

## University of Groningen

### The missing link

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DOI:  
[10.33612/diss.929760767](https://doi.org/10.33612/diss.929760767)

**IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.**

*Document Version*  
Publisher's PDF, also known as Version of record

*Publication date:*  
2024

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*

Berlinghieri, F. (2024). *The missing link: Exploring laterality and personality development in two fishes*. [Thesis fully internal (DIV), University of Groningen]. University of Groningen.  
<https://doi.org/10.33612/diss.929760767>

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## About the author



Flavia Berlinghieri was born on December 31st, 1993, in Palermo, Italy. She grew up in Palermo with an immense passion for nature and a love for the sea. Indeed, in 2016 obtained her bachelor's degree in Biological Science from the University of Palermo (Italy), after completing a thesis in the Ecology Laboratory at the University of Salford (Manchester, United Kingdom) during her Erasmus year abroad. Her thesis was titled “Acquisition of spectrophotometric techniques, through the use of FTIR instrumentation, for the evaluation of

differences existing among populations of *Diplodus sargus* collected in different geographical areas”. Flavia has always been passionate about the behaviour of sharks. In 2016, she completed an internship in Gansbaai (South Africa) focused on the behaviour and human attacks of white sharks. In 2018, she obtained her master’s degree in Marine Biology with a thesis on the age and growth of *Scyliorhinus canicula* in the Strait of Sicily, at the University of Palermo (Italy). After her master’s, she worked at the Ecology and Microbiology lab at the University of Palermo (Italy) almost a year. She contributed to two projects: the first one was about “BYTHOS 'Biotechnologies for Human Health and Blue Growth” and the second one was on the gut microbiome in Loggerhead Sea turtles (*Caretta caretta*) stranded on the Mediterranean coast. In 2019 she started her double PHD degree at the University of Groningen and Macquarie University (Sydney, Australia) on the possible link between laterality and personality/behavioural traits in two fish species, Western rainbowfish (*Melanotaenia australis*) and three-spined sticklebacks (*Gasterosteus aculeatus*). She was supervised by Prof. Ton Groothuis at the University of Groningen and by Prof. Culum Brown at Macquarie University. Her project aims to investigate factors influencing behavioural laterality and personality traits, exploring their potential link. She demonstrates how environmental factors, such as light and predation, can impact the development of laterality and personality. Additionally, she shows how parents can influence the laterality of their offspring through genes and epigenetic effects. In conclusion of her PhD journey, she discovered a relationship between cognitive bias, laterality, and personality traits.

## List of publications

Arizza, V., Vecchioni, L., Caracappa, S., Scurba, G., **Berlinghieri, F.**, Gentile, A., ... & Alduina, R. (2019). New insights into the gut microbiome in loggerhead sea turtles *Caretta caretta* stranded on the Mediterranean coast. *PloS one*, 14(8), e0220329.

**Berlinghieri, F.**, Panizzon, P., Penry-Williams, I. L., & Brown, C. (2021). Laterality and fish welfare-a review. *Applied Animal Behaviour Science*, 236, 105239. **(Chapter 6)**

Vecchioni, L., Pace, A., Sucato, A., **Berlinghieri, F.**, Cambera, I., Visconti, G., ... & Alduina, R. (2022). Unveiling the egg microbiota of the loggerhead sea turtle *Caretta caretta* in nesting beaches of the Mediterranean Sea. *Plos one*, 17(5), e0268345.

**Berlinghieri, F.**, Jansen, N., Riedstra, B., Brown, C., & Groothuis, T. G. (2024). The effect of light during embryonic development on laterality and exploration in Western Rainbowfish. *Laterality*, 29(1), 1-18. **(Chapter 2)**

**Berlinghieri, F.**, Rizzuto, G., Kruizinga, L., Riedstra, B., Brown, C., & Groothuis, T. G. (2024). Are lateralized and bold fish optimistic or pessimistic? Under peer review at *Animal Cognition*. **(Chapter 5)**

**Berlinghieri, F.**, Vittoriotti, M., Savoca, D., Pace, A., Nicolaus, M., Riedstra, B., Brown, C., & Groothuis, T. G. (2024). Parental predator exposure affects offspring boldness 2 and laterality in the stickleback. Submitted at *Animal Behaviour*. **(Chapter 3)**

