

CURRICULUM VITA: LYNNE D. HOUCK

Professor
Department of Zoology
3029 Cordley Hall
Oregon State University
Corvallis, OR 97331
Phone: (541) 737-4353
FAX: 541-737-5001
E-mail: houckl@science.oregonstate.edu

EDUCATION AND DEGREES

University of California at Berkeley Ph.D., December 1977
University of California at Berkeley M.A., June 1975
University of California at Berkeley B.A., Honors in Biology, June 1971

POSITIONS AND TEACHING EXPERIENCE

Professor, Dept. of Zoology, Oregon State University, Corvallis, OR. 2003-present
Associate Professor, Dept. of Zoology, Oregon State University, Corvallis, OR. 1997-2003
Research Associate (Associate Professor), Department of Ecology and Evolution, University of Chicago, Chicago, IL. 1989 - 1997
Committee on Evolutionary Biology, University of Chicago, Chicago, IL. 1996 - 1997
Research Associate (Associate Professor), Biological Sciences Collegiate Division, University of Chicago, Chicago, IL. 1990 - 1997
Research Associate (Assistant Professor), Department of Ecology and Evolution, University of Chicago, Chicago, IL. 1983 - 1989
Research Associate, Dept. of Biology, University of Chicago, Chicago, IL. 1980 - 1983
Assistant Professor, Dept. of Biology, Lake Forest College, Lake Forest IL. 1977 - 1978

RESEARCH INTERESTS

Evolution of behavior, sexual selection, behavioral determinants of reproductive success, chemical communication, and the evolutionary biology of plethodontid salamanders. Hormonal basis of reproductive behavior in amphibians. Behavioral, neural, and hormonal responses to pheromone signals in salamanders.

GRANTS AND AWARDS

NSF Grant IBN 0206497. Dissertation Research: The Role of Chemical Signaling in the Evolution of Sexual Isolation in Terrestrial Salamanders. Funded 2002-2004: \$9,995
NSF Grant IBN 0110666. IRC-EB: The Evolution of a Pheromone Signaling System: From Molecules to Mating. Funded 2001-2004: \$2,300,000.

- NSF Grant IBN 0073226. Dissertation Research: Female Multiple Mating. Funded 2000-2002: \$9729.
- NSF Grant: Collaborative Research: The Chemical Basis of Ethological Isolation (with Co-PI Stevan Arnold). Funded 1997-1998: \$65,000
- American Philosophical Research Award: Pheromone Effects on Terrestrial Salamanders. Funded June 1996: \$2,200.
- DOE Travel Awards. Research on the reproductive biology of the marbled salamander, *Ambystoma opacum*. 1992-1996: approx. \$8,500.
- Highlands Biological Station Research Grants. Courtship Pheromones and Male Mating Success. 1993-1996: approx. \$5,500.
- NSF Grant BNS-8909159. Career Advancement Award: Neural Mechanisms of Olfactory Responses to Salamander Courtship Pheromones. Funded 1989-1990: \$56,000.
- NSF Grant BSR-8417517. The Effects of Behavioral Variation in Life History Events on Measurements of Fitness. Funded 1985-88: \$134,495.
- NSF Grant BSR-8417515, Amendment No. 01. REU: The Effect of Behavioral Variation in Life History Events on Measurements of Fitness. Funded March - June 1988: \$3,750.
- NSF Grant BSR-8714956. Dissertation Research Award for R. Marquez: Post-zygotic Investment in *Alytes* (Anura, Discoglossidae). Funded 1988-1990: \$8,000. (Faculty co-sponsor with S.J. Arnold)
- NSF Grant BSR-8800888. Dissertation Research Award for N. Reagan: Evolution of Ethological and Post-mating Isolation - An Analysis of *Plethodon* Hybrid Zones. Funded 1988-1990: \$8,000. (Faculty co-sponsor with S.J. Arnold)

HONORS

- Elected Delegate, International Ethological Congress
Elected Fellow, Animal Behavior Society

NATIONAL SCIENCE FOUNDATION PANELS

- 4/03 NSF Panel: Animal Behavior
5/02 NSF Panel: Integrated Research Challenges in Environmental Behavior
4/02 NSF Panel: Animal Behavior
4/02 NSF Workshop: EthoInformatics
2/01 NSF Panel: Doctoral Dissertation Improvement Grants
2/00 NSF Panel: Doctoral Dissertation Improvement Grants
1/95 NSF Panel: Conservation and Restoration Biology
6/94 NSF Panel: Young Investigator Awards

INVITED TALKS

- 11/03 Indiana University, Bloomington, IN
11/03 University of Texas at Austin
2/03 Invited speaker: International Congress of Comparative Biochemistry & Physiology, Feb 2-7, 2003: Victoria, Australia
12/02 University of Oregon
11/00 University of Louisville, KY
11/00 Linfield College, Oregon
6/99 Fellow's Lecture, Animal Behavior Society, Annual Meeting
4/99 Humboldt State University, Arcata, CA
4/99 Reed College, Portland, OR
8/98 Highlands Conference on Plethodontid Salamanders, Highlands, NC

- 10/97 University of Oregon, Eugene, OR
6/97 Symposium, Chemical Signals in Vertebrates, Ithaca, NY
4/97 University of Kansas, Lawrence, KS
12/96 SICB Symposium, Animal Behavior: Integration of Proximate and Ultimate Causation
6/96 International Symposium on Amphibian Endocrinology, Boulder
4/95 Auburn University, Auburn, AL
1/94 Symposium - Second World Congress of Herpetology; Australia

SOCIETY MEMBERSHIPS

American Association for the Advancement of Science
American Society Ichthyology and Herpetology
Animal Behavior Society
Herpetologists' League
International Society of Behavioral Ecology
Sigma Xi Scientific Society
Society for the Study of Amphibians and Reptiles
Society for the Study of Evolution

SOCIETY POSITIONS AND SERVICE

Co-Host, Animal Behavior Society, Annual Meetings, July 2001
Co-Chair, Conference on Plethodontid Salamanders; Sponsored by the Highlands Biological Station, Highlands, N.C., June 1998
Fellow, Animal Behavior Society, 1997
President, Soc. Study of Amphibians and Reptiles, 1994
Program Director, Animal Behavior Society, 1989-1992
Acting Editor, Journal of Herpetology, September 1988 - February 1989
Editorial Board, Journal of Herpetology, 1984-1992
Co-Chair, Conference on Plethodontid Salamanders; Sponsored by the Highlands Biological Station, Highlands, N.C., June 1992
Board of Directors, Soc. for Study of Amphibians and Reptiles, 1987-1992
Board of Directors, Amer. Society Ichthyology and Herpetology, 1984-1989
Nominations Committee, Amer. Society Ichthyology & Herpetology, 1985-1986
Chairperson, Conference on Plethodontid Salamanders; Sponsored by the Highlands Biological Station, Highlands, N.C., August 1982

THESES

Houck, L.D. 1975. Reproductive Biology of a Neotropical Salamander, *Bolitoglossa rostrata*. M.A. Thesis, Department of Zoology and Museum of Vertebrate Zoology, University of California at Berkeley.

Houck, L.D. 1977. Reproductive Patterns in Neotropical Salamanders. Ph.D. Dissertation, Department of Zoology and Museum of Vertebrate Zoology, University of California at Berkeley.

BOOKS

Houck, L.D. and L.C. Drickamer (Eds). 1996. Foundations of Animal Behavior: Classic papers with commentaries. University of Chicago Press.

Bruce, R.C., R. Jaeger, and L.D. Houck (Eds). 2000. The Biology of Plethodontid Salamanders. Kluwer Academic/Plenum Publishers, New York. 485 pp.

PUBLICATIONS

Houck, L.D. 1977a. The reproductive biology of a neotropical salamander, *Bolitoglossa rostrata* (Urodela: Plethodontidae). *Copeia* 1977(1):70-83.

Houck, L.D. 1977b. Life history patterns and reproductive biology of neotropical salamanders. Pp. 43-72 IN: Reproductive Biology of Amphibians, D.H. Taylor and S.I. Guttman, (Eds.), Plenum Press, NY.

Houck, L.D. 1980. Courtship behavior in the plethodontid salamander, *Desmognathus wrighti*. *Amer. Zool. (Abs.)* 20:825.

Houck, L.D. 1982. Growth rates and age at sexual maturity for the neotropical salamander, *Bolitoglossa subpalmata*. *Copeia* 1982(2):474- 478.

Arnold, S.J. and L.D. Houck. 1982. Courtship pheromones: evolution by natural and sexual selection. Pp. 173-211 IN: Biochemical Aspects of Evolutionary Biology, M. Nitecki (Ed.), Univ. Chicago Press, Chicago, IL.

Houck, L.D. 1982. Male tail loss and courtship success in the plethodontid salamander *Desmognathus ochrophaeus*. *J. Herpetol.* 16: 335-340.

Bennett, A.F. and L.D. Houck. 1983. The energetic cost of courtship and aggression in a plethodontid salamander. *Ecology* 64: 979-985.

Houck, L.D. and K. Schwenk. 1984. The potential for sperm competition in a plethodontid salamander. *Herpetologica* 40: 410-415.

Houck, L.D., S.J. Arnold and R.A. Thisted. 1985a. A statistical analysis of sexual selection in the plethodontid salamander *Desmognathus ochrophaeus*. *Evolution* 39: 370-386.

Sever, D.M. and L.D. Houck. 1985b. Preliminary observations on spermatophore formation in *Desmognathus ochrophaeus* (Plethodontidae). *Copeia* 1985: 394-402.

Houck, L.D., S.J. Arnold and S.G. Tilley. 1985c. Sperm competition in a plethodontid salamander: preliminary results. *J. Herpetol.* 19: 420-423.

Houck, L.D. 1986. The evolution of salamander courtship pheromones. IN: Chemical Signals in Vertebrates, Vol. IV: Ecology, Evolution, and Comparative Biology. D. Duvall, D. Muller-Schwarze and R.M. Silverstein (Eds.), Plenum Press, New York. Pp. 173-190.

Houck, L.D., S.J. Arnold and A.R. Hickman. 1988. Tests for sexual isolation in plethodontid salamanders (genus *Desmognathus*). *J. Herpetol.* 22:186-191.

- Houck, L.D. 1988. The effect of body size on male courtship success in a plethodontid salamander. *Animal Behavior* 36:837-842.
- Houck, L.D. and H. Francillon-Vieillot. 1988. Tests for age and size effects on mating success in plethodontid salamander. *Amphibia-Reptilia* 9:135-144.
- Marks, S.B., and L.D. Houck. 1989. Partial cost of spermatophore production in the salamander *Desmognathus ochrophaeus*. *J. Herpetol.* 23:81-84.
- Houck, L.D. and N.L. Reagan. 1990. Male courtship pheromones increase female receptivity in a plethodontid salamander. *Animal Behaviour* 39:729-734.
- Houck, L.D. and P.A. Verrell. 1993. Courtship behavior in plethodontid salamanders: A review. *Herpetologica* 49:175-184.
- Houck, L.D. and D.M. Sever. 1994. The Role of the Skin in Reproduction and Behavior. Pp. 351-381 IN: *Amphibian Biology, Vol. 1, The Integument*, H. Heatwole and G. Barthalamus (Eds.). Surrey Beatty and Sons, Chipping Norton, Australia.
- Houck, L.D. and S.K. Woodley. 1995. Field Studies of Steroid Hormones and Male Reproductive Behaviour in Amphibians. Pp. 677-703 IN: *Amphibian Biology, Vol. 2, Social Behaviour*. H. Heatwole and B. Sullivan (Eds.). Surrey Beatty and Sons, Chipping Norton, Australia.
- Houck, L.D., M. T. Mendonca, T.K. Lynch, and D.E. Scott. 1996. Courtship behavior and plasma levels of androgens and corticosterone in male marbled salamanders, *Ambystoma opacum* (Ambystomatidae). *Gen. & Comp. Endocrinology* 104:243-252.
- Houck, L. D., A. M. Bell, N. L. Reagan-Wallin and R.C. Feldhoff. 1998. Effects of experimental delivery of male courtship pheromones on the timing of courtship in a terrestrial salamander, *Plethodon jordani* (Caudata: Plethodontidae). *Copeia* 1998(1):214-219.
- Houck, L.D. 1998. Integrative studies of amphibians: From molecules to mating. *Amer. Zool.* (38):108-117.
- Feldhoff, R. C., S. M. Rollmann and L. D. Houck. 1999. Chemical Analyses of Courtship Pheromones in a Plethodontid Salamander. In: *Advances in Chemical Signals in Vertebrates*; pp 117-125; R. E. Johnston, D. Müller-Schwarze and P. Sorensen (Eds.). Kluwer Academic/Plenum Publishers, New York.
- Rollmann, S.M., Houck, L.D., and Feldhoff, R.C. 1999. Proteinaceous pheromone affecting female receptivity in a terrestrial salamander. *Science* 285, 1907-1909
- Rollmann, S. M., L. D. Houck and R. C. Feldhoff. 2000. Rollmann, S.M., L.D. Houck, and R.C. Feldhoff. 2000. Population variation in salamander courtship pheromones. *J. Chemical Ecology* 26(12):2713-2722.
- Wirsig-Wiechmann, C.R., Houck, L.D., Feldhoff, P.W. and Feldhoff, F.C. 2002. Pheromonal activation of vomeronasal neurons in plethodontid salamanders. *Brain Research Interactive*, 952: 335-344.

Harding, J. A., G. R. Almany, L. D. Houck and M.A. Hixon. 2003. Experimental Analysis of Monogamy in the Caribbean Cleaning Goby, *Gobiosoma evelynae*. *Animal Behaviour* 65:865–874.

Houck, L. D. and Arnold, S. J. 2003. Courtship and mating. Pp. 383-424 In: D. M. Sever (ed), *Phylogeny and Reproductive Biology of Urodela (Amphibia)*. Science Publishers, Enfield, New Hampshire. 627 pp.

Rollmann, S. M., L. D. Houck and R. C. Feldhoff. 2003. Conspecific and heterospecific pheromone effects on female receptivity. *Animal Behaviour*. 66:857-861.

Palmer, C.A. and L.D. Houck. 2004. Responses to sex- and species-specific chemical signals in allopatric and sympatric salamander species. In: R.T. Mason, M.P. LeMaster and D. Muller-Schwarze, (eds.), *Chemical Signals in Vertebrates*, 10. Kluwer Academic/Plenum Publishers, New York, NY. In Press.

Watts, R.A., C.A. Palmer, R.C. Feldhoff, P.W. Feldhoff, L.D. Houck, A.G. Jones, M.E. Pfrender, S.M. Rollmann and S.J. Arnold. 2004. Stabilizing selection on behavior and morphology masks positive selection on the signal in a salamander pheromone signaling complex. *Molecular Biology and Evolution*. In Press.