

Education:

- Ph.D.:** Systematic Botany, Uppsala University, Sweden. **2007**
- Dissertation: Disentangling *Lecania*. The dissertation described phylogenetic relationships within the crustose lichen genus *Lecania* and relationships within the family, as well as analyzed ecological and conservation implications.
- Master's:** Ecotoxicology, University of Southern Denmark, Denmark. **1996**
- Thesis: The Brown Seaweed, *Fucus vesiculosus*, as a Biomonitor of Cadmium Pollution. The thesis investigated the use of seaweed as a biomonitor of cadmium pollution in a heavily polluted mining area in Southwest Britain.
- Bachelor's:** Ecotoxicology, University of Southern Denmark, Denmark. **1994**

Work experience:

- Contractor:** Save The Redwoods League, San Francisco, CA. **2014-2016**
- Investigated epiphyte communities on large coast redwoods in old-growth forests by quantifying species richness and abundance of lichens, bryophytes, and vascular plants using tree-climbing techniques.
 - Inventoried Muir Woods National Monument for lichen diversity.
 - Generated outreach material about lichens for park exhibits.
- Associate Specialist:** Department of Integrative Biology, UC Berkeley, CA. **2013-2014**
- Identified over 200 pressed plants from Yosemite National Park, using dichotomous keys. Prepared the plants for carbon and nitrogen isotope analyses in order to identify food sources for Yosemite chipmunks.
 - Prepared bee samples for isotope analyses for a project analyzing nitrogen and carbon changes in bees collected during the last 100+ years.
- Volunteer Scientist:** Department of Integrative Biology, UC Berkeley, CA. **2012-2014**
- Installed and maintained stem psychrometers used to monitor the water status in Douglas-fir, live oak, and madrone for the Critical Zone Observatory.
 - Installed scientific equipment, such as dendrometers, sapflow probes, and psychrometers used to monitor the water status, in three large giant sequoia.
 - Collected foliage, took hemispherical photos, and generated pressure-volume curves with a pressure chamber for a project describing water balance in the canopy of large giant sequoia.
 - Collected wood specimens from coast redwood along a vertical gradient for xylem anatomy research.
- Associate Specialist:** Redwoods and Climate Change Initiative, UC Berkeley, CA. **2012**
- Assisted in a major greenhouse experiment examining tolerance to drought in giant sequoia and coast redwood. Measured gas exchange using a Licor-6400 and water potential using a pressure chamber.
 - Extracted material from increment cores using a micromill to obtain isotope data produced in tree rings.
- Volunteer Scientist:** Redwoods and Climate Change Initiative, UC Berkeley, CA. **2011-2013**
- Assisted in installation of treetop and ground-level micrometeorological systems for collection of data for a long-term study of climate change's effect on giant sequoia and coast redwood.
- Research Scientist:** Redwoods and Climate Change Initiative, Humboldt State University, CA. **2011**
- Mapped the architecture of giant sequoia and coast redwood trees in order to generate equations predicting biomass and surface area estimates of tree components.
 - Collected baseline data within permanent plots in giant sequoia and coast redwood ecosystems for studying long-term vegetation changes throughout the range of the species.
- Biological Consultant:** Amphi Consult, Odense, Denmark **2008-2011**
- Designed and edited "Best Practice Guidelines", a data-driven report to the European Union recommending management strategies for the fire-bellied toad (*Bombina orientalis*).
- Available here: http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=home.showFile&rep=file&fil=Bombina_Best_Practices.pdf
- Authored, illustrated, and designed a brochure informing landowners how to sustainably manage coastal meadows.
 - Coordinated and wrote a grant proposal to the European Union's LIFE+ program regarding creation of stepping stone corridors to maintain and improve amphibian habitat in Denmark.
 - Translated and edited numerous biological documents concerning conservation of threatened amphibians, reptiles, and bats from English, German, and Norwegian to Danish.
- Nature Conservation Worker:** Denmark's Nature Foundation **2009**
- Removed invasive plants in a 150 acre nature reserve to restore natural vegetation.

Volunteer Botanist: Duck Creek Associates, OR.

2008

- Inventoried 1800 acres of Douglas-fir forest for lichen, bryophyte, and vascular plant diversity on the Mt. Baker-Snoqualmie National Forest in WA. Described habitat characteristics according to US Forest Service protocol.
- Documented rare and endangered species as well as weeds.
- Wrote reports summarizing survey methodology and results of surveys.

Biological Consultant: Amphi Consult, Odense, Denmark.

1997-1998

- Coordinated and wrote a successful grant proposal to the European Union's LIFE program regarding conservation of the fire-bellied toad (*Bombina orientalis*) in Denmark.
- Coordinated preservation of a large wetland, including surveying the wetland, contacting land owners, and recommending methods for conservation.

Technical skills:

- Twelve years of experience using technical tree climbing equipment to assist with canopy research in giant sequoia, coast redwood, eucalyptus, live oak, Douglas-fir, madrone, and ponderosa pine.
- Proficient in MS Office, Adobe Illustrator, and Adobe Photoshop.
- Experienced with Paup*, MrBayes, SAM, TCS, TNT, ML, Chromas, BioEdit, Permap, MRTWIG, Treeview, Modeltest, ANOVA, Crimson Editor, and Adobe PageMaker.
- Extraction and amplification (PCR) of DNA in preparation for sequencing.
- Thin layer chromatography (TLC) for analyzing chemical composition of lichens.
- Expert in compound and dissecting microscopy.

Courses taught:

Macrolichens Around the San Francisco Bay, Jepson Herbarium Workshops, CA.

2014, 2016

- Combined lectures, field excursions, and laboratory work to teach lichen identification, biology, and function.

Tree climbing for researchers, CA, HI

2011, 2012, 2014, 2015

- Taught five different courses emphasizing safety, single and double rope techniques, rigging, rescue, and practical applications.

Evolution and Diversity of Plants (advanced level)

2004-2007

- Taught detailed botanical life cycles, evolution, adaptation, reproduction, and ecology.

Floristics (basic level)

2003-2006

- Combined lectures, group activities, and field excursions to teach identification, ecology, inventory methodology, and diversity of vascular plants.

Evolution and Diversity of Organisms (basic level)

2003-2006

- Included life cycles, evolution, adaptation, reproduction, and ecology of organisms.

Cryptogam Floristics (advanced level)

2003-2004

- Combined lectures, field excursions, and laboratory work to teach identification, ecology, use as indicator species, and diversity of lichens, bryophytes, and fungi.

Professional training:

Field Sketching, Siskiyou Field Institute, OR.

2014

- A four day botanical illustration workshop led by Linda Vorobik.

Definitions and Delineation of Wetlands, The Jepson Herbarium Workshops, UC Berkeley.

2011

- An extensive three-day course in definitions and methods for identifying and delineating California wetlands led by Terry Huffman.

Practical Nature Conservation, Klarälvdalens Folkhögskola, Sweden.

1999-2001

- Elements of the course ranged from survey methodology, utility of indicator species, and environmental legislation, to the use of chainsaws and weed whackers.

Presentations:

2016 Talk: University and Jepson Herbaria Botany Lunch Series, UC Berkeley, CA.

Tiny critters on giant trees. What's growing on up there?

2016 Talk: 8th International Association of Lichenologists Symposium, Helsinki, Finland.

Is climate or habitat variation more important for epiphyte richness? A case study from redwood forests.

2016 Talks: Sonoma County Mycological Association Camp, CA.

Lichens (and other epiphytes) in the Canopy

- 2014 From the Fascinating World of Lichens
Talk: California Academy of Sciences, CA.
Remember to look up. What can we learn by climbing giant trees?
- 2014 Talk: East Bay Science Café, CA.
From the Fascinating World of Lichens
- 2011 Talk: University and Jepson Herbaria Botany Lunch Series, UC Berkeley, CA.
Systematics and foundation species ecology – two stories about lichens
- 2009 Talk: Biology Department Seminar, Northern Arizona University.
Lichens, *Lecania*, and phylogenetic applications
- 2008 Talk: 6th International Association of Lichenologists Symposium, Asilomar, CA.
Status of the phylogeny of the genus *Lecania*
- 2006 Poster: 8th International Mycological Conference, Cairns, Australia.
A phylogenetic study of *Lecania* and closely related genera
- 2005 Talk: Systematikdagarna, Stockholm, Sweden.
A phylogenetic study of *Lecania* and closely related genera
- 2004 Poster: 5th International Association of Lichenologists Symposium, Tartu, Estonia.
Lecania – phylogeny, generic delimitation, ecology, and a revision of the Swedish species

Publications:

- Reese Næsborg, R.**, Lau, M.K., Williams, C.B., Michalet, R., Whitham, T.G. Energy independent saxicolous lichen and bryophyte communities are influenced by genetically based susceptibility to herbivory in a foundation tree species. In preparation.
- Reese Næsborg, R.** 2017. Elusive epiphytes on the tallest trees. *What's up? The Newsletter of the International Canopy Network*. In press.
- Reese Næsborg, R.** 2017. Lichen Conservation is Complicated. *Fremontia*. In press.
- Ambrose, A.R., Baxter, W.L., Wong, C.S., Burgess, S.S.O., Williams, C.B. **Reese Næsborg, R.**, Koch, G.W., Dawson, T.E. 2016. Hydraulic constraints modify optimal photosynthetic profiles in giant sequoia trees. *Oecologia* 182: 713–730.
- Reese Næsborg, R.** 2016. Keys to lichens of North America: revised and expanded. Book review. *Mycotaxon* 231: 259–260.
- Reese Næsborg, R.** & Williams, C.B. 2015. Lichen diversity in Muir Woods National Monument. *California Lichen Society Bulletin* 22: 13–18.
- Ambrose, A.R., Baxter, W.L., Wong, C.S., **Reese Næsborg, R.**, Williams, C.B., Dawson, T.E. 2015. Contrasting drought response strategies in California redwoods. *Tree Physiology* 35: 453–469.
- Lamit, L.J., Lau, M.K., **Reese Næsborg, R.**, Wojtowicz, T., Whitham, T.G., Gehring, C.A. 2015. Genotype specific host ontogeny is a robust driver of the rate of epiphytic lichen community assembly across contrasting environments. *Ecology* 96: 960–971.
- Reese Næsborg, R.** & Williams, C.B. 2014. What's in the trees in Muir Woods. *California Lichen Society Bulletin* 21: 20-25.
- Lamit, L.J., Bowker, M.A., Holeski, L.M., **Reese Næsborg, R.**, Wooley, S.C., Zinkgraf, M., Lindroth, R.L., Whitham, T.G., Gehring, C.A. 2011. Genetically-based trait variation within a foundation tree species influences a dominant bark lichen. *Fungal Ecology* 4: 103–109.
- Reese Næsborg, R.** 2008. Taxonomic revision of the *Lecania cyrtella* group based on molecular and morphological evidence. *Mycologia* 100: 397–416.
- Reese Næsborg, R.** & van den Boom, P. P. G. 2007. *Lecania belgica* van den Boom & Reese Næsborg, a new saxicolous species from western Europe. *Lichenologist* 39: 499–503.
- Reese Næsborg, R.** 2007. Disentangling *Lecania*. Ph.D. Thesis, Acta Universitatis Uppsaliensis.
- Reese Næsborg, R.**, Ekman, S. & Tibell, L. 2007. Molecular phylogeny of the genus *Lecania* (Ramalinaceae, lichenized Ascomycota). *Mycological Research* 111: 581–591.