

Schonna Manning

Education:

PhD in Plant Biology, The University of Texas at Austin. Degree conferred August 2010.

Dissertation: Molecular and phytochemical investigations of the harmful bloom-forming alga, *Prymnesium parvum* Carter (Haptophyta). Advisor: Dr. John La Claire

MA in Plant Biology, The University of Texas at Austin. Degree conferred August 2006.

Thesis: Multiplex polymerase chain reaction (PCR) method for the rapid, sensitive and species-specific detection of the harmful alga, *Prymnesium parvum* Carter (Haptophyta). Advisor: Dr. John La Claire

BS in Biology with Honors (EEB), The University of Texas at Austin. Degree conferred May 2003.

Areas of Interest:

Cell, molecular biology and natural products of algae, plant physiology and biochemistry, harmful algal bloom-forming species, algal symbioses

Research and Academic Employment:

Postdoctoral Research Fellow Sept 2010 to present

Extraction, separation and analysis of biofuels from microalgae using HPLC-ELSD/MS, TLC and NMR. Research funded by the Center for Electromechanical Engineering (Pickle Research Campus) and the Section of Molecular, Cell and Developmental Biology, University of Texas at Austin, PI Martin Poenie.

Graduate Research Assistantships

Jan 2008 to Aug 2009

Growth analyses of the toxic bloom-forming alga, *Prymnesium parvum*, including the evaluation of spectrophotometric methods for the quantification of toxins in environmental and cultured samples. Research funded in part by Texas Parks and Wildlife Grant #185336, PI John La Claire.

Jan 2008 to May 2009

Analytical and chemical methods for the detection and quantification of prymnesins, toxic polyketides synthesized by the bloom-forming alga, *Prymnesium parvum*. Research funded in part by the Robert A. Welch Foundation Grant #F130, PI Tom Mabry.

May 2007 to Aug 2007

Chromatographic methods for the isolation of polyketide prymnesins, toxic metabolites synthesized by the bloom-forming alga, *Prymnesium parvum*. Research funded in part by the Robert A. Welch Foundation Grant #F130, PI Tom Mabry.

Jan 2004 to Aug 2005

Multiplex PCR assays for the rapid, species-specific detection of the harmful bloom-forming alga, *Prymnesium parvum* Carter (Haptophyta). Research funded by the U.S. Fish and Wildlife Service through the Texas Parks and Wildlife Department Grant # T-14-P, PI John La Claire.

June 2003 to Aug 2003

Development of a vital (CMFDA) staining protocol to assess the potential of zooplankton grazers on the red tide dinoflagellate, *Karenia brevis* (Pyrophyta). The University of Texas Marine Science Institute, Port Aransas, Texas. Research funded by ECOHAB (National Atmospheric and Oceanographic Association), PI Edward Buskey.

Teaching Assistantships:

BIO 206L: Structure and Function of Organisms

BIO 322/122L: Structure, Physiology and Reproduction of Seed Plants

BIO 322/122L: Structure, Physiology and Reproduction of Seed Plants

BIO 324/124L: Survey of the Plant Kingdom

BIO 301L: Molecules to Organisms

BIO 206L: Structure and Function of Organisms

BIO 205L: Cell and Molecular Biology

BIO 327/127L: General Phycology

Other Academic Instruction:

Sept 2007 to May 2009

Lab Instructor: supervised and coordinated lab responsibilities for undergraduate students enrolled in research hours (BIO 377, CH 375K). PIs Tom Mabry and Jerry Brand.

Jan 2008 to May 2008

Graduate Student Mentor for undergraduates enrolled in the Intellectual Entrepreneurial Pre-Graduate School Internship. PI Jerry Brand.

Publications:

Manning SR, La Claire JW. 2010. Prymnesins: toxic metabolites of the golden alga, *Prymnesium parvum* Carter (Haptophyta). Mar Drugs 8(3), 678-704.

Manning SR, La Claire JW. 2010. Multiplex PCR methods for the species-specific detection and quantification of *Prymnesium parvum* (Haptophyta). J Appl Phycology, in press. Available online: January 19, 2010.

Manning SR. 2006. Multiplex polymerase chain reaction (PCR) method for the rapid, sensitive and species-specific detection of the harmful alga, *Prymnesium parvum* Carter (Haptophyta) [MA Thesis]. The University of Texas at Austin.

Presentations and Published Abstracts:

Manning SR. February 2010. Phytochemical studies of the toxic bloom-forming alga, *Prymnesium parvum* Carter (Haptophyta). Talk presented to Texas Parks and Wildlife Department, Texas river authorities and federal agencies at the Golden Algae Taskforce meeting held at Baylor University, Waco, Texas.

Manning SR, La Claire JW. January 2009. Multiplex PCR assays for the species-specific detection and quantification of *Prymnesium parvum* Carter (Haptophyta) in natural bloom samples. Poster presentation at Golden Algae International Symposium: Fisheries and harmful algae, can they co-exist? Texas Parks and Wildlife and the Texas Chapter of the American Fisheries Society, Ft. Worth, Texas.

Manning SR, La Claire JW. July 2008. Development of species-specific, multiplex PCR assays for the detection and quantification of *Prymnesium parvum* Carter (Haptophyta) in natural samples. Poster presentation at the Annual Meeting of The Phycological Society of America, Tulane University, New Orleans, Louisiana.

Manning SR, La Claire JW. August 2005. A multiplex PCR method for the species-specific detection and quantification of the harmful alga, *Prymnesium parvum* (Haptophyta). Poster presentation at the Annual Meeting of The Botanical Society of America, Austin, Texas.

Manning SR. December 2005. Multiplex PCR methods for the species-specific detection of the harmful bloom-forming alga, *Prymnesium parvum* (Haptophyta). Talk presented for Topics in Natural Products Chemistry, UT, Austin, Texas.

La Claire JW, Manning SR, and Herrin DL. October 2005. Genome analysis and DNA-based assays for the harmful alga (or harmful bloom-forming alga), *Prymnesium parvum*. Presentation made to the Texas Parks and Wildlife Department, Austin, Texas.

Manning SR. September 2005. The secondary metabolism of prymnesins from the harmful alga, *Prymnesium parvum* (Haptophyta). Talk presented to Topics in Natural Products Chemistry, UT, Austin.

Manning, SR. December 2003. Noxious Algae: The ecology of harmful algal blooms. Talk presented to Topics in Natural Products Chemistry, UT, Austin, Texas.

Grants:

Jan 2008 to May 2009

Graduate Research Assistantship and research supported in part by The Robert A. Welch Foundation, Grant #F130. (PI Mabry)

Jan 2008 to Sep 2009

Graduate Research Assistantship and research supported in part by the Texas Parks and Wildlife Dept., Grant #185336. (PI La Claire.)

May 2007 to Sep 2007

Graduate Research Assistantship and research support provided by The Robert A. Welch Foundation, Grant #F130. (PI Mabry)

Jan 2004 to Sep 2006

Graduate Research Assistantship and research support provided by the U.S. Fish and Wildlife Service through the Texas Parks and Wildlife Department, Grant #T-14-P (PI La Claire)

Scholarships and Awards:

Dorothea Bennett Summer Research Fellowship, MCD Biology, UT Austin, June 2010

Walter Brown Memorial Scholarship for Research Excellence, UT Plant Biology Graduate Program, April 2010

Jean Andrews' Faculty Fellow Internship, UT Plant Biology Graduate Program, November 2009

Travel Award to present at the Joint Annual Meeting of the American Society of Plant Biologists and Phycological Society of America in Honolulu, UT Plant Biology Graduate Program, July 2009

Hoshaw Travel Award to present at the Joint Annual Meeting of the American Society of Plant Biologists and Phycological Society of America in Honolulu, July 2009

Travel Award to present at the Annual Meeting of The Phycological Society of America, Tulane University, New Orleans, LA, UT Plant Biology Graduate Program, July 2008

Award to present at the Annual Meeting of The Botanical Society of America, Austin, TX, UT Plant

Biology Graduate Program, August 2005

Recruitment Award for the purchase of a new computer, UT Plant Biology Graduate Program, August 2003

Academic Scholarship, Royal Neighbors of America, 1999-2005

Professional Societies:

Phycological Society of America (PSA) August 2007 to present

Appointed student member to the ad hoc PSA Executive Membership Committee 2008-2009

American Chemical Society (ACS) January 2008 to present

Research Skills:

Light compound and fluorescence microscopy

Media and culture maintenance

Spectrophotometric and spectrofluorimetric applications

DNA/RNA extraction and analysis

Protein extraction and analysis

Molecular cloning, cDNA library construction and EST analysis

PCR including multiplex conventional PCR and real-time, quantitative PCR

Liquid-liquid, column and thin layer chromatography

Analytical methods (LC/MS, GC-MS, NMR) and metabolic fingerprinting

Bioassays and direct chemical detection of targeted analytes

Field sampling, ecological applications (GPS/GIS, capture-recapture, community surveys) and related statistical analyses