



Fidji Berio

- 32 years old
- Älvsjö Stationsgata 2A
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- <https://fberio.github.io>
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- French Citizenship

Social Network

- Twitter
- ResearchGate
- Google Scholar
- Github
- Orcid

Languages

- French
- English
- Spanish

Certifications

- Level 2 FFESSM (Advanced PADI)
- Level 1 Nitrox
- PADI Freediver

Hard Skills

- R programming
- Machine learning
- MicroCT imaging
- Histology
- Functional tests

Research Interests

Evo-Devo – Climate change – Biomechanics – Chondrichthyans

Working Experience

- Nov 2022–
Current **Postdoctoral fellow** Stockholm University
Projects Biomechanics of walking fishes & Mineralization patterns related to climate change [11–15]
- Sept–Oct 2022 **Guest professor** University of Vienna
Teaching Functional evolution of jaw structures [10]
- 2021–2022 **Science communicator** Futura Sciences
Activities Online writing of popularization articles, interviews
Topics Marine biology, paleontology, paleoanthropology
- 2017 – 2021 **PhD Student** ENS Lyon & Institute of Evolution Sciences of Montpellier
Project Physical and genetic factors impacting development and evolution of elasmobranch odontodes [1–4, 6–9]
Methods microCT imaging, histology, machine learning and geometric morphometrics with R, functional tests on *Scyliorhinus canicula* embryos, comparative anatomy
- 2017 **Master Thesis** Univ. du Québec à Rimouski
Project Regionalisation of the vertebral column in a skate [5]
Methods microCT imaging, clustering with R, Clear & Stain double coloration
- 2016 **Master Thesis** Oceanological Observatory of Banyuls-sur-mer
Project Long-term experiment on growth dynamics of hydrothermal mussels *Bathymodiolus thermophilus* related to hydrothermal fluids dynamics
Methods Sclerochronology, Fast Fourier Transform, Mutvei staining
- 2015 **Bachelor Thesis** Institute for Cognitive and Integrative Neuroscience, Bordeaux
Project Effects of serotonin on aggressiveness of the invasive Louisiana crayfish *Procambarus clarkii*
Methods Video tracking with EthoVision, ethology, functional tests on mature specimens

Education

- 2017 – 2021 **PhD Studies** ENS Lyon & Institute of Evolution Sciences of Montpellier
Evo-devo of chondrichthyans
- 2015 – 2017 **Master Studies (1/31)** European Institute for Marine Studies, Brest
Littoral and Sea Sciences with focus on Marine ecosystems and Polar environments
- 2012 – 2015 **Bachelor Studies (1/60)** Univ. of Bordeaux
Biology of Organisms and Ecosystems
- 2010 – 2012 **Bachelor Studies** Univ. of Montpellier
Hypokhâgne & Khâgne – Literature studies (French and Spanish)

Teaching

- 2022 **To Master & PhD Students** Univ. of Vienna
Functional Evolution of Jaw Structures
- 2019 **To Bachelor Students** Univ. of Montpellier
Integrative Biology of Organisms and Comparative Anatomy
- 2019 **To High School Students** Univ. of Montpellier
Embryo and Evolution
- 2018 **To Bachelor Students** Univ. of Montpellier
Life Cycle of Organisms – Genetics

Publications

- Submitted [15] **Sexual ornamentation and weaponry in cartilaginous fishes**
J. H. Gayford, K. Soares & F. Berio
- Submitted [14] **Inherent instability leads to high costs of hovering in near-neutrally buoyant fishes**
V. Di Santo, X. Qi, F. Berio, A. Albi & O. Akanyeti
- 2024 [13] **Paleo-inspired Robotics as an Experimental Approach to the History of Life**
M. Ishida, F. Berio, V. Di Santo, N. H. Shubin & F. Iida
Science Robotics DOI: [10.1126/scirobotics.adn1125](https://doi.org/10.1126/scirobotics.adn1125)
- 2024 [12] **Extant cartilaginous fishes share trabecular and areolar mineralization patterns, but not tesserae, and evidence for a paedomorphic chimaera skeleton**
O. J. Atake, F. Berio, M. Debais-Thibaud & B. F. Eames
eLife DOI: [10.7554/eLife.94900](https://doi.org/10.7554/eLife.94900)
- 2023 [11] **Ontogenetic plasticity in shoaling behavior in a forage fish under warming**
F. Berio, C. Morerod, X. Qi & V. Di Santo
Integrative & Comparative Biology DOI: [10.1093/icb/icad043](https://doi.org/10.1093/icb/icad043)
- 2023 [10] **Husbandry conditions of spotted ratfish (*Hydrolagus colliei*, Chimaeriformes) in aquaria for successful embryonic development and long-term survival of juveniles**
F. Berio, R. Charron, J.-M. Dagouret, F. De Gasperis, A. Éon, E. Meunier, M. Simonet, N. Verschraegen & N. Hirel
Zoo Biology DOI: [10.1002/zoo.21813](https://doi.org/10.1002/zoo.21813)
- 2023 [9] **A shark-inspired general model of tooth morphogenesis unveils developmental asymmetries in phenotype transitions**
R. Zimm, F. Berio, M. Debais-Thibaud & N. Goudemand
PNAS DOI: [10.1073/pnas.2216959120](https://doi.org/10.1073/pnas.2216959120)
- 2022 [8] **Hide and seek shark teeth in Random Forests: Machine learning applied to *Scyliorhinus canicula***
F. Berio, Y. Bayle*, D. Baum, N. Goudemand & M. Debais-Thibaud*
PeerJ - Aquatic Biology DOI: [10.7717/peerj.13575](https://doi.org/10.7717/peerj.13575)
- 2022 [7] **3D models related to the publication: Hide and seek shark teeth in Random Forests: Machine learning applied to *Scyliorhinus canicula***
F. Berio, Y. Bayle, S. Agret, D. Baum, N. Goudemand & M. Debais-Thibaud
MorphoMuseum DOI: [10.18563/journal.m3.164](https://doi.org/10.18563/journal.m3.164)
- 2022 [6] **Early shape divergence of developmental trajectories in the jaw of galeomorph sharks**
F. A. López-Romero, F. Berio, D. Abed-Navandi & J. Kriwet
Frontiers in Zoology DOI: [10.1186/s12983-022-00452-1](https://doi.org/10.1186/s12983-022-00452-1)
- 2021 [5] **Phenotypic regionalization of the vertebral column in the thorny skate *Amblyraja radiata*: stability and variation**
F. Berio, Y. Bayle, C. Riley, O. Larouche & R. Cloutier
Journal of Anatomy DOI: [10.1111/joa.13551](https://doi.org/10.1111/joa.13551)
- 2021 [4] **Diversity and evolution of mineralised skeletal tissues in chondrichthyans**
F. Berio, M. Broyon, S. Enault, N. Pirot, F. A. López-Romero & M. Debais-Thibaud
Frontiers in Ecology and Evolution DOI: [10.3389/fevo.2021.660767](https://doi.org/10.3389/fevo.2021.660767)
- 2020 [3] **The intraspecific diversity of tooth morphology in the large-spotted catshark *Scyliorhinus stellaris*: insights into the ontogenetic cues driving sexual dimorphism**
F. Berio, A. Evin, N. Goudemand & M. Debais-Thibaud
Journal of Anatomy DOI: [10.1111/joa.13257](https://doi.org/10.1111/joa.13257)
- 2020 [2] **Scyland3D: Processing 3D landmarks**
F. Berio & Y. Bayle
Journal of Open Science Software DOI: [10.21105/joss.01262](https://doi.org/10.21105/joss.01262)
- 2019 [1] **Evolutionary developmental genetics of teeth and odontodes in jawed vertebrates: A perspective from the study of elasmobranch fishes**
F. Berio & M. Debais-Thibaud
Journal of Fish Biology DOI: [10.1111/jfb.14225](https://doi.org/10.1111/jfb.14225)

Conferences

2023	Poster presentation	United Kingdom
	Society for Experimental Biology	
2022	Oral presentation	Online Edition
	Sharks International	
2020	Oral presentation	Online Edition
	ToScA Global	
2019	Oral presentation	France
	Comparative Cartilage Biology meeting	
2018	Poster presentation	France
	Evolution	
2018	Poster presentation	Ireland
	EuroEvoDevo	
2018	Oral presentation	France
	Symposium of Morphometry and Evolution of Forms	