

CURRICULUM VITAE

Willow Rosella Lindsay

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EDUCATION

- Ph.D.** 2004-2010 **Zoology, Washington State University, School of Biological Sciences, Pullman, WA;** specializing in Behavioral Endocrinology; GPA 3.94. Dissertation: *Hormonal regulation of male reproductive phenotype in a cooperatively breeding tropical bird*. Thesis committee: Dr. Hubert Schwabl (Chair), Dr. Michael Webster (Co-Chair), Dr. Patrick Carter
- B.S.** 1999-2003 **Wildlife Biology, University of Montana, School of Forestry, Missoula, MT** High Honors, University Scholar, Honors Program; GPA 3.96. Thesis: *Colony integration behavior in a communal Halictine Bee, Lasioglossum (Chilalictus) hemichalceum*. Research advisor / mentor: Dr. Penelope F. Kukuk
- Valedictorian** 1995-1999 **Troy High School, Troy, MT**
National Honor Society, Student Council president; GPA 4.00

PROFESSIONAL APPOINTMENTS

- April 2012 - 2010 - 2011 **Post-doctoral Research Associate;** University of Mississippi, Department of Biology.
Research Technician; Washington State University, School of Biological Sciences / Montana State University, Department of Ecology. Employed by Dr. Hubert Schwabl (WSU), collaborating with Dr. Scott Creel in Creel Laboratory (MSU).
- 2004-2010 **Graduate Research / Teaching Assistant;** Washington State University, School of Biological Sciences; Pullman, WA; Herberon, Queensland, Australia.
- 2003-2004 **Graduate Research Assistant;** University of Montana, Division of Biological Sciences, Missoula, MT; Portland, Victoria, Australia.
- 2001-2003 **National Science Foundation REU Fellow;** University of Montana, Division of Biological Sciences, Missoula, MT; Portland, Victoria, Australia; Kangaroo Island, South Australia, Australia .

PUBLICATIONS

- Varian-Ramos, CW, **WR Lindsay**, J Karubian, and MS Webster. *In Press*. Female Red-backed Fairy-wrens do not appear to pay a cost for high rates of sexual promiscuity. *Auk*
- Lindsay, WR**, MS Webster, and H Schwabl. 2011. Sexually selected male plumage color is testosterone dependent in a tropical passerine bird, the red-backed fairy-wren (*Malurus melanocephalus*). *PLoS ONE* 6(10): e26067.
- Karubian, J, **WR Lindsay**, H Schwabl, and MS Webster. 2011. Bill coloration, a flexible signal in a tropical passerine bird, is regulated by social environment and androgens. *Animal Behaviour* 81: 795-800.
- Lindsay, WR**, MS Webster, CW Varian, and H Schwabl. 2009. Plumage colour acquisition and behavior are associated with androgens in a phenotypically plastic tropical bird. *Animal Behaviour* 77: 1525-1532.

MANUSCRIPTS in REVIEW or PREPARATION

- Lindsay, WR**, MS Webster, and H Schwabl. *In Prep*. Testosterone manipulation reveals the hidden phenotype of a female songbird: insights into the mechanisms of sexual dichromatism
- Lindsay, WR**, MS Webster, and H Schwabl. *In Prep*. Testosterone and extra-pair mating behaviour in a female bird, the red-backed fairy-wren.
- Lindsay, WR**, MS Webster, and H Schwabl. *In Prep*. Stress and the control of breeding phenotype: is the link between body condition and androgens mediated by glucocorticoids?
- Lindsay, WR** and H Schwabl. *In Prep*. Validation of non-invasive fecal sampling for multiple hormone metabolites in male and female red-backed fairy-wrens (*Malurus melanocephalus*).
- Barron, DB, **WR Lindsay**, MS Webster, H Schwabl. *In Prep*. Early life conditions influence adult reproductive phenotype in a cooperatively breeding bird.

PRESENTATIONS

CONFERENCE SEMINARS

- Lindsay, WR**, MS Webster, J Wingfield, and H Schwabl. 2010. Is bright plumage a testosterone dependent trait in male

red-backed fairy-wrens? Oral presentation, 13th International Behavioral Ecology Congress; Perth, Western Australia

- Lindsay, WR.** 2010. Sexually selected male nuptial plumage is testosterone dependent in a tropical passerine, the red-backed fairy-wren. Allee Award oral presentation (honorable mention), Animal Behaviour Society Meeting, Williamsburg, VA, USA.
- Lindsay, WR, MS Webster, and H Schwabl.** 2008. Is bright plumage a testosterone dependent trait in male Red-backed Fairy-wrens? Oral presentation, American Ornithologists' Union Meeting, Portland, OR, USA
- Lindsay, WR, MS Webster, CW Varian, and H Schwabl.** 2007. Androgens, condition, and plumage: mechanisms underlying phenotypic variation in a polymorphic passerine. Oral presentation, Cooper Ornithological Meeting, Moscow, ID, USA
- Lindsay, WR, H Schwabl, MS Webster, CW Varian, and J Karubian.** 2006. Hormonal and behavioral correlates of male coloration in a polymorphic passerine bird, the Red-backed Fairy-wren. Oral presentation, Western Regional Comparative Endocrinology Conference, Newport, OR, USA
- Lindsay, WR and PF Kukuk.** 2003. Colony integration behavior in a communal Halictine Bee *Lasioglossum (Chilalictus) hemichalceum*. Oral presentation, Animal Behavior Society Meeting, Boise, ID, USA
- Lindsay, WR and PF Kukuk.** 2002. Social function of Trophalaxis in communal bees. Poster presentation, Animal Behavior Society Meeting, Bloomington, IN, USA

INVITED SEMINARS

- Lindsay, WR.** 2011. Plumage and promiscuity: the role of testosterone in regulating breeding phenotype of a tropical songbird, the red-backed fairy-wren. Department of Ecology Seminar Series, Montana State University, Bozeman, MT, USA
- Lindsay, WR, MS Webster, and H Schwabl.** 2008. Hormonal regulation of variable plumage color in a tropical songbird, the red-backed fairy-wren. Palouse Ecology and Evolutionary Biology Seminar Series; Moscow, ID, USA

TEACHING EXPERIENCE

Washington State University, School of Biological Sciences (Laboratory Teaching Assistantships; semester [sem.] appointments)

2008	Fall sem.	BIOL 106: Introduction to Biology; introduction to biology for majors
2008	Spring sem.	BIOL 363: Mammalian Physiology; students conducted, synthesized, and reported on live surgeries of rabbits, manipulating cardiovascular, respiratory, renal and liver functions, and intestinal smooth muscle activity
2007, 2005	Spring sems	BIOL 428: Mammalogy; updated / redesigned laboratory curriculum; mammalian diversity (mammal identification by skull), anatomy, physiology, habitat, and behaviour
2006	Spring sem.	BIOL 423: Ornithology; avian diversity, physiology, anatomy, habitat, and behaviour; field component with a written research paper
2004	Fall sem.	BIOL 102: General Biology; introduction to biology for non-majors

RESEARCH EXPERIENCE

ANIMAL HANDLING / POPULATION MONITORING

- 2004-2008 **Graduate Research Assistant** (fall sems); Herberton, Queensland, Australia.
Flexible reproductive strategies of a polymorphic tropical bird, the red-backed fairy-wren (Malurus melanocephalus); mechanisms and fitness consequences. Population monitoring (nest site locations, behavioural monitoring, social group composition), *Animal handling* (mist net trapping, banding, morphometric measurements, blood sampling, intraperitoneal injections of GnRH and ACTH, subcutaneous testosterone implantation, captive animal experiments), and *management and supervision* (6-8 man research crews)
- 2003-2004 **Graduate Research Assistant** (Nov-Jan); Portland, Victoria, Australia.

2001-02, 02-03 *Colony integration behaviour of a communal sweat bee, Lasioglossum hemichalceum. Field technician* (nest excavation, capture and transport of live bees), *trained crew* (8 man research crew), and conducted *behavioural trials* (laboratory based experiments with wild caught bees)
National Science Foundation REU Fellow; Portland, Victoria, Australia; Kangaroo Island, South Australia, Australia. *Social function of trophalaxis in a communal sweat bee, Lasioglossum hemichalceum.* Designed and conducted *behavioral experiments* on wild caught bees.

LABORATORY BASED RESEARCH

2010-2011 **Research Technician** (Oct-Nov 2010, July-Sept 2011; Dec-present); Washington State University, Pullman, WA / Montana State University, Bozeman, MT. Development of an *enzyme-immunoassay* to measure yolk thyroid hormones.

2005-2010 **Graduate Research Assistant** (summers, fall sem. 2009, spring sem. 2010); Washington State University, Pullman WA. Conducted *radioimmunoassay* for avian plasma, fecal, and yolk steroid hormones and steroid metabolites; conducted *DNA extractions, microsatellite genotyping* (10 loci), and *genetic sexing* on avian blood samples; used a *photo-spectrometer* to measure reflectance spectra of feathers; trained in use of a *scanning electron microscope*. *Trained 5* graduate students in radioimmunoassay.

2002, 2003 **National Science Foundation REU Fellow**; Missoula, MT
Microscope dissections of experimental sweat bees (*L. Hemichalceum*) for crop content, genital development, and wing wear / wing length; *technical illustrations* of nesting architecture for two species of Australian sweat bee.

NON-ACADEMIC PROFESSIONAL EXPERIENCE

2002-2004 **Trail Crew Leader (GS-5; seasonal)**; United States Forest Service, Kootenai National Forest Three Rivers Ranger District, Troy, MT. Backcountry trail maintenance, crew supervision (5-8 man), and wild-land fire fighting.

1999- 2001 **Timber Cruiser (GS-2, GS-3, GS-4; seasonal)**; United States Forest Service, Kootenai National Forest Three Rivers Ranger District, Troy, MT. Identification, marking and cruising of timber; wild-land fire fighting.

1995-1998 **Timber Stand Inventory Surveyor (seasonal)**; Kootenai Collusion Incorporated, Yaak, MT. Timber cruising, orienteering, habitat-type identification, timber stand health diagnostics.

TECHNICAL CERTIFICATIONS AND TRAINING

2008-present Australian Bird and Bat Banding Scheme A-Class Bird Banding Permit

2005-2007 Australian Bird and Bat Banding Scheme R-Class Bird Banding Permit

2005-present Washington State University Radiation Safety Training - Radiation safety badge

2007 Washington State University Purchasing Card Training

1999-2004 United States Forest Service Training: Chainsaw Certification – Type B Sawyer; Forest Insect and Disease Training; Timber Cruising School – licensed Timber Measurement Specialist; Fire Behavior, Fire Fighting, and Fire Squad Boss Training; Basic First Aid; ATV and Snowmobile Operation Certification; Government Defensive Driving.

FELLOWSHIPS, SCHOLARSHIPS AND AWARDS

2010 International Society for Behavioral Ecology Travel Award to Perth, Western Australia (\$2,200)

2010 Washington State University Harriett B Rigas Outstanding Woman in Doctoral Studies Award, 2nd Place (\$200)

2010 Washington State University Travel Award (\$250)

2008 James R. King Memorial Fellowship (\$2,000)

2007-2008 Charles and William McNeil Memorial Graduate Fellowship (\$900)

2004-2007 ARCS Foundation Fellowship (\$15,000)

2005	National Science Foundation Graduate Research Fellowship – Honorable Mention
2002-present	McNair Scholar (\$4,000)
2002	Truman Award for Undergraduate Poster, Animal Behavior Society – Honorable Mention
2002-2003	Long Brothers Scholarship
2001-2002	Isabel Haynes scholarship
2001-2002	Blackfoot Book Award
1999-2000	Olive Rector University of Montana Scholarship (\$1,500)
1999-2000	University of Montana Honors Fee Waiver (\$2,264)

OUTREACH AND SERVICE ACTIVITIES

2011	Guest lecture on avian foraging adaptation at the McCormick / Yaak Elementary schools Annual Rendezvous - Troy, MT
2009-2010	Washington State University, Graduate Student Representative on School of Biological Sciences Job Search Committee (Position hired: Assistant/ Associate / Professor in Evolutionary Developmental Biology) – Pullman, WA
2008-2010	Washington State University McNair Scholar’s Mentor Program; mentor to one Native American and one Latino/Chicano McNair Undergraduate Scholar
2009	Organized and presented “The secret life of biologists: a guide to pursuing your career in the biological sciences”; an undergraduate outreach seminar. Funding for event provided by Washington State University, School of Biological Sciences – Pullman, WA
2007-2009	American Ornithological Union (AOU) Student Affairs Committee (SAC) member – Pullman, WA
2000-2002	Sierra Club Bitterroot Mission Group Secretary – Missoula, MT
1999-2000	American Reads Volunteer Program - Missoula MT
1999	Student Council President - Troy High School – Troy, MT

PROFESSIONAL AFFILIATIONS

MEMBERSHIPS

2010-present	International Society for Behavioral Ecology
2002-2004, 2010-present	Animal Behaviour Society
2008-2010	American Ornithologists’ Union
2001-2004	Phi Kappa Phi Honor Society
1998-1999	National Honor Society, Troy High School; Vice President 1999

ADHOC REVIEWER: *Biological Journal of the Linnean Society* (1 article); *Ethology* (2 articles); *Journal of Avian Biology* (2 articles)

COLLABORATORS: Dr. Hubert Schwabl (Washington State University, WA), Dr. Michael Webster (Cornell University, NY), Dr. Scott Creel (Montana State University, MT), Dr. Manfred Gahr (Max Planck Institute for Ornithology), Dr. Jordan Karubian (Tulane University, LA), Dr. Melissah Rowe (University of Oslo, Norway), Dr. Claire Varian-Ramos (College of William and Mary, VA), Dan Baldassarre (Cornell University, NY), Doug Barron (Washington State University, WA)