

## Soline Bettencourt – Amarante

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### Summary

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I'm currently a PhD student at the Muséum National d'Histoire Naturelle in Paris. I'm interested in the potential transmission of microbes from exotic reptiles and amphibians in trade to humans and local amphibian species. I am also studying the impact of urbanisation on the morphology of reptiles and amphibians.

### Education

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| 2021-2024 | <b>PhD</b> – Transmission risks of microorganisms by reptiles and amphibians as pets – Museum National d'Histoire Naturelle, Paris (France) – Supervised by Anthony Herrel and Sophie Gryseels |
| 2018-2020 | <b>Master degree</b> – Dynamic and Conservation of Biodiversity – Université de Bourgogne, Dijon (France)  |
| 2014-2017 | <b>Bachelor's degree</b> – Biology of organisms – Université de Bourgogne, Dijon (France)  |

### Internships

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| 2021 ( <i>5 months</i> ) | <b>Biodiversity refuge Ambassador</b> (Service civique) – Ligue pour la Protection des Oiseaux (LPO), Environmental protection association, Hyères (France) – Supervised by Marion Fouchard.<br>→ <i>Inventories of lepidoptera, odonata and orthoptera, monitoring of nest boxes, monitoring of peregrine falcons, organisation of events, creation of databases, writing of reports</i>   |
| 2020 ( <i>6 months</i> ) | <b>Impact of predation by invasive Marsh frogs (<i>Pelophylax ridibundus</i> and <i>kurtmuelleri</i>) on native amphibians in Larzac</b> – Université de Liège, Liège (Belgium) – Supervised by Mathieu Denoël.<br>→ <i>Standardised captures of macroinvertebrates and newts, frog capture, stomach content analysis, telemetry, writing of a bibliographic report and a master thesis</i> |
| 2019 ( <i>2 months</i> ) | <b>Comparison of the temporal excretion dynamics of intestinal parasites of passerines between tropical and temperate regions</b> – Université de Bourgogne, Dijon (France) – Supervised by Jérôme Moreau   |

- *Disentangle of the birds, red blood cell count, PCR, identification of blood and intestinal parasites, writing of a report*
- 2018 (3 months)    **Impact of crop type on Carabidae species** – Université Agro-Bio-Tech, Gembloux (Belgium) – Supervised by Marc Dufrêne  
→ *Carabid inventory (sampling, identification ...), multivariate analyses*
- 2018 (2 months)    **Implementation of PARASITROP project** – Centre d'Etude Biologique de Chizé, Villiers en Bois (France) – Supervised by Jérôme Moreau  
→ *Protocol, organisation, travel, budget, freeing birds from mist nets*
- 2017 (2 months)    **Migration monitoring of passerines and nocturnal** – Observatoire des Oiseaux de Tadoussac (OOT), Environmental protection association, Tadoussac (Quebec) – Supervised by Pascal Côte  
→ *Freeing birds from mist nets, scribing, ringing of migratory passerines and nocturnal raptors*
- 2015/16 (2months)    **Behaviour of the cluster worm (*Lobesia botrana*)** – Université de Bourgogne, Dijon (France) – Supervised by Jérôme Moreau  
→ *Management of a team of two students in the laboratory, partner choice testing, spermatophore dissection*

## Congress and Presentations

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### International congress:

- 2023                    **Bettencourt-Amarante, S.;** Gryseels, S.; Backeljau, T.; Daoues, K.; Herrel, A. Reptile and amphibian microorganisms: pet trade, captivity and wildlife. *Poster presentation*. Zoology Congress, Leiden (Netherlands)

### Public presentations:

- 2023                    **Bettencourt-Amarante, S.** Microorganisms of Reptiles and Amphibians. *Oral presentation*. Office Français pour la Biodiversité (OFB), Online.
- Bettencourt-Amarante, S.** Microorganisms of Reptiles and Amphibians. *Oral presentation*. Direction des espaces verts et de l'environnement, Agence d'Ecologie Urbaine, Ville de Paris, Paris (France).
- 2022                    **Bettencourt-Amarante, S.** Microorganisms of Reptiles and Amphibians as pet. *Oral presentation*. Académie Française d'Agriculture, agricultural society, and Crédit Agricole, French bank, Paris (France).

2019 **Bettencourt-Amarante, S.** Toad Project: monitoring the protection of the Common Toad *Bufo Bufo* in Val-Suzon (France). *Oral presentation*. Groupe naturaliste universitaire de Bourgogne (GnuB), Environmental protection association, Dijon (France).

## Grants and awards (122.8 k€)

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2022 (20.8k€) *Impact of urbanisation on the microbiota of reptiles and amphibians in Ile de France*, Action Transversale du Muséum (ATM), Museum National d'Histoire Naturelle (MNHN) with Anthony Herrel **12k€**

*DNA extraction in Antwerpen (Belgium)*, Travel grant Transhumance, Doctoral school (ED 227) **0.8k€**

*Potential transmissions of pathogens between exotic species from trade and native species of Ile de France*, AAP fédérateur, Département AVIV, Museum National d'Histoire Naturelle (MNHN) with Anthony Herrel **5k€**

*In situ characterization of pesticide effects on salivary enzymes and body condition indices in Common Toad (Bufo bufo) and Marsh Frog (Pelophylax sp.)*, Mini project grant, Fédération Ile-de-France de Recherche sur l'Environnement (FIRE) with Alexandre Michel (INRAE), Aliénor Jeliaskov (INRAE), Jérémie Lebrun (INRAE), Anthony Herrel (CNRS) **3k€**

2021 (102k€) *Zoonotic risks with pet trade*, Crédit Agricole IDF, French Bank **2k€**

*Zoonotic risks with pet trade*, AAP Paris region PHD, DIM One Health, Ile de France region grant with Anthony Herrel (CNRS/MNHN) **100k€**

## Supervision

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2023 Marie-Agathe Keita, **2 months** Master 1 SEP, Muséum National d'Histoire Naturelle – *Effect of captivity on the buccal and cloacal microbiota of Urodela*

Julie Tonial, **6 months** Master 2 BEE, Université de Renne 1, (co-supervision with Alexandre Michel, INRAE) - *Determination of the physiological and morphological effects of pesticides in two amphibian species*

Raphaëlle Abensur, **2 months** Master 1 BEE, Sorbonne Université Paris - *Effect of urbanisation on the morphology of Bufo bufo in Ile de France*

Robin Furet, **6 months** - Master 2 BEE, Université de Poitiers – *Effect of urbanisation on the morphology and physiology of Amphibians*

2022 Robin Furet, **2 months** - Master 1 BEE, Université de Poitiers - *Effect of urbanisation on the morphology of reptiles and amphibians in Ile-de-France*

## Field work

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2023 (3 months) **Organisation.** Capture and swabbing of a wide variety of reptiles and amphibians at 35 sites with two students, Ile de France (France).

2022 (4 months) **Organisation.** Capture and swabbing of a wide variety of reptiles and amphibians at 35 sites with one student, Ile de France (France).

2021 (6 months) Inventories of lepidoptera, odonata and orthoptera, monitoring of nest boxes, monitoring of peregrine falcons, Var (France).

2020 (3 months) Standardised capture of macroinvertebrates and newts, frog capture, stomach content analysis, telemetry, Larzac (France).

2019 (2 weeks) Manipulation of passerines, Sologne (France).

2018 (2 months) Carabid inventory, Wallonie (Belgium).

2018 (2 weeks) Manipulation of passerines, Sologne (France).

2017 (2 months) Manipulation and ringing of migratory passerines and nocturnal raptors, Tadoussac (Quebec).

2017 (1 month) Bird observations, personal observations (Portugal).

2015/16 (1 month) Capture of *Lobesia botrana* caterpillars in vineyards, Senas and Perpignan (France).

## Service and outreach

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### PhD role:

2022-2024 **Doctoral and post-doctoral student representative** on the laboratory council MECADEV. MNHN, Paris (France).

2023-2024 **Doctoral student representative** at the Doctoral School. MNHN, Paris (France).

### Jury member:

2023 **Doctoral school competition, Oral presentation jury.** MNHN, Paris (France).

### Certification :

2022 **Use of wild animals for scientific purposes,** Museum National D'Histoire Naturelle (MNHN), Centre National de la Recherche

Scientifique (CNRS) et Office Français pour la Biodiversité (OFB), Theoretical courses online and Practical courses in Centre Biologique de Chizé, Villiers en bois (France).

#### Responsibilities in local NGOs :

2018-2019	President – Groupe naturaliste universitaire de Bourgogne (GnuB)
2015-2017	Secretary – Groupe naturaliste universitaire de Bourgogne (GnuB)
2014-2020	Member – Groupe naturaliste universitaire de Bourgogne (GnuB)
2016-2019+2021	Member – Ligue pour la Protection des Oiseaux (LPO)

#### Event organization:

2015-2019	Raising awareness among groups of all ages of the bellowing of the Red Deer, nesting of the Great Horned Owl, protection of the Common Toad, reproduction of the Dipper, biodiversity in city.
2021	<p>“<b>Guess who's fluttering?</b>”, Participatory event during four months, Ligue pour la Protection des Oiseaux (LPO), Environmental protection association, Var (France).</p> <p><b>Training in butterfly recognition</b>, Ligue pour la Protection des Oiseaux (LPO), Environmental protection association, La Celle (France).</p> <p><b>Festival of Nature (Fête de la Nature)</b>, Ligue pour la Protection des Oiseaux (LPO), Environmental protection association, La Celle (France).</p>
2015	<b>Nocturnal birds of prey Congress</b> , Groupe naturaliste universitaire de Bourgogne (GnuB) and LaChoue, Environmental protection association, Dijon (France).

Reviewer for: *Frontiers in Zoology*

## Training

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2022	<p><b>Communication skills</b>, 25h, Doctoral school, Paris (France).</p> <p><b>Processing genetic data</b>, 16h, Muséum National d'Histoire Naturelle (MNHN), Paris (France).</p> <p><b>Microbiodiversity in ecosystems, evolution and society</b>, 21h, Doctoral school, Paris (France).</p> <p><b>Scientific drawing</b>, 32h, Doctoral school, Paris (France).</p>
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**Scientific and technical information for research** (Bibliography, Open science, Resources law, HAL, ...), *18h*, MNHN Library, Paris (France).

2021

**Training to teach in higher education**, *24h*, Ministère de l'enseignement supérieur, de la recherche et de l'innovation, Fun MOOC online.

**Scientific integrity in the research professions**, *15h*, Université de Bordeaux, Fun MOOC online.

## Publications

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Peer-reviewed articles:

Louapre, P., Muller, K., **Bettencourt-Amarante, S.**, Thiery, D., & Moreau, J. (2022). Sexual audience affects male's reproduction investment without consequences on reproductive outputs. *Insect Science*, 29(4), 1170-1180. DOI: 10.1111/1744-7917.12990

Biard, C., Monceau, K., Teixeira, M., Motreuil, S., **Bettencourt-Amarante, S.**, Develay, L., & Moreau, J. (2022). Coccidial oocyst release: once a day or all day long? Tropical bird hosts shed new light on the adaptive significance of diurnal periodicity in parasite output. *Parasitology*, 149(4), 469-481. DOI: 10.1017/S003118202100202X