

Laura Kate Lopez

Affiliation: Department of Ecology and
Evolutionary Biology
University of Michigan

Citizenship: Australian
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Education

- 2017 PhD. University of Wollongong, Australia
Supervised by Prof. Andy Davis and Dr. Marian Wong.
Dissertation title: “The context-dependency of predator-prey and competitive interactions between the invasive eastern mosquito fish, *Gambusia holbrooki*, and native Australian freshwater fauna”.
- 2012 Bachelor of Marine Science Advanced (Hons). University of Wollongong, Australia.
Supervised by Prof. Andy Davis.
Dissertation title: “The mussel *Trichomya hirsuta* as a bioindicator of heavy metal contamination in sediments”.

Professional Experience

- 2018- present Postdoctoral researcher. University of Michigan. Mentor: Meghan Duffy.
- 2017-2018 Australia Awards Endeavour Postdoctoral scholar. University of California, Davis.
Host: Prof. Andy Sih, Department of Environmental Science and Policy.
Title: “Behavioural and physiological responses of individual organisms to multiple abiotic and biotic stressors”
- 2016 Research Assistant. Sleepy lizard movement ecology and parasitology. Adelaide, SA, Australia. Prof. Andy Sih and Prof. Michael Bull. UC Davis and Flinders University.

Publications

Lopez L.K., Wong M.Y.L. and A.R. Davis. *In review*. Don't be dense: the impact of density on interference competition between a highly invasive species and its native competitor.

Lopez L.K., Hendry K., M.Y.L. Wong and A.R. Davis. *In press*. Insight into invasion: interactions between a critically endangered and invasive crayfish. *Austral Ecology*.

Lopez L.K., Davis A.R. and M.Y.L. Wong (2017). Behavioral interactions under multiple stressors: temperature and salinity mediate aggression between an invasive and a native fish. *Biological Invasions*. <https://doi.org/10.1007/s10530-017-1552-8>

Lopez L.K., Wong M.Y.L. and A.R. Davis (2016). The effects of diel cycle and the density of an invasive predator on predation risk and prey response. *Animal Behaviour*, 117:87-95.

Lopez, L.K., Couture P., Maher W.A., Krikowa F., Jolley D.F. and A.R. Davis. (2014). Response of the hairy mussel *Trichomya hirsuta* to sediment-metal contamination in the presence of a bioturbator. *Marine Pollution Bulletin*, 88 (1-2): 180-187.

In preparation

Liss, K., **Lopez L.K.**, Donelson. J.M. and M.Y.L. Wong. Predator-prey interactions and the effect of social hierarchy stability.

Lopez L.K., Hansen M.J., Cooley-Rieders C.C., Fangue N.A. and A. Sih. Behavioural responses to multiple stressors under varying social conditions in the western mosquito fish (*Gambusia affinis*).

Lopez L.K., Davis A.R. and M.Y.L. Wong. Multiple stressor effects on intra-specific competition and dominance hierarchy formation in an invasive freshwater fish.

Lopez L.K., Wong M.Y.L. and A.R. Davis. The role of environmental stressors in mediating the invasion success of freshwater fish.

Lopez L.K., Davis A.R. and M.Y.L. Wong. The numbers game: the effectiveness of density-based management for aquatic invaders.

Presentations

2018 **Gordon Research Conference on Predator Prey Interactions**. Ventura, California.
Poster presentation. Predator social stability alters prey behaviour but not consumption.

2017 **Animal Behaviour Graduate Group Seminar Series**. Davis, California. *Invited Speaker*
Title: The context-dependency of invasive-native species interactions

2016 **Endangered species research in Aquatic Ecosystems workshop**. Wollongong,
Title: Applications of behavioural ecology to aquatic conservation.

- 2016 **Australasian Society for the Study of Animal Behaviour (ASSAB)**. Annual Meeting Katoomba, Australia. Title: Into the danger zone: temporal and density mediated effects of an invasive predator
- 2015 **Australian Society for Fish Biology (ASFB)**. Annual meeting, Sydney, Australia. Title: Negative behavioural interactions between the invasive Eastern Mosquito Fish and Australian Bass.
- 2015 **Animal Behaviour Society (ABS)**. Annual Meeting, Anchorage, Alaska, U.S.A. Title: Hostile Waters: The effect of multiple stressors on aggression in freshwater fish
- 2015 **International Ethology Conference (IEC)**. Cairns, Australia. Title: Antagonistic interactions between temperature and salinity mediate interference competition between invasive and native fish.
- 2015 **Boral Sand and Soil Community Meeting**. Kiama, Australia. Title: Assessing the impact of an invasive species on the success of Australian Bass stocking programs.
- 2015 **University of Wollongong Postgraduate Conference**, Kioloa, Australia. Title: Fish wars: The Bass strike back. (Winner best ecology presentation).
- 2015 **University of Wollongong Postgraduate Conference**. Wollongong, Australia. Title: Fishy fiends: Assessing the impacts of an invasive species via interspecific interactions.
- 2013 **Australian and New Guinea Fish Association (ANGFA)**. Monthly meeting, Sydney, Australia. Title: Key behavioural mechanisms behind the success of the Eastern Mosquitofish.
- 2013 **University of Wollongong Postgraduate Conference**. Kioloa, Australia. Title: Assessing the impact of the invasive Eastern Mosquitofish in Australia.

Funding and Awards

- 2017 Endeavour Postdoctoral Research Fellowship, Australian Government (AUD \$24500)
- 2016 Fisheries Scientific Committee Student Research Grant, NSW Department of Primary Industries (Co-PI with Katie Hendry, Marian Wong and Andy Davis) (AUD \$3000)
- 2015 Best Postgraduate Ecology Presentation, Postgraduate Conference, University of Wollongong
- 2015 Research Student Travel Grant, University of Wollongong (AUD \$2600)
- 2015 Australian Postgraduate Award (AUD \$17 820)

- 2014 Saltwater and Freshwater Trust Funds Grant, NSW Department of Primary Industries, (PI) (AUD \$3098)
- 2007 Unconditional Early Entry, University of Wollongong

Outreach Publications and Media Coverage

UOW Innovation Magazine, 2016.

<https://media.uow.edu.au/news/UOW208585.html>

Bush and Beach Fishing Magazine, 2016.

<http://www.bnbfishing.com.au/freshwater/aggression-in-fish-depends-on-environmental-conditions/>

Lopez L.K. (2016). Context counts when it comes to the eastern mosquito fish. The Morays Lair Blog.

Lopez L.K. (2016). Eat or be eaten: invasive fish forces shrimp to make tough life decisions. Fish Thinkers Blog.

Teaching Experience

Research Supervisor

2016 - present Co-supervisor for 3 honours students (4th year research degree); Katie Hendry, Katarina Liss and Melinda Keiller. University of Wollongong, Australia.

Lecturer

2015 2nd year oceanography

2018 2nd year ecology

Class demonstrator and tutor

2012- 2018 1st year whole-organism biology and ecology

2nd year ecology and biology

3rd year fisheries and aquaculture

Assistant Subject Coordinator

2014 2nd year Biogeography

Outreach, Activities and Skills

Endangered Species Research in Aquatic Ecosystems Workshop: I organised and presented at this workshop which brought together academics, local, state and federal level stakeholders to discuss current and future research priorities and techniques for endangered freshwater biota in Australia. Held at the University of Wollongong, 2016.

Postgraduate Student Representative: I organised courses and workshops for postgraduate students for the Centre of Sustainable Ecosystem Solutions, at University of Wollongong, 2015 to present.

Laboratory Skills: Skilled in designing and conducting behavioural ex-situ behavioural experiments. Extensive experience in aquatic vertebrate and invertebrate husbandry as well as constructing and maintaining fresh and marine aquaria. Experienced in the use of biomarker assays including Cytochrome C Oxidase and Thiobarbituric Acid Reactive Substance and detection of metal contamination using Inductive Coupled Plasma Mass Spectrometry.

Fieldwork Skills: Experience in radio and GPS tagging and tracking lizards and sharks in remote field sites. Conducted ex-situ experiments involving the housing of fish.

Computer Skills: R, SPSS, JMP

Reviewer: *Austral Ecology, Journal of Fish Biology, Fishes, Bioinvasions Records, Biological Invasions*

Ethics: Animal Ethics Workshop, University of Wollongong, 2013.

Additional Skills: Extensive experience in training and supervising volunteers. Experienced in leading projects with government, industry and community partners. PADI Open Water Certificate.

Short Term Research Experience

2016 Port Jackson shark behaviour and movement ecology. Jervis Bay, NSW, Australia.
Dr. Culum Brown. Macquarie University.

2010 Effects of ocean acidification on molluscan development. Wollongong, NSW Australia.
Prof. Andy Davis. University of Wollongong.

Membership in Professional Societies

Animal Behaviour Society (ABS)

Australian Society of Fish Biology (ASFB)