VINKO CULJAK MATHIEU

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EDUCATION

× 2016 Honours BSc with Specialization in Biology summa cum laude; University of Ottawa; CGPA: 9.0

Thesis: *Specialist vs. Generalist: Which is the Best Pollinator? The Reproductive Biology and Pollination Ecology of the Nevada Peavine (Lathyrus lanszwertii)*

× 2008 Ontario Secondary School Diploma; West Carleton Secondary School; Honours

SKILLS PROFILE

Organizational	Handles details, coordinates tasks, punctual, manages projects effectively, meets deadlines, sets manageable goals, prepares schedules.
Communication	Writes clearly and concisely, speaks effectively, listens attentively, openly expresses ideas, negotiates/resolves differences, provides feedback, provides well-thought out solutions, gathers appropriate information.
Management	Leads groups, teaches/trains/instructs, manages conflict, delegates responsibility, enforces policies, takes charge.
Computer	Expert user in content creation software (MS Word, MS Excel, Adobe Photoshop, Adobe Illustrator), software problem solving and repair, MATLAB, R statistical software package.
Data Handling	Data structure analysis, database development, data management and tracking, data backup, datasheet creation.
GIS	ArcGIS 10, understanding of spatial data, data entry/conversion, metadata creation/editing, GIS analysis, cartography, Global Positioning System.
Laboratory	Wet mounts, dissecting scope (>300 h), compound microscope (~150h), staining techniques, laboratory safety & WHMIS training, mounting insects, dissecting insects and flowers, Elzone II 5390 Particle Size Analyzer.
Field	Experimental design, netting & marking bees, tracking solitary bee nest progress with artificial nesting blocks, hand pollination, pollinator observations and identification, collecting insects (beat sheeting, pitfall traps, aerial nets, sweep nets, Berlese funnel), collecting plants and pollen samples.

RESEARCH/PROFESSIONAL OBJECTIVES

- To study the response of insect diversity and related ecosystem functions to climate change.
- To educate future students and cultivate a passion for learning in them.
- To promote science literacy and inform policy making with research, outreach, and science communication programs.

GRANTS, SCHOLARSHIPS & AWARDS

- 2016 NSERC Undergraduate Student Research Awards, Simon Fraser University. $4,500.
- 2016 Carson Award for Excellence in Undergraduate Biology. $2,500.
- 2014 Undergraduate Research Opportunity Program, University of Ottawa. $1,000.
- 2012 Admission Scholarship, University of Ottawa. $16,000.

RESEARCH EXPERIENCE

Research Assistant to Dr. Crystal Ernst (Summer, 2016)

- Location: Hakai Institute & Simon Fraser University
- Goal: asses the diversity of terrestrial invertebrates on 100 Islands along the central coast of British Columbia.
- Tasks: (A) collecting terrestrial arthropods using pitfall traps and beatsheeting; (B) recording relative abundance of major plant taxa; (C) recording physical structure of plots (substrate, course woody debris, canopy cover, shrub height, etc…); (D) sorting & extracting leaf litter samples; (E) identifying & sorting insects to family; (F) organic matter determination using the LOI method; (G) setup and take down of camp (10-12 days camping at a time); (H) maintaining camp organization and tending to camp chores (cooking meals, dishes, cleaning camp toilet); (I) driving a 10ft zodiac between camp and islands 4-6 times a day.
- Key competencies: leadership, adaptability to a changing work landscape, ability to motivate others, risk management, develop and execute strategies bound by technical and safety limits.
- Grant: NSERC Undergraduate Student Research Award - $4,500

Research Assistant to Dr. Jessica Forrest (Summer, 2015)

- Location: Rocky Mountain Biological Laboratory
- Goal: assess mason bee nest progress and flowering plant species phenology.
- Tasks: (A) setting up and maintaining trap-nests for solitary bee nesting; (B) recording abundance of flowers for various species; (C) measuring and recording mason bee nest construction progress and parasitism; (D) marking and identifying individual bees; (E) recording development of bees in an incubator.

The roles of specialist and generalist pollinators in the reproduction of Lathyrus lanszwertii (Summer, 2014 & 2015; Honours Thesis)

- Location: Rocky Mountain Biological Laboratory & University of Ottawa
- Goal: describe the pollination ecology and reproductive biology of L. lanszwertii.

- × Tasks: (A) setting up pollinator-exclusion systems plants; (B) hand pollination to test for self-compatibility and the autogamy; (C) pollinator observations; (D) collection and identification of pollinators.
- × Key competencies: creating a vision and strategy for a research project, problem solving, collaborating with partners, respecting research organizations and funding sources.

Research Assistant to Dr Jessica Forrest (Spring, 2014)

- × Location: Rocky Mountain Biological Laboratory
- × Goal: Quantify the phenology of wild flowers and insect pollinators in Gatineau Park, Quebec, immediately after snow melt.
- × Tasks: (A) counting wild ephemeral flower buds, flowers and fruit; (B) catching, identifying, photographing and releasing bumble bees; (C) sampling bee & wasp populations using pan-traps; (D) recording the construction of solitary native bee nests (genus: Osmia); (E) pinning and pointing hymenoptera specimens obtained from trap-nests throughout the Ottawa Greenbelt; (F) quantifying pollen amounts after pollinator visits using an Elzone particle counter.
- × Key competencies: understanding the research cycle, experimental design, providing respectful and constructive suggestions, generating innovative approaches to problem solving.

Research Assistant to Adam Groulx (Summer, 2014)

- × Location: Rocky Mountain Biological Laboratory
- × Goal: assess rates of parasitism in mason bees with different nesting densities or different resource availability.
- × Tasks: (A) setting up trap-nests for solitary bee nesting; (B) observations of solitary bee and parasitic/kleptoparasitic wasp behavior; (C) recording the construction and parasitism of solitary native bee nests (genus: Osmia); (D) controlling nesting density by moving nests; (E) controlling floral resource abundance using floating row covers.

Foraging habits of solitary bees (Winter, 2014)

- × Location: Mer Bleue Bog, Ottawa, & University of Ottawa
- × Goal: To study the foraging habits of solitary bees in the Ottawa area to determine the extent to which bees travel in order to obtain floral resources within habitat mosaics.
- × Work: counted the abundance of different pollen types in pollen provisions and frass of trap-nesting solitary bees; analyzed data to determine the variation in the pollen content at different nesting sites.
- × Key competencies: developing a research timeline that respects organizational needs and deadlines, approaching questions from various perspectives, building effective communication tools.
- × Grant: Undergraduate Research Opportunity Program - $1,000

TEACHING EXPERIENCE

2015, Fall	Teaching Assistant in Applied Biostatistics. University of Ottawa. Ottawa, ON, Canada.

2015, Summer	Mini-course, Introduction to Biostatistics and R. Rocky Mountain Biological Laboratory. Gothic, CO, USA.
2013-2014	Biology & mathematics tutor. University of Ottawa. Ottawa, ON, Canada.
2006-2008	Volunteer teaching assistant, grades 3, 4 & 6. Torbolton Elementary School. Ottawa, ON, Canada.
2005-2008	Science, mathematics, geography, computer science tutor. West Carleton Secondary School. Dunrobin, ON, Canada.
2004-2008	Tutor in the JUMP (Junior Undiscovered Math Prodigies) program; Torbolton Elementary School. Ottawa, ON, Canada.

SCIENCE OUTREACH & COMMUNICATION

2015-2016	Human Library, Ottawa Public Library. Ottawa, Canada.
2013-2016	Led 1.5-hour workshops on entomology at seven elementary and high school in Ottawa, Canada.
2014	Volunteer Leader, Macoun Field Club for children 8-18. Ottawa.

CERTIFICATION

- □ WHMIS for Laboratory Workers Certificate
- □ University of Ottawa Wet Lab Safety Training Certificate
- □ ESRI Learning ArcGIS 10 Desktop Certificate
- □ Pleasure Craft Operator Card
- □ Standard First Aid & CPR Level C

LANGUAGES

English	Advanced (speaking, reading, writing)
Spanish	Advanced (speaking, reading), intermediate (writing)
French	Intermediate (speaking, reading, writing)
Italian	Beginner

OTHER ACTIVITIES

Owner and operator of Culjak Productions, a web development company serving real estate agents, property managers and private communities. Directed and coordinated activities of

businesses, reviewed financial statements, sales and activity reports, established and implemented policies, goals, objectives, and procedures. Met with clients and assessed needs and requirements; developed service proposals tailored to client needs and requirements; maintained regular contact with clients. Designed, built, maintained and updated web sites; directed others producing web page content; analyzed user needs to determine technical requirements; developed databases that support web applications; managed a web hosting server.

Chef at La Osteria Restaurant in Ottawa Canada. Prepared and cooked all food items, ensured quality and safety of food, helped plan weekly menus, created new dishes, estimated expected food consumption and purchased supplies. As kitchen manager, coordinated and supervised work of kitchen staff, monitored compliance with health and fire regulations, trained kitchen staff, evaluated kitchen staff performance. 2004-2012

Treasurer for the West Carleton Secondary School student council. Dunrobin, Ontario. 2004-2008

REFERENCES

Dr. Crystal Ernst, Hakai Postdoctoral Scholar, Dept. of Biological Sciences, Simon Fraser University, Canada. 1-778-580-6205. crystal_ernst@sfu.ca.

Dr. Jessica Forrest, Assistant Professor, Dept. of Biology, University of Ottawa, Canada. 1-613-562-5800 x 3948, jforrest@uottawa.ca.

Dr. Rees Kassen, professor and holder of University Research Chair in Experimental Evolution, Dept. of Biology, University of Ottawa, Canada. 1-613-562-5800 x 6978, rkassen@uOttawa.ca.