



Julia L. DESPRAT

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Bât Darwin C étage 2, Université Lyon 1
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PhD in Eco-physiology

Education

- 2017 **Qualifications** in CNU sections 66 (physiology), 67 (biology of populations and ecology) and 68 (biology of organisms).
- 2015 **PhD in physiological ecology**, defended on the 18th of December 2015, University of Lyon 1, France.
Jury composition: Pr. Dominique ALLAINE (President), Pr. Michael GREENFIELD (Reviewer), Dr. Olivier CHASTEL (Reviewer), Dr. Yannick MORET (Examiner), Pr. Yann VOITURON (Examiner) and Dr. Nathalie MONDY (Director).
- 2013 **Animal experimentation Degree level 1**, necessary to manipulate vertebrate animal species in France.
- 2012 **Master of Science Degree in integrative biology in extreme conditions**, University of Lyon 1, France.
- 2010 **Bachelor of Science Degree in physiology and cellular biology**, University of Strasbourg, France.
- 2006 **High-school Degree**, in Sciences with ecology as speciality, agricultural high school of La Côte Saint André, France.

Research experiences

- 2015 – 2016 **Temporary attached to research and education**
Research thematic: *Visual sexual signals as a clue of the health status of Hyla arborea males.* University of Lyon 1, France.
- 2012 – 2015 **Thesis:** *Are steroids mediators of the honesty of male sexual signals in Hyla arborea: a mechanism and ecological impact study?* Advisor: Nathalie MONDY, University of Lyon 1, France.
- 2012 **Second MSc Internship** (8 months). *Acclimation strategies of exposed gastropods to a biotic or man induced stress.* Advisor: Emilie LANCE, ECOBIO laboratory, University of Rennes 1.
- 2011 **First MSc Internship** (2 months) *Relationships between quality of visual sexual signals and quantity of carotenoids in the food of Hyla arborea males.* Advisors: Thierry LENGAGNE and Loïc BREPSON. LEHNA laboratory, University of Lyon1.
- 2010 **Voluntary BSc Internship** (2 months). *Processing of computing data obtained on penguin movements and correlated with reproduction cycle (SPHENOTRON). And Implementation of a database of Antarctic publications.* Advisors: Yan ROPERT-COUDERT. DEPE laboratory, University of Strasbourg, France.
- 2010 **Voluntary BSc Internship** (2 months). *Lipid dosages and identification as part of a study on digestive physiology in rats. And Protein dosages on chick penguin muscles.* Advisors: Jean-Patrice ROBIN. DEPE laboratory, University of Strasbourg, France.

Research skills

Theoretical skills	Ecotoxicology / Oxidative stress / Cellular metabolism (mitochondria) / Muscular activity / Animal behaviour / Hormones (steroids) / Immunity / Sexual selection / Signalisation: acoustic and visual
Technical skills	Phenotypic engineering (hormonal manipulation) Behavioural study: video tracking and acoustic broadcast, spectrometry on teguments Electrophysiology on frog muscle Biochemical dosages: methods of EIA, TBARS, TROLOX, spectrometry, mitochondrial respiratory metabolism. Chromatography HPLC-MSMS: extraction and identification of carotenoids.
Field skills	Nocturnal captures of amphibians (<i>Hyla arborea</i> and <i>Bufo bufo</i>) Field acoustic broadcast Natural behavioural observations
Desk skills	Language: French: native language English: scientific level, read, written and spoken Informatics: MS Office 2003/2007/2010, web (IE7/8/9/, Firefox), Inscape. Bibliographic software: EndNote and Zotero Statistical analysis: software R, package « lme4 » and « ggml », parametric and non-parametric tests, ACP, AFC, ANOVA...

Publications in journal with peer committee evaluation

- 2017 **Desprat J.L.**, Mondy N. and Lengagne T. Does testosterone affect foraging behavior in male frogs? *Hormones and Behavior* 90: 25-30 (doi: [10.1016/j.yhbeh.2017.02.003](https://doi.org/10.1016/j.yhbeh.2017.02.003), IF = 3.340)
- 2017 **Desprat J.L.**, Lengagne T. and Mondy N. Immune challenges and visual signaling in tree frogs. *The Science of nature (Naturwissenschaften)* 104: 21 (doi: [10.1007/s00114-017-1436-x](https://doi.org/10.1007/s00114-017-1436-x), IF = 1.773)
- 2016 Lance E., **Desprat J.L.**, Holbech B.F., Gérard C., Bormans M., Lawton L.A., Edwards C., Wiegand C. Accumulation and detoxication responses of the gastropod *Lymnaea stagnalis* to single and combined exposures to natural (cyanobacteria) and anthropogenic (the herbicide RoundUp® Flash) stressors. *Aquatic Toxicology*, 117: 116-124 (doi: [10.1016/j.aquatox.2016.05.024](https://doi.org/10.1016/j.aquatox.2016.05.024), IF = 3.451).
- 2015 **Desprat J.L.**, Lengagne T., Dumet A., Desouhant E., Mondy N. Immunocompetence handicap hypothesis in tree frog: trade-off between sexual signals and immunity? *Behavioural Ecology*, 26 (4): 1138-1146. (doi: [10.1093/beheco/arv057](https://doi.org/10.1093/beheco/arv057), IF = 3.157).
- 2015 Josserand R., Brepson L., **Desprat J.L.**, Lengagne T., Mondy N. A phytohaemagglutinin challenge test to assess immunocompetence of European tree frog *Hyla arborea*. *Amphibia-Reptilia*, 36 (2): 111-118 (doi: [10.1163/15685381-00002983](https://doi.org/10.1163/15685381-00002983), IF = 1.138)
- Accepted **Desprat J.L.**, Teulier L., Puijalon S., Romestaing C., Dumet A., Lengagne T., Mondy N. Doping for sex: bad for mitochondrial performances? Case of testosterone supplemented *Hyla arborea* during courtship period in *Comparative Biochemistry and Physiology - Part A: Molecular & Integrative Physiology*.
- In prep **Desprat J.L.**, Bellvert F., Lengagne T., Mondy N. Testosterone and bioavailability of carotenoids in the vocal sac of *Hyla arborea*.

Other publications

- 2016 **Desprat J.L.** When Ecology and Behaviour meet: Introduction to the special section on the Ecology and Behaviour Meeting 2016. *Animal Biology* 66: 401-402 (doi: [10.1163/15707563-00002513](https://doi.org/10.1163/15707563-00002513)), IF=0.617

Conferences

- Nov. 2016 Invited seminary at the laboratory of evolutionary ecophysiology, University of Neuchâtel (Switzerland), *Oral presentation*. Relationships among hormones, coloration and immunity
- Sept. 2015-
Aout 2016 **President of the organisation committee** of the international **Ecology and Behaviour meeting 2016**, Lyon, France. <http://eb2016.sciencesconf.org/> Management of 20 people. 100 participants.
- Nov. 2015 2nd French meeting of animal ecophysiology (CEPA), La Rochelle, France, *Oral presentation*. **Desprat J.L.**, Teulier L., Puijalon S., Romestaing C., Dumet A., Couchet M., Lengagne T., Mondy N. Testosterone effect on male trunk muscle in *Hyla arborea*: from acoustic performances to mitochondrial functioning.
- May 2015 11th international meeting of Ecology and Behaviour, Toulouse, France, *Poster*. **Desprat J.L.**, Lengagne T., Dumet A., Desouhant E., Mondy N. Testosterone enhances attractive sexual signals but no immunosuppression.
- April 2015 French society of animal behaviour (SFECA, French meeting), Strasbourg, France *Poster* **Desprat J.L.**, Mondy N., Cheynel L., Rubi G., Lengagne T. Sexual signals as a clue for the foraging ability of males in *Hyla arborea*.
- Feb. 2014 FR41 BioEnviS, Lyon, France *Poster* **Desprat J.L.**, Bellvert F. Lengagne T., Dumet A., Mondy N. Testosterone and carotenoids: are they mediators of the honesty of sexual visual signals?
- Nov. 2013 1st French meeting of animal ecophysiology (CEPA), Lyon, France, *Oral presentation*. **Desprat J.L.**, Lengagne T., Dumet A., Rives A., Ducroix L., Mondy N. Testing the Immunocompetence handicap hypothesis in *Hyla arborea*. *Poster*. **Desprat J.L.**, Teulier L., Dumet A., Couchet M., Puijalon S., Lengagne T., Mondy N. Muscular contraction and fatigability properties to explain quality of sexual acoustic signals in males *Hyla arborea*.
- May 2012 Society of Environmental Toxicology and Chemistry (SETAC), Berlin, Germany *Poster*. Lance E., **Desprat J.L.**, Wiegand C. Acclimatization strategies in gastropods to environmental pollutants: comparison of a strong invasive to a declining endogenous species.

Scholarships and prizes obtained

- feb-2014 **Mobility funding** from French Reseach Federation BioEnviSciences (300€)
2012-2015 **PhD grants** from the French Ministry of Higher Education and Research (1646€/months)
2012 **Project funding** from French Reseach Federation BioEnviSciences (5000€)

Editorial activity

- 1 article African journal of herpetology
1 article Behavioral ecology
1 article PeerJ

Learned society

- French society of animal behaviour studies (SFECA société française d'étude du comportement animal)
French society of ecology (SFE société française d'écologie)

Teaching activities

- 2015 – 2016 **Teaching and research assistant**, (ATER 50%), Organisms biology section (68). Biology department, University of Lyon 1 (teaching duty of 80 hours per year).

Level	type	Discipline	number of hours
L3	lecture	Ecophysiology	2.25h
L2	practical work	Organism biology	8h
L2	tutorial	Organism biology	6h
L2	practical work	Animal organization	2h
L2	tutorial	Sustainable development	21h
L1	practical work	Organism biology	41.8h

- 2012 – 2015 **Contractual doctorate** at the University of Lyon 1 (teaching duty of 64 hours per year)

Level	type	Discipline	number of hours
L3	practical work	Ecophysiology	8h
L2	tutorial	Sustainable development	57.5h
L2	practical work	Organism biology	12h
L1	practical work	Organism biology	115h

Students' supervision

- 2014 (2 months) Supervision of 3 students in first year of Master, University of Rennes 1.
2013 (2 months) Supervision of 2 students in first year of Master, University of Rennes 1 and University of Montpellier 3.

Miscellaneous

- Driving licence (car and motor bike)
Sports: horse riding, hiking, skiing, yoga, volley-ball

Referees

Nathalie MONDY nathalie.mondy@univ-lyon1.fr
(MCF), UMR 5023 LEHNA, University of Lyon 1, France (thesis director)

Emilie LANCE emilie.lance@univ-reims.fr
(MCF), UMR-I 02 INERIS-URCA-ULH SEBIO, University of Reims Champagne-Ardenne, France
(master2 supervisor)