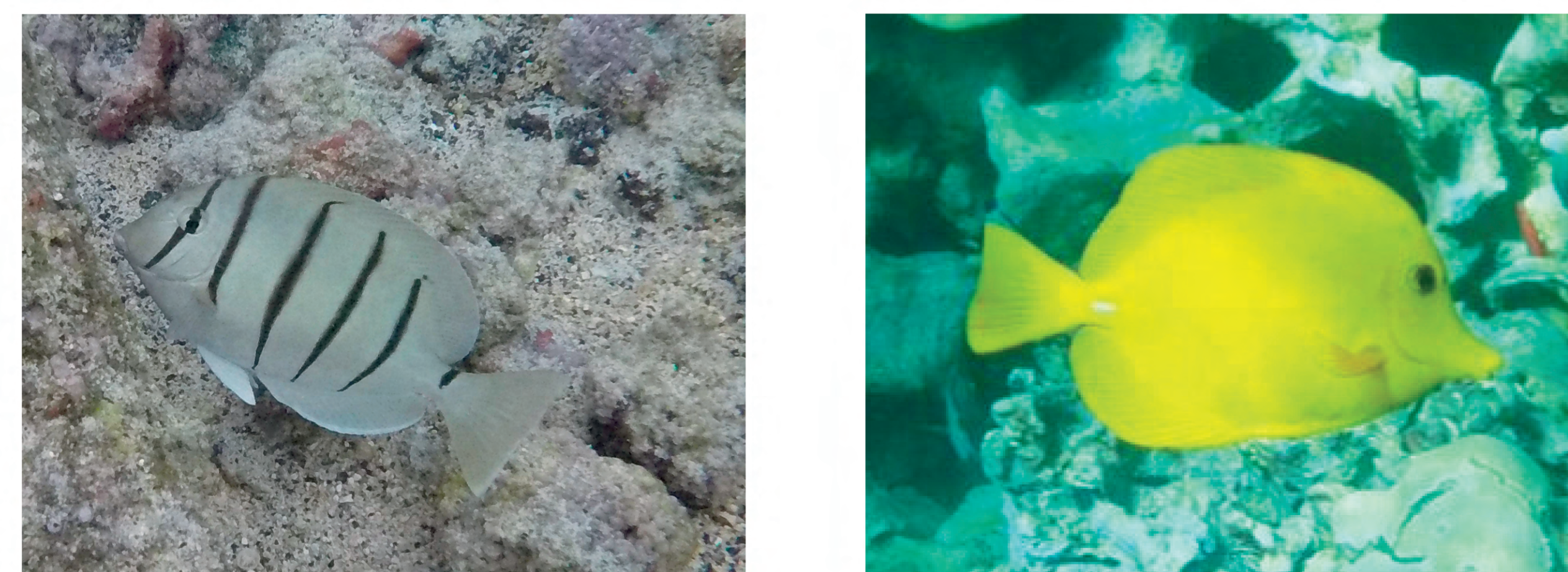


Fig. 1 (Right) Convict Tang (*Acanthurus triostegus*). (Left) Yellow Tang (*Zebrasoma flavescens*). PC: Dr. Jayson Smith.

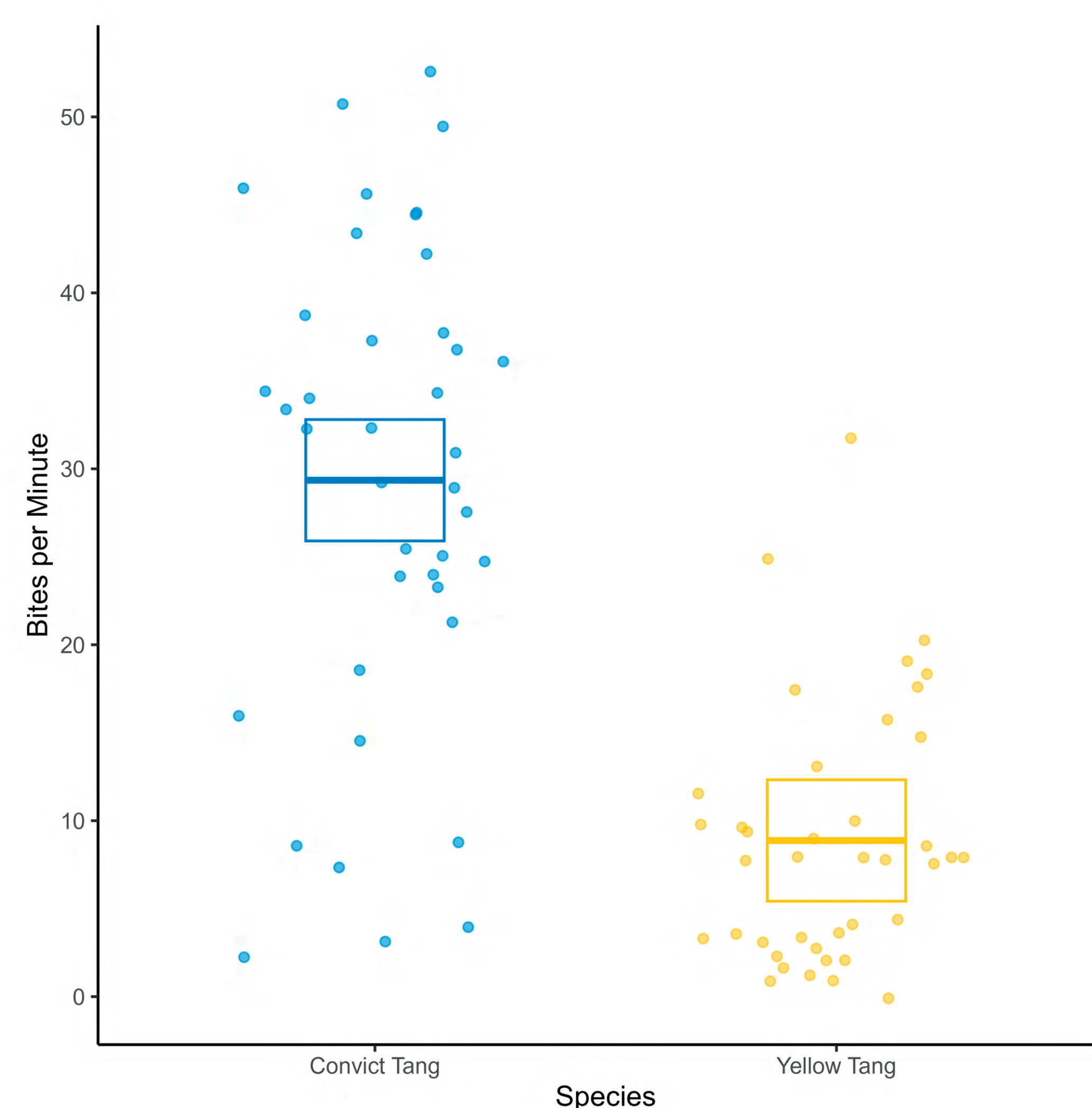


Fig. 2 Feeding rate of Convict Tang ($n=40$) in bites per minute was 2.3 times higher than that of Yellow Tang ($n=40$), $p < .0001$. Error Bars are 95% CI.

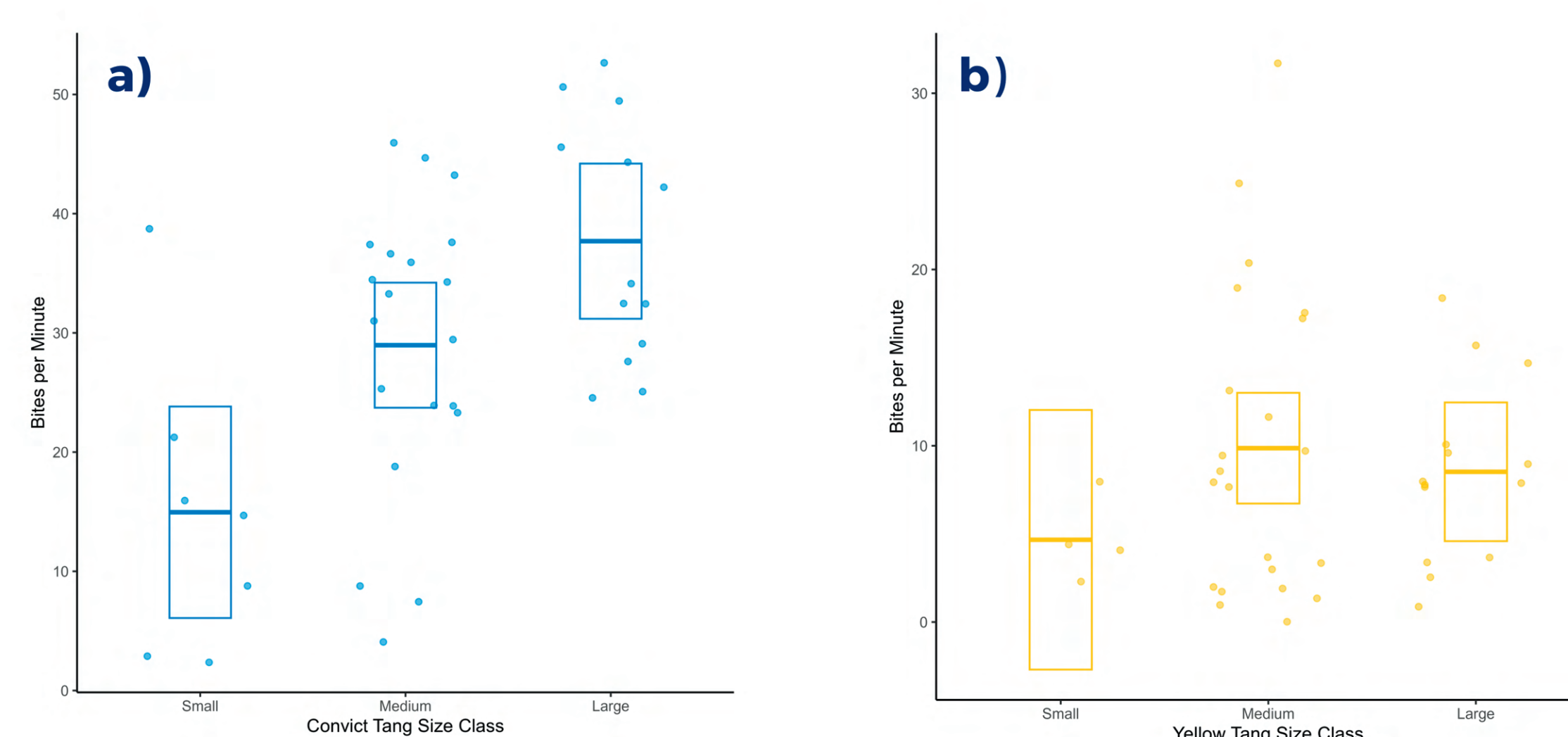


Fig. 3 Feeding rates of **a)** Convict Tang and **b)** Yellow Tang in bites per minute, sorted by size class. Error Bars are 95% CI.

They also exhibited a behavior called **chafing**.

Fish chafe for a variety of reasons (Wyman & Walters-Wyman, 1985) :

- removing skin irritants like loose scales and ectoparasites
- territoriality displays
- initiating pair bonding

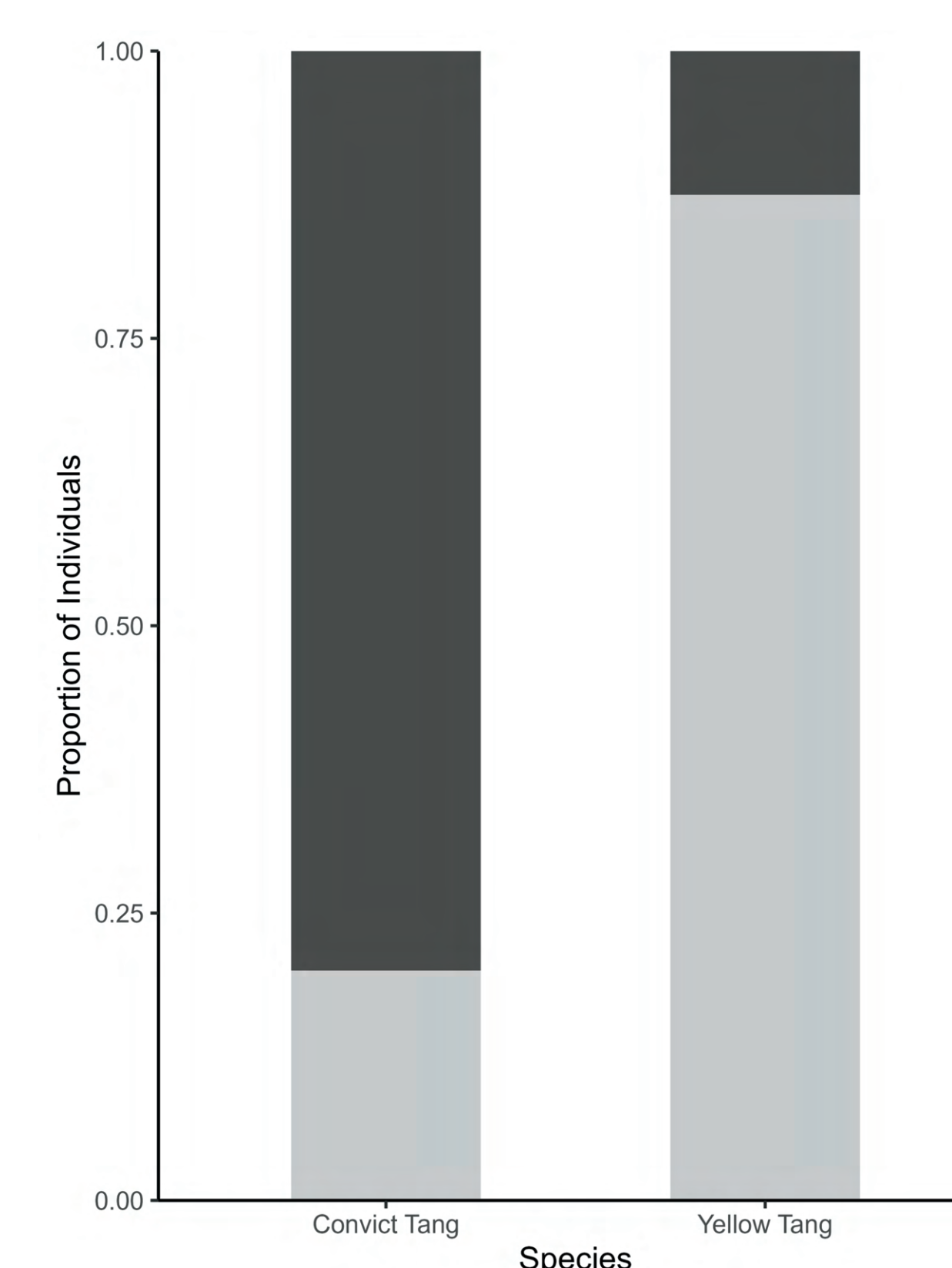


Fig. 4 80% of Convict Tang and 12.5% of Yellow Tang displayed chafing behavior. Dark grey indicates the behavior was observed.

This data was collected during the Spring 2023 BIO 4550 Field Biology class trip to Hawai'i.

BIO 4550 is a once-annual course for biology majors where students get hands-on field experience and conduct independent research.

Learn more about
BIO 4550 here:



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