

CURRICULUM VITAE

1. David Serge Chatelet

Postdoctoral researcher
Brown University
Department of Ecology & Evolutionary Biology
Box G-W
Providence, RI 02912
Phone: 401-863-6275
E-mail: david_chatelet@brown.edu

Citizenship: French

2. Education

- 2000-2004 PhD in Plant Sciences, Oklahoma State University. Dissertation Title: *The hydraulic properties of Loblolly pine (Pinus taeda) root seedlings*
- 1998-1999 M.S. in Forest Biology, Henri-Poincaré University – Nancy1 (Nancy, France).
Dissertation title: *Seasonal variation of hydraulic resistance of the shoot and roots of oak (Q. robur) and beech (F. sylvatica) seedlings.*
- 1993-1997 B.S. in Biology of Populations and Ecosystems. Sciences & Techniques University, Besançon (France)

3. Professional appointments

- 2010 to present Post-doctoral research associate, Department of Ecology and Evolutionary Biology, Brown University. Laboratory of Dr. Erika J. Edwards
- 2007 to 2010 Post-doctoral research associate, Department of Ecology and Evolutionary Biology, University of Tennessee, Knoxville. Laboratory of Dr. Taylor S. Feild
- 2004 to 2007 Post-doctoral research associate, Section of Plant Biology, University of California at Davis. Laboratory of Dr. Thomas Rost and Mark M. Matthews
- 2000 to 2004 Research assistant, Department of Forestry, Oklahoma State University, Stillwater. Laboratory of Stephen W Hallgren

4. Research Grant (*co-author of grant proposal. I could not be formally listed on these grants because of my status as a postdoctoral fellow)

*Matthews MA, McElrone AJ, Phillips R, Shackel KA (2008-2011) “The role of systems level properties in the transport function of the xylem network” NSF, Integrative Organismal Systems Program, Funded \$412,711, University of California, Davis.

*Rost TL, Matthews MA (2004-2007). “Mechanisms of Pierce’s disease transmission in grapevines: xylem pathways and movement of *Xylella fastidiosa*” CDFA Pierce’s Disease and Glassy-winged Sharpshooter Board, Funded \$208,669, University of California, Davis.

5. Publications

Edwards EJ, **Chatelet DS**, Sack L, Donoghue MJ. Leaf lifespan and the leaf economic spectrum in the context of whole plant architecture. *Journal of Ecology*, Accepted, in revision.

Chatelet DS, Clement WL, Sack L, Donoghue MJ, EJ Edwards. The evolution of photosynthetic anatomy in *Viburnum* (Adoxaceae). *International Journal of Plant Sciences*, In Press.

Sack L, **Chatelet DS**, Scoffoni C, and PromotheusWiki contributors. Estimating the mesophyll surface area per leaf area from leaf cell and tissue dimensions measured from transverse cross-sections. *PromotheusWiki*., 28 June 2013 Web.

Brodersen CR, Choat B, **Chatelet DS**, Shackel KA, Matthews MA, McElrone AJ. 2013. Xylem vessel relays contribute to radial connectivity in grapevine stems (*Vitis vinifera* and *V. arizonica*; Vitaceae). *American Journal of Botany*, 100(2): 314-321.

Christin P-A, Osborne CP, **Chatelet DS**, Columbus JT, Besnard G, Hodkinson TR, Garrison L, Vorontsova M, Edwards EJ. 2012. Anatomical enablers and the evolution of C4 photosynthesis in grasses. *Proceedings of the National Academy of Sciences USA*, 110(4): 1381-1386.

Schmerler SB, Clement WL, Beaulieu JM, **Chatelet DS**, Sack L, Donoghue MJ, Edwards EJ. 2012. Evolution of leaf form correlates with tropical-temperate transitions in *Viburnum* (Adoxaceae). *Proceedings of the Royal Society B: Biological Sciences*, 279(1744): 3905-13.

Feild TS, **Chatelet DS**, Balun L, Schilling E, Evans R. 2012. The evolution of angiosperm lianescence without vessels – climbing mode and wood structure-function in *Tasmannia cordata* (Winteraceae). *New Phytologist*, 193: 229-240.

Feild TS, Hudson PJ, Balun L, **Chatelet DS**, Patino AA, Sharma CA, McLaren K. 2011. The ecophysiology of xylem hydraulic constraints by “basal” vessels in *Canella winterana* (Canellaceae). *International Journal of Plant Sciences*, 172(7): 879-888.

Chatelet DS, Wistrom CM, Purcell AH, Rost TL, Matthews MA. 2011. Xylem structure of four grape varieties and twelve alternative hosts to the xylem-limited bacterium *Xylella fastidiosa*. *Annals of Botany*, 108(1): 73-85.

Feild TS, Brodribb TJ, Iglesias A, **Chatelet DS**, Baresch A, Upchurch GR, Gomez B, Mohr BAR, Coiffard C, Kvaček J, Jaramillo C. 2011. Fossil evidence for Cretaceous escalation in angiosperm leaf vein evolution. *Proceedings of the National Academy of Sciences USA*, 108(20): 8363-8366.

Feild TS, Upchurch GR, **Chatelet DS**, Brodribb TJ, Grubbs KC, Samain M-S, Wanke S. 2011. Fossil evidence for low gas exchange capacities for Early Cretaceous angiosperm leaves. *Paleobiology*, 37(2): 195-213.

Feild TS, **Chatelet DS**, Brodribb TJ. 2009. Ancestral xerophobia: a hypothesis on the whole plant ecophysiology of early angiosperms. *Geobiology* 7: 237 - 264.

Feild TS, **Chatelet DS**, Brodribb TJ. 2009. Giant flowers of Southern Magnolia (*Magnolia grandiflora*) are hydrated by the xylem. *Plant Physiology* 150: 1587-1597.

Chatelet DS, Rost TL, Shackel KA, Matthews MA. 2008. The peripheral xylem of grapevine (*Vitis vinifera*). 1. Structural integrity in postveraison berries. *Journal of Experimental Botany*, 59(8): 1987-1996.

Chatelet DS, Rost TL, Matthews MA, Shackel KA. 2008. The peripheral xylem of grapevine (*Vitis vinifera*). 2. Anatomy and development. *Journal of Experimental Botany*, 59(8): 1997-2007.

Chatelet DS, Matthews MA, Rost TL. 2006. Xylem structure and connectivity in grapevine (*Vitis vinifera*) shoots provides a passive mechanism for the spread of bacteria in grape plants. *Annals of Botany*, 98: 483-494.

Bogeat-Triboulot MB, Martin R, **Chatelet D**, Cochard H. 2002. Hydraulic conductance of root and shoot measured with the transient and dynamic modes of the high-pressure flowmeter. *Annals of Forest Science*, 59: 389-396.

Submitted / In preparation

Chatelet DS, Edwards EJ, Schmandt K, Donoghue MJ, Sack L. Diversification of water relations and pressure volume curve parameters in Northern Hemisphere forest *Viburnums*. In preparation for *Oecologia*

Scoffoni C, **Chatelet DS**, Edwards EJ, Donoghue MJ, Sack L. Evolution of leaf hydraulic conductance in *Viburnum* (Adoxaceae).

6. Teaching experience

Mentor to undergraduate students, Jennifer Cardona (summer 2013 – Undergraduate Teaching and Research Award (UTRA): a comparison of developing leaves in *Viburnum*, Alejandro Brambilla (2011-2012 - senior thesis: Correlated evolution of trichomes and domatia in *Viburnum*) and Samuel Schmerler (2010-2011 - senior thesis: Evolution of leaf form in *Viburnum*). Mentoring in the development of research project, conducting experiments, data analysis and preparation of results for publication.

Mentor to graduate students, Patrick Hudson (2007-2010, MS thesis: Comparative hydraulic ecophysiology of Canellaceae and Winteraceae in Madagascar) and Balun Lawlong (2008-2011, PhD thesis: Ecophysiology of PNG mangroves). Assistance with development of hypotheses and research proposal, construction of equipment and experimental design, data analysis and preparation of results for publication.

Teaching assistant, “Plant ecophysiology”, University of Tennessee, Dr. Taylor Field (2009). Covered physiology of water transport in plants to 25 students.

Teaching assistant, “Forensic botany”, UC Davis, Dr. Thomas Rost (2006).

7. Conferences

- 2012 **Chatelet DS**, MJ Donoghue, L Sack, W. Clement, E. Edwards. Palisade anatomy and photosynthesis in *Viburnum* (Adoxaceae). Oral presentation at the 2012 Botanical Society of America conference, Columbus, OH.
- 2006 **Chatelet DS**, MA Matthews, TL Rost. Comparison of the xylem structure of plants with different susceptibility to the spread of *Xylella fastidiosa*. Poster presented at the 2006 Pierce’s disease Research Symposium, San Diego

- 2006 **Chatelet DS**, E. Thorne, MA Matthews, TL Rost. Primary xylem: a pathway for passive bacterial movement? Poster presented at the APS-CPS-MSA joint meeting, Quebec City, Canada
- 2005 **Chatelet DS**, MA Matthews, TL Rost. Xylem structure and connectivity in grapevine shoots provides a passive mechanism for the spread of bacteria in grape plants infected with Pierce's disease. Poster presented at the 2005 Pierce's Disease Research Symposium, San Diego, USA
- 2005 **Chatelet DS**, K Shackel, MA Matthews. Structural integrity of Xylem in the Postveraison Grape Berry. Oral presentation at the 56th American Society for Enology and Viticulture annual meeting, Seattle, USA
- 2002 **Chatelet DS**, SW Hallgren. Hydraulic conductivity and anatomy of loblolly pine roots. Poster presented at the Oklahoma State University Graduate College Research Symposium, Stillwater, USA
- 2001 Hallgren SW, P Thondikkattil, **DS Chatelet**, DM Ferris, DE Enstone, CA Peterson. Root hydraulic properties and anatomy in pine: developmental changes. Poster presented at the Premières Rencontres d'Ecophysiologie de l'Arbre: Ecole Thématique. Jan. 16-19. Autrans, France.
- 1999 **Chatelet DS**, MB Bogeat-Triboulot. Seasonal variation of hydraulic resistance of the shoot and roots of oak (*Q. robur*) and beech (*F. sylvatica*) seedlings. Poster presented at the 2nd International Symposium on the Dynamics of Physiological Processes in Woody Roots. Nancy, France

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