



Parasite diversity and burden in relation to diet in a hermaphroditic fish (*Halichoeres semicinctus*)

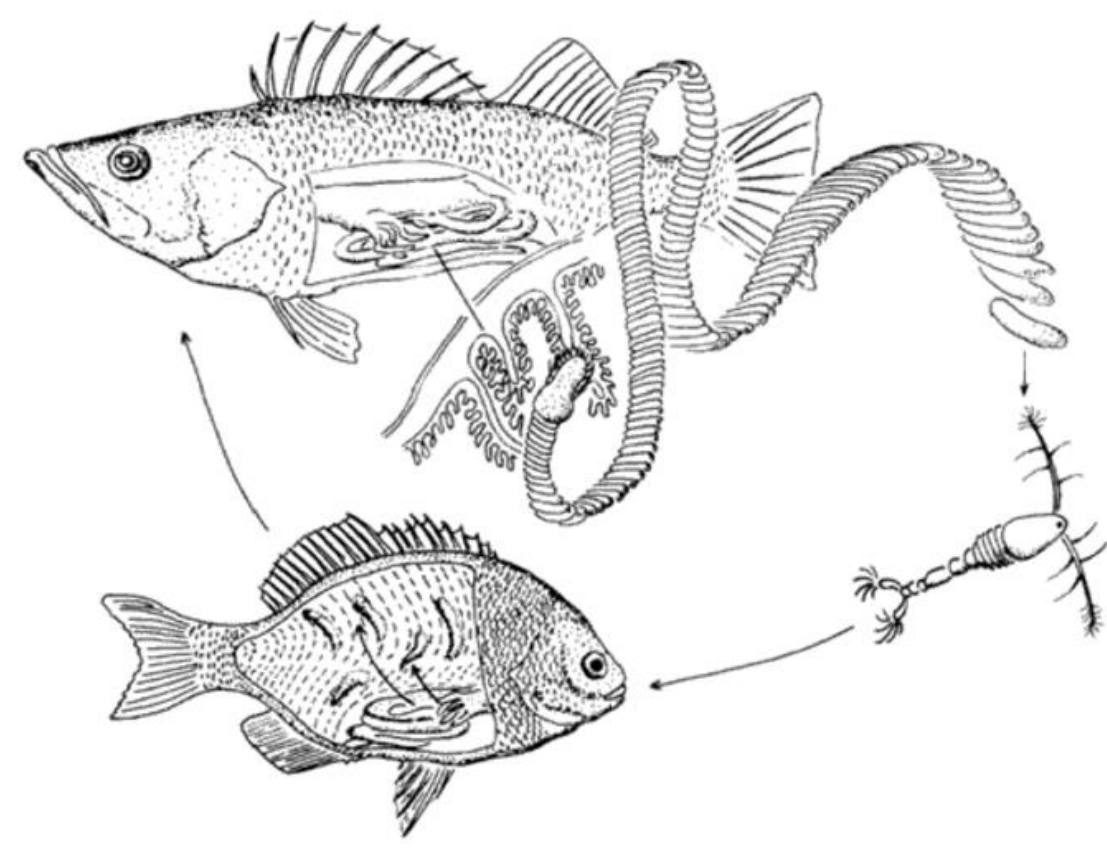
CSEP

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Introduction

- Trophic transmission: parasites are transferred from prey to predator → use to learn about host behavior
- Larger fish have more parasites
- Fish higher on the food chain have more parasites
- Rock wrasse (*Halichoeres semicinctus*) changes from female to male¹



Female



Male

- Little is known about its parasites

Questions

- Is there a difference between the parasites of males and females?
- What features would influence parasite assemblages?

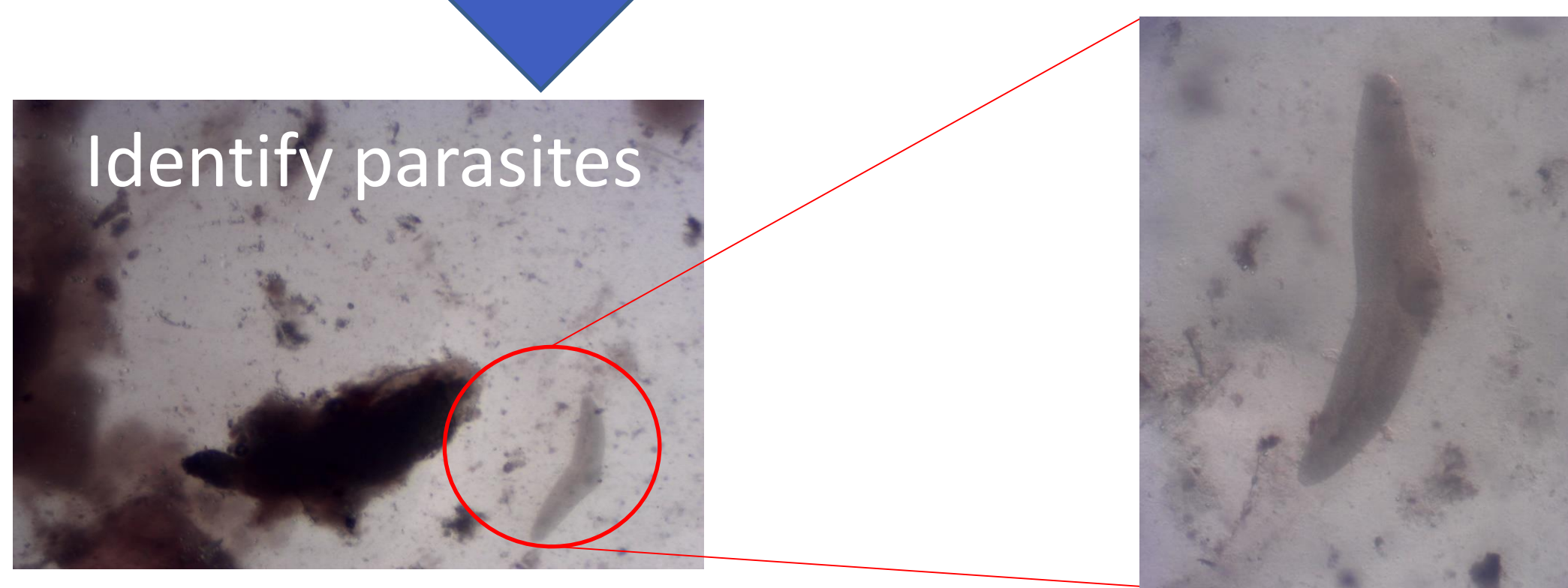
Methods

Identifying and counting parasites

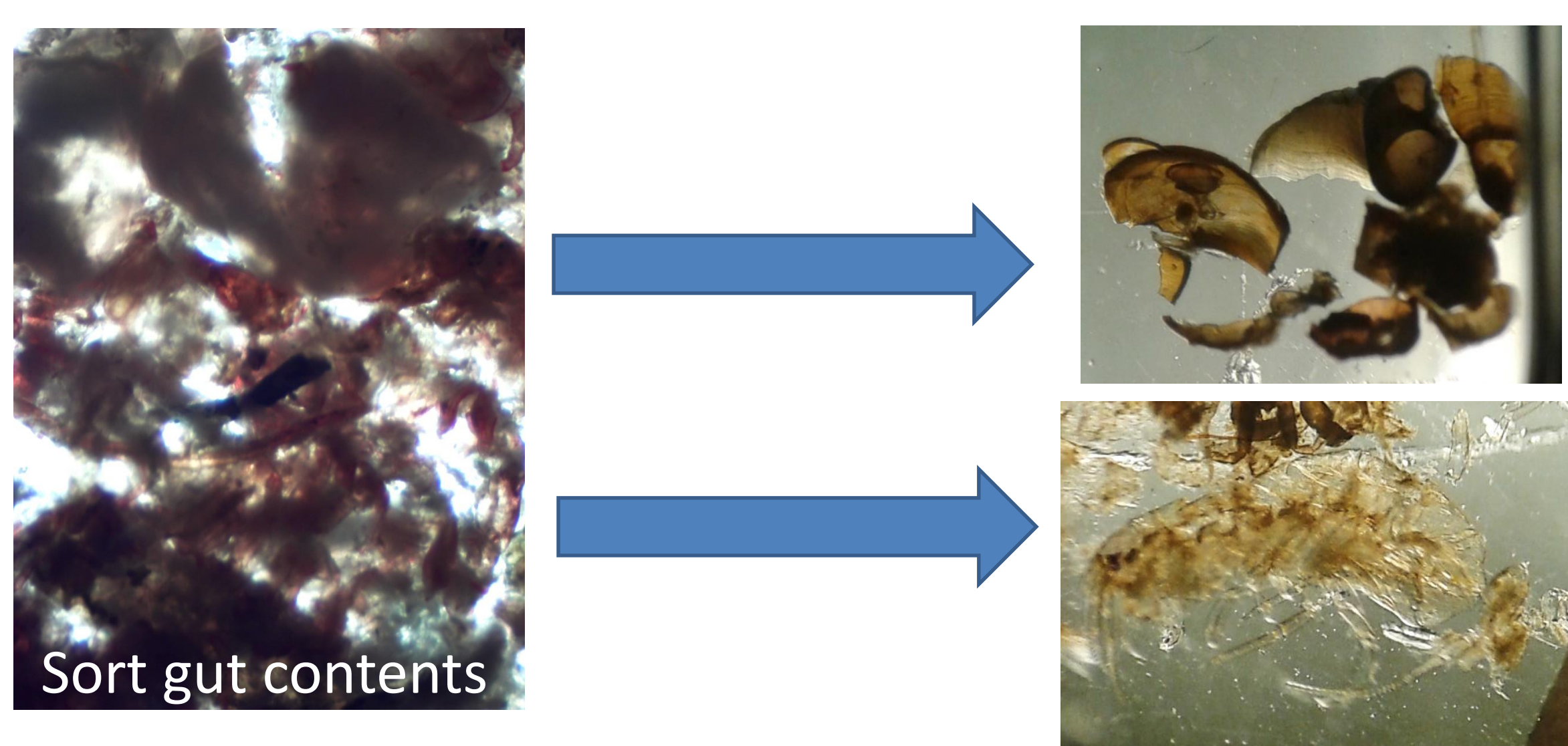


Perform tissue squashes

Identify parasites



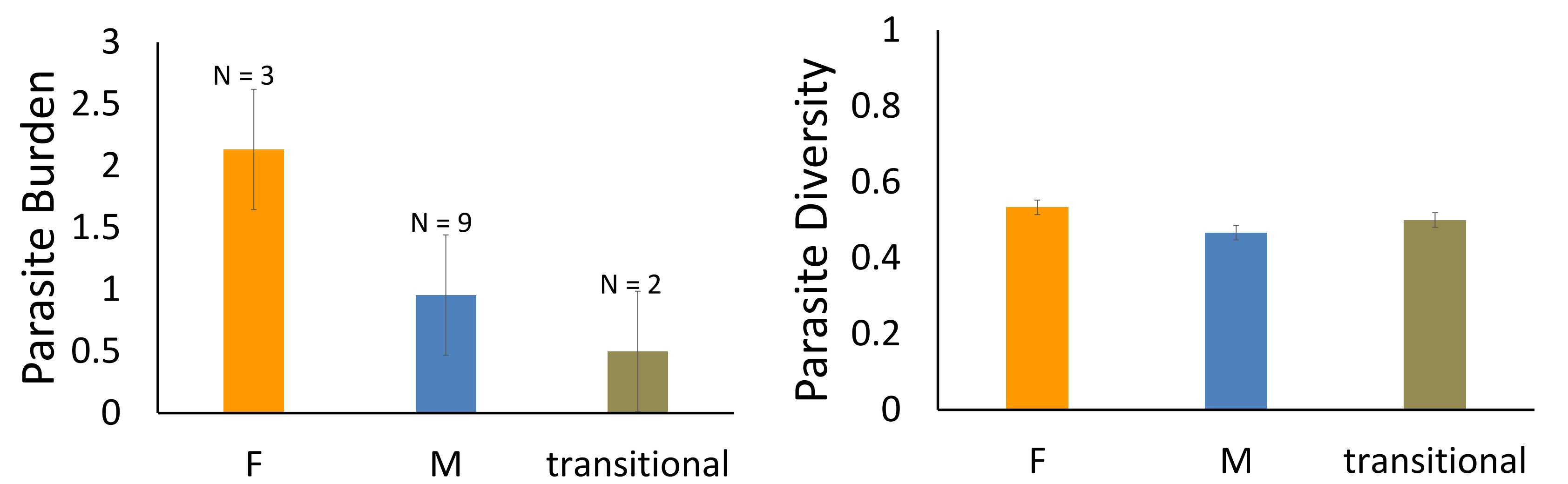
Analyzing Gut Contents



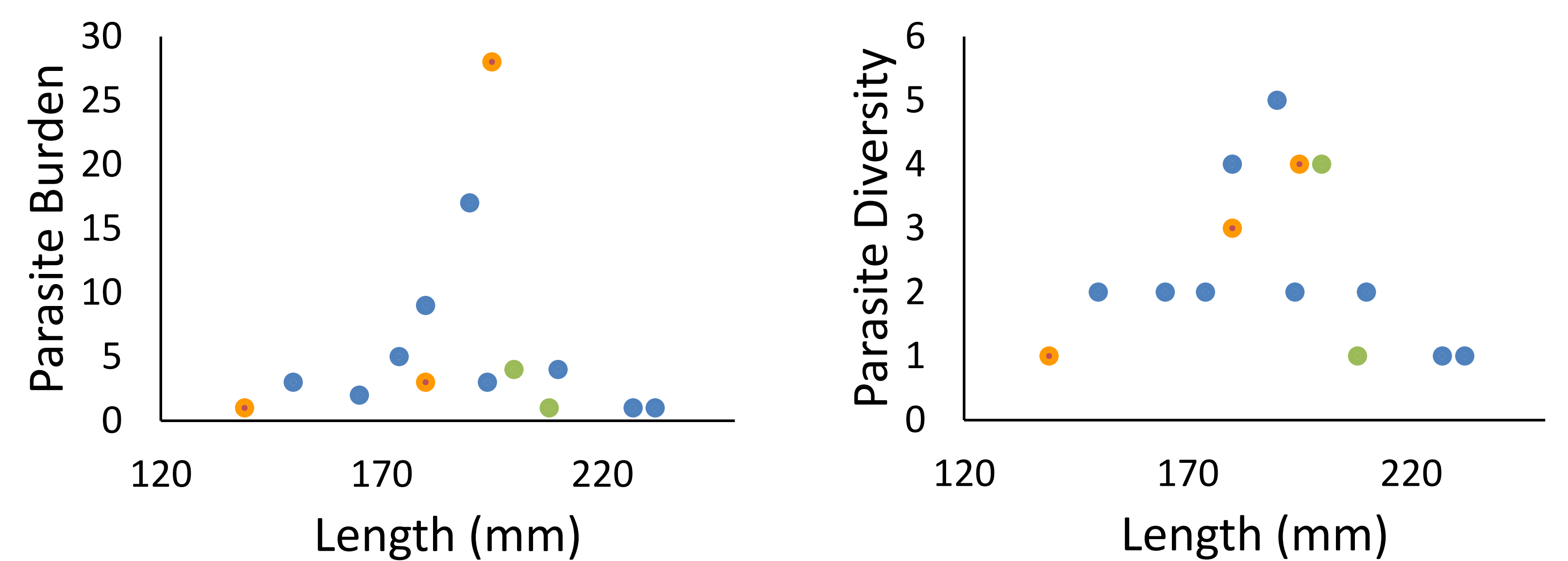
Sort gut contents

Results

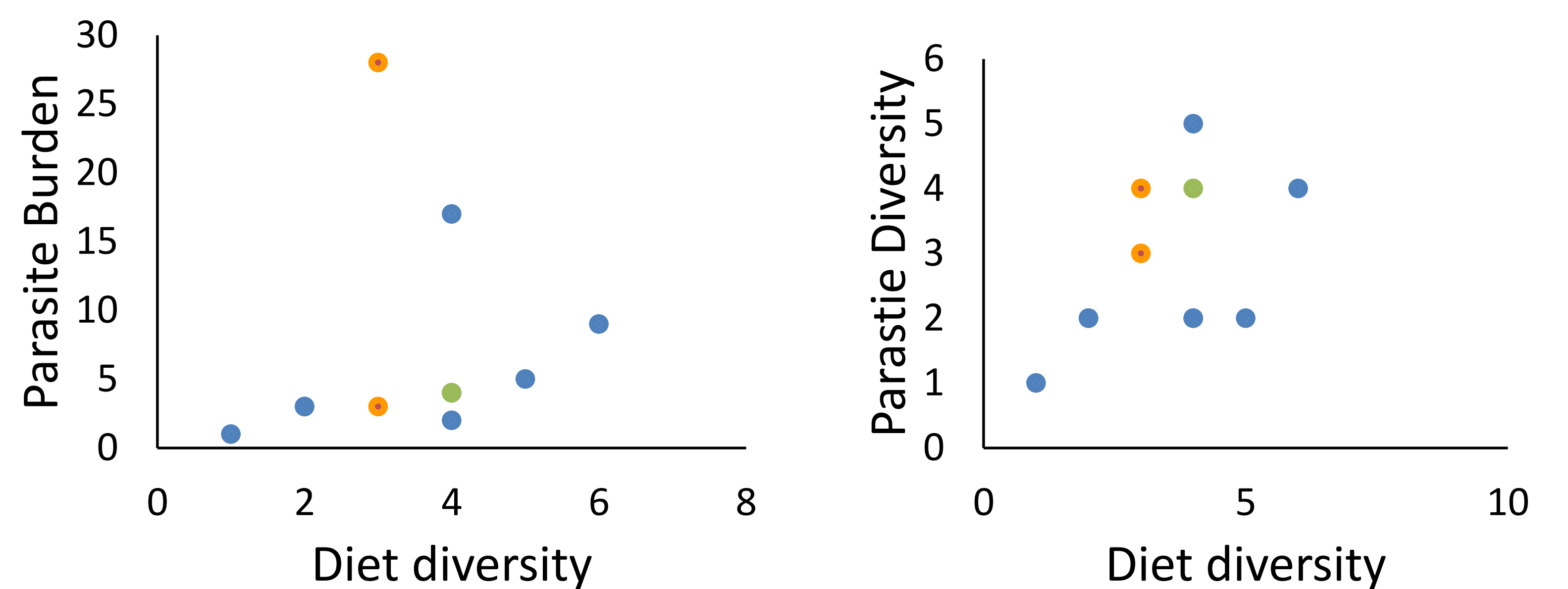
Females had a slightly higher parasite burden



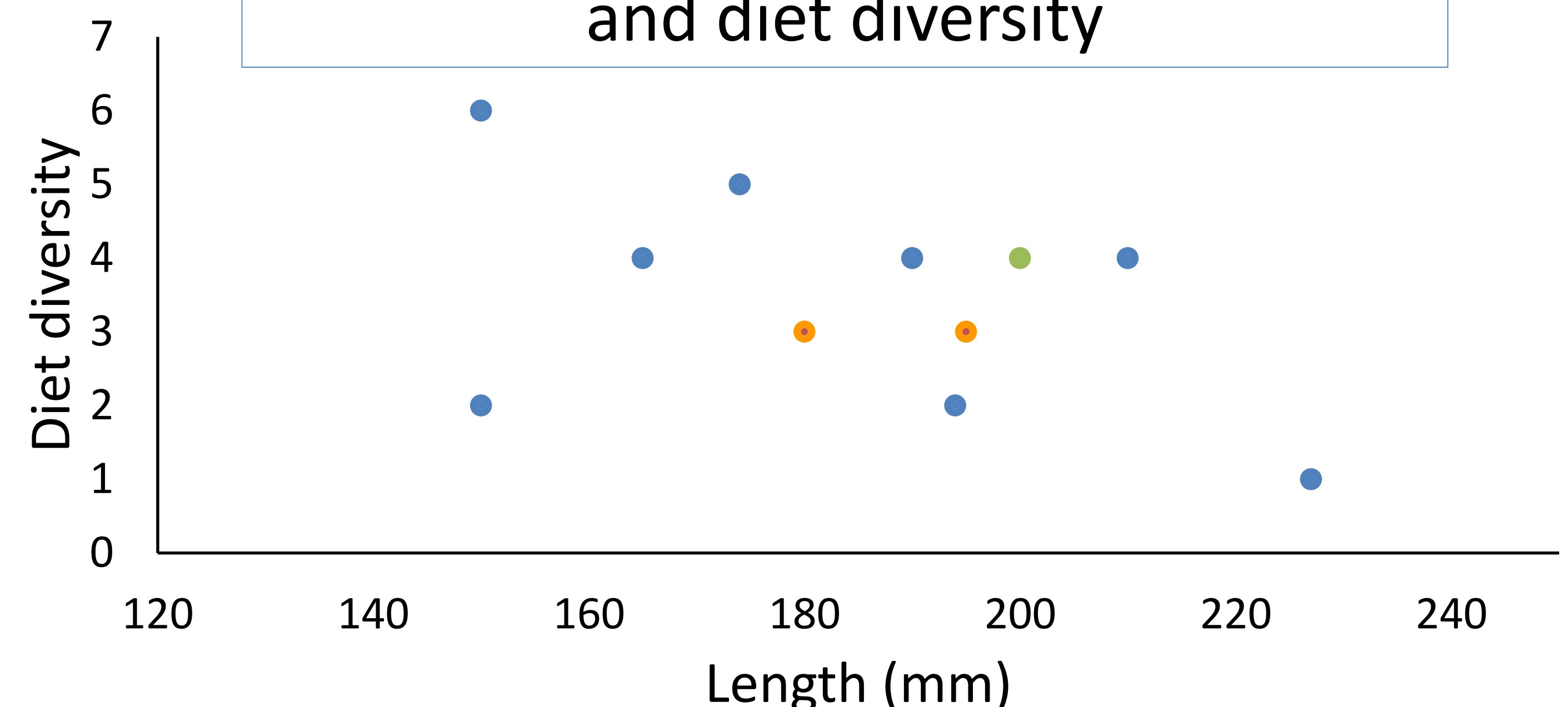
Mid-sized wrasses had higher burden and diversity



Diet diversity correlated with parasite diversity



No clear relationship between length and diet diversity



Discussion

- High diet diversity correlates with high parasite diversity: Eating more types of prey → exposed to more types of parasites
- Mid-sized wrasses have a high parasite burden and diversity: Possibly, diverse diet → diverse parasites

References

¹Andreani, M.S. and Allen, L.G. (2008). Mating System and Reproductive Biology of a Temperate Wrasse, *Halichoeres semicinctus*. *Copeia*. (2):467-475.

Photo credits: <http://www.diverkevin.com/NorthAmerica/FishEastern-Pacific/Fish-Eastern-Pacific/i-bmZh5gX>; <http://www.marinelifephotography.com/diving/cabo/cabo.htm>; <https://www.wildlife.ca.gov/Conservation/Marine/Parasites>