Maximilian Daniel LARTER

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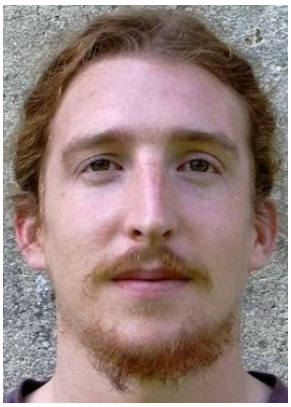

Born August 5th, 1987 at Derby (UK)

EDUCATION

2016 **PhD in evolutionary, functional and community ecology - University of Bordeaux**
Thesis title: Evolution of cavitation resistance in conifers (ministerial grant)
Supervisors: Sylvain Delzon and Jean-Christophe Domec
Synopsis: This thesis expands our understanding of the evolution of vascular plants regarding severe drought. We show that embolism resistance varies 9-fold across over 250 conifer species, thanks to changes in bordered-pit anatomy. Combining this unprecedented database with a calibrated phylogeny, we link embolism resistance evolution to increased diversification rate. Furthermore, we describe the remarkable evolution of *Callitris* xylem during the aridification of Australia over the last 30 million years. link

2011 **Master's degree - University of Bordeaux**
Terrestrial Ecosystem Functioning and Modelling

2008 **Bachelor's Degree - University of Orléans**
Organismal Biology

PUBLICATIONS

2018 Larter M, Dunbar-Wallis A, Berardi A, and D. Smith S. (2018). Convergent evolution at the pathway level: predictable regulatory changes during flower color evolution. *Molecular Biology and Evolution* (Accepted).

2017 Larter M, Pfautsch S, Domec J.-C, Trueba S, Nagalingum N, Delzon S. (2017). Aridity drove the evolution of extreme embolism resistance and the radiation of conifer genus Callitris. *New Phytologist* 215 (1), 97-112. link

Sáenz-Romero C, Larter M, González-Muñoz N, Wehenkel C, Blanco-Garcia A, Castellanos-Acuña D, Burlett R, Delzon S. (2017). Mexican conifers differ in their capacity to face climate change. *Journal of Plant Hydraulics*, 4, e003. link

2016 Castagneyrol B, Jactel H, Brockerhoff E, Perrette N, Larter M, Delzon S, Piou D. (2016). Host range expansion is density dependent. *Oecologia*, 1-10. link

2015 Larter M, Brodribb TJ, Pfautsch S, Burlett R, Cochard H, Delzon S (2015). Extreme aridity pushes trees to their physical limits. *Plant Physiology*, 168. link

2014 Besnard G, Dupuy J, Larter M, Cuneo P, Cooke D, Chikhi L (2014). History of the invasive African olive tree in Australia and Hawaii: Evidence for sequential bottlenecks and hybridization with the Mediterranean olive. *Evolutionary Applications*, 7. link

Bouche PS, Larter M, Domec J-C, Burlett R, Gasson P, Jansen S, Delzon S (2014). A broad survey of hydraulic and mechanical safety in the xylem of conifers. *Journal of Experimental Botany*. link

CONFERENCES, PRESENTATIONS

2017 Evolution Meeting in Portland (OR) **–** June **Oral talk**
« Linking changes in gene expression to the macroevolution of flower color in Iochrominae (Solanaceae) »

2015 Xylem International Meeting, Bordeaux, France. September 7th-9th 2015 – **Oral talk**
« The evolution of cavitation resistance in conifers and the case of world-record *Callitris* »

LabEx Day (LabEx COTE), Bordeaux, October 15th 2015 – **Oral talk**
« Evolution of drought tolerance in Conifers - *Callitris* in Australia »

2014 HIE Seminar Series (University of Western Sydney), Richmond NSW (Australia), May 21st 2014 **– Oral talk**
« The evolution of cavitation resistance in Conifers »

2012 Journées de la Société Française de Systématique, Paris, October 8th-10th 2012- **Poster**
« Global variation and evolution of drought tolerance in Conifers »

SCIENCE OUTREACH

2016 « Three Minute Thesis » final - University of Bordeaux link

2013 Larter M. (2013). Le Pinetum de Bedgebury : « la plus belle collection de conifères du monde ». *Jardins de France*, 623. link

Larter M, Bouche P (2013). Les conifères, une famille à évolution complexe. *Jardins de France*, 623. link

RESEARCH EXPERIENCE

2012 Intern - 6 months - University of Bordeaux (Sylvain Delzon)
« Evolutionary patterns of cavitation resistance in conifers ».

2011 Intern - 6 months - University of Bordeaux (Sylvain Delzon)
« Convergent evolution of drought tolerance in conifers »

2010 Intern (2 months) - Imperial College London (Guillaume Besnard)
« Population genetics of the olive (*Olea europaea*) complex »

TEACHING EXPERIENCE

2013 2nd year Masters Lab day - « Cavitron » work group

OTHER WORK EXPERIENCE

2009 Temporary employee (ABI TT) – warehouseman then production line operator (Jock factory in Bordeaux, food packaging)

GRANTS & FUNDING

2014 External mobility grant from the COTE Cluster of Excellence – University of Bordeaux (3000€)
Research Exchange Program (Inbound) – Hawkesbury Institute for the Environment -Western Sydney University (AU$3350)

RELATED SKILLS

Plant physiology	Hydraulic conductance (Cavitron) Wood anatomy – microscopy (optical and SEM) Anthocyanin extractions and separation (HPLC)
Molecular biology	DNA extraction, PCR
Phylogenetics	RAxML, BEAST, MrBayes
Data analysis and visualisation	SAS, R, Inkscape
Comparative methods	Using R (packages ape, phytools, geiger, diversitree), BAMM
Geographic Information System	qGIS
Languages	Native speaker in English and French

REFERENCES

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