

GERLINDE HÖBEL

Behavioral and Molecular Ecology Group
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Professional Experience

Since 2010 Assistant Professor; University of Wisconsin-Milwaukee
 2007-2010 Lecturer /Adjunct Assistant Professor; University of Wisconsin-Milwaukee
 2005-2006 Post-doctoral Fellow, University of Missouri; Advisor: H.C. Gerhardt
 2003-2005 Post-doctoral Fellow, University of Missouri; Advisor: J. Schul

Education

2003 Dr. rer. nat. Neurobiology and Behavior, University of Ulm/ Germany
 Advisor: Dr. G. Ehret; *summa cum laude*
 1996 Diploma Biology, University of Ulm, Germany; Advisor: Dr. G. Ehret

Grants and Awards

2014/2015 UWM – Research Growth Initiative Grant, \$ 135 510,-
 2012/2013 UW-Madison/UW-Milwaukee Intercampus Research Incentive Grant, \$ 49 494-
 collaborative grant with Dr. C. Marler (UW Madison)
 2011/2012 UWM – Research Growth Initiative Grant, \$ 139 130,-
 2008/2009 UWM – Research Growth Initiative Grant, \$ 69 000,-
 2004/2005 DFG Research Grant Ho 3228/1-1, Germany; \$ 45 000,-
 2003/2004 Life Sciences Fellowship, University of Missouri
 2000/2002 State Graduate Fellowship Dissertation Grant; Germany
 2001 Travel grant, German Academic Exchange Service, Germany
 2000 Travel grant, University of Ulm, Germany
 1998/1999 Dissertation grant (HSP III), German Academic Exchange Service
 1993/1994 Integrated International Study Grant, German Academic Exchange Service

RESEARCH INTERESTS

- Behavioral Ecology
- Animal Communication
- Species Interactions
- Behavioral Plasticity
- Multimodal Signaling
- Signal Timing

Publications in Refereed Journals

2013	<p>Höbel, G. & R.C. Kolodziej. Wood frogs (<i>Lithobates sylvaticus</i>) use water surface waves in their reproductive behaviour. <u>Behaviour</u> 150:471-483.</p> <p>Rodríguez RL, Boughman JW, Gray DA, Hebets EA, Höbel G & Symes LB. 2013. Diversification under sexual selection: the relative roles of mate preference strength and the degree of divergence in mate preferences. <u>Ecology Letters</u> 16, 964–974.</p> <p>Rodríguez RL, Kolodziej RC & Höbel G. 2013. Memory of prey larders in golden orb-web spiders, <i>Nephila clavipes</i> (Araneae: Nephilidae). <u>Behaviour</u>, (in press)</p>
2012	<p>Rebar, D., G. Höbel & R. L. Rodríguez. Vibrational playback by means of airborne stimuli. <u>Journal of Experimental Biology</u> 215:3513-3518.</p> <p>Vélez A., G. Höbel, N. M. Gordon, M. A. Bee. Dip listening or modulation masking? Call recognition by green treefrogs (<i>Hyla cinerea</i>) in temporally fluctuating noise. <u>Journal of Comparative Physiology</u> 198: 891-904.</p>
2011	<p>Höbel, G. Variation in Signal Timing Behavior: Implication for Male Attractiveness and Sexual Selection. <u>Behavioral Ecology and Sociobiology</u> 65:1283-1294.</p> <p>Höbel, G. <i>Hyla cinerea</i>. Green Tree Frog. Cannibalism and Defensive Posture. <u>Herpetological Review</u> 42(1):85-86.</p>
2010	<p>Höbel, G. Interaction between signal position and signal feature preferences: causes and implications for sexual selection. <u>Animal Behaviour</u> 79: 1257-1266.</p> <p>Höbel, G. & A. Slocum*: <i>Hyla cinerea</i>. Green Tree Frog. Abnormal Vocal Sac. <u>Herpetological Review</u> 41(3): 335-336.*undergraduate author</p>
2007	<p>Höbel, G. & H.C. Gerhardt. 2007. Sources of Selection on Signal Timing in a Tree Frog. <u>Ethology</u>. 113: 973-982.</p> <p>Pröhl, H., S. Hagemann, J. Karsch & G. Höbel. 2007. Geographic variation in male sexual signals in Strawberry poison frogs (<i>Dendrobates pumilio</i>). <u>Ethology</u>. 113: 825-837.</p> <p>Höbel, G. & J. Schul. 2007. Listening for males and bats: spectral processing in the hearing organ of <i>Neoconocephalus bivocatus</i> (Orthoptera: Tettigoniidae). <u>Journal of Comparative Physiology A</u>. 193: 917-925.</p>
2006	<p>Robillard, T., G. Höbel & H. C. Gerhardt 2006. Evolution of advertisement signals in North American hylid frogs: Vocalizations as end-products of calling behavior. <u>Cladistics</u> 22: 533-545.</p>
2005	<p>Gerhardt, H. C. & G. Höbel. 2005. Mid-frequency suppression in the green treefrog (<i>Hyla cinerea</i>): implications for the evolution of acoustic communication. <u>Journal of Comparative Physiology A</u>. 191: 707-714.</p> <p>Höbel, G. 2005. <i>Rana clamitans</i> (Green Frog) and <i>Rana catesbeiana</i> (American Bullfrog). Reproduction. <u>Herpetological Review</u>, 36(4): 439-440.</p> <p>Höbel, G. 2005. On the Acoustic Communication System of <i>Eleutherodactylus fitzingeri</i> (Anura: Leptodactylidae). <u>Herpetological Review</u> 36(3): 242-244.</p>

	Höbel, G. 2005. <i>Rana palustris</i> and <i>Ambystoma maculatum</i> . Reproductive behavior. <u>Herpetological Review</u> 36(1): 55-56.
2003	Höbel, G. & Gerhardt, H. C. 2003. Reproductive character displacement in the communication system of green treefrogs (<i>Hyla cinerea</i>). <u>Evolution</u> 57: 894-904.
2000	Höbel, G. 2000. Reproductive Ecology of <i>Hyla rosenbergi</i> in Costa Rica. <u>Herpetologica</u> . 56(4): 446-454.
1999	Höbel, G. 1999. Facultative nest construction in the gladiator frog <i>Hyla rosenbergi</i> (Anura: Hylidae). <u>Copeia</u> , 1999(3): 796-800. Höbel, G. 1999. Notes on the natural history and habitat use of <i>Eleutherodactylus fitzingeri</i> (Anura: Leptodactylidae). <u>Amphibia-Reptilia</u> 20: 65-72.

Submitted Manuscripts

Kim, D.S. & **G. Höbel**. Sexy neighbors –socially mediated choice of alternative mating tactics in *Hyla versicolor*. submitted to Animal Behavior

Höbel G., D.S. Kim, & D.P. Neelon: Do green treefrogs eavesdrop on prey calls? submitted to Journal of Herpetology

Book chapters

Höbel, G. 2008. The Amphibians and Reptiles of the Golfo Dulce Region. *In*: Natural and Cultural History of the Golfo Dulce Region, Costa Rica. Pp. 305-328. Biologiezentrum der OÖ Landesmuseen, Austria.

Höbel, G. 2008. Plasticity and Geographic Variation in the Reproductive Ecology of Gladiator Frogs, particularly *Hypsiboas rosenbergi*. *In*: Natural and Cultural History of the Golfo Dulce Region, Costa Rica. Pp 329-334. Biologiezentrum der OÖ Landesmuseen, Austria.

TEACHING

(1) Courses developed and taught at UWM-Milwaukee (since Spring 2007)

- *BioSci 150 Fundamentals of Biological Sciences I* – Lab coordination
- *BioSci 152 Fundamentals of Biological Sciences II* – Animal portion lectures
- *BioSci 310 General Ecology* - Lecture and Lab
- *BioSci 599 Ecology and Evolution of Amphibia* – Lecture and Discussion
- *BioSci 670 Senior Seminar* (“Amphibian Diversity, Decline and Conservation”)
- *BioSci 929 Graduate Seminar* (“Animal Communication”)
- *BioSci 929 Graduate Seminar* (“Sexual Selection & Adaptation”; co-taught w. R. Rodríguez)
- *BioSci 929 Graduate Seminar* (“Ecology & Evolution of Sound & vibration” w. R. Rodríguez)
- *CES 490 Senior Seminar* (“Conservation Biology of Amphibians and Reptiles”)

(2) Lab manuals written new or substantially revised at UWM-Milwaukee (since Spring 2007)

- Developed new lab section for the General Ecology class; this involved developing and writing

- 12 completely new lab manuals
- Revamped the labs for the Fundamentals of Biological Sciences I class; this involved substantial revision or completely new development of 12 lab manuals

ACADEMIC ADVISING

Graduate students:

Sonyoung (Diana) Kim (MS student, UW–Milwaukee 2008-2012)
 Robb Kolodziej (MS student, UW–Milwaukee, since 2008)
 Daniel Neelon (PhD student, UW–Milwaukee, since 2010)

Participation on thesis and dissertation committees:

Amberleigh Henschen (PhD student, UW-Milwaukee)
 Joey Kilmer (MS student, UW–Milwaukee)
 Darren Rebar (PhD student, UW-Milwaukee)
 Brian Hess (MS student, UW–Milwaukee)
 Robert Bogardus (PhD student, UW-Milwaukee)

Undergraduate research mentoring:

2008: Kathryn Ciardo, Lauren DeChant, Wonseok Jang, Jessica Nowicki, Racquel Racadio,
 2009: Phillip Beaudry, Aaron DeWitt, Megan Helt-Baldwin, Wonseok Jang,
 Victoria Smejkal, Stephanie Waldren.
 2010: Phillip Beaudry, Elliot Ehlers, Nicole Endres, Elise Gundlach, Felicia Provost, Patrick
 Walsh, Jessica Prepodnik, Derek Leo, Kelly Gebauer, Kevin Mueller
 2011: Kevin Mueller, Samuel Fellows, Ashley Christy, Timothy Barta
 2012: Samuel Fellows, Tang Xiong, Kevin Sayavong, Paul Mueller, Jared Novak,
 Holland Galante, Kassi Kosnicki, John James
 2013: Holland Galante, John James, Kevin Sayavong, Chris Suchocki, Chris Lang,
 Juan Orjuela (WiscAMP STEM Scholar)

INVITED TALKS

2012 Wellesley College, Boston, USA
 2011 University of Nebraska, Lincoln, USA
 2009 University of Costa Rica, Costa Rica
 University of Wisconsin-Oshkosh, USA
 University of Wisconsin-Madison, USA
 University of Wisconsin-Whitewater, USA
 2008 University of Tours, France
 University of Minnesota – Twin Cities, USA
 2006 University of Wisconsin-Milwaukee, USA
 2005 Smithsonian Tropical Research Institute, Panama City, Panama

Papers presented at professional meetings

- Modality interactions change mate preferences in a treefrog
Animal Behavior Society Meeting, Boulder, CO, USA (2013)
- How much lead do you need? Investigating leader preferences in a treefrog
Animal Behavior Society Meeting, Albuquerque, NM, USA (2012)
- How individual variation contributes to population-level preference functions
Animal Behavior Society Meeting, Bloomington, IN, USA (2011)
- Individual Variation in Female Preferences
Invertebrate Sound and Vibration Conference, Columbia, MO, USA (2011)
- Variation in signal timing and its implications for male attractiveness
Animal Behavior Society Meeting, Williamsburg, VA, USA (2010)
- Call order modifies mating call preferences in female Green Tree Frogs (*Hyla cinerea*)
Animal Behavior Society Meeting, Snowbird, Utah, USA (2008)
- Processing of behaviorally relevant sound frequencies by auditory receptors in the katydid
Neoconocephalus bivocatus (Orthoptera: Tettigoniidae)
Animal Behavior Society Meeting, Oaxaca, Mexico (2004)
- Reproductive character displacement in the green treefrog
Midwest Animal Behavior Society Meeting, Columbia, USA (2001)
- Reproductive character displacement of frequency selectivity in female green treefrogs.
Animal Behavior Society Meeting, Atlanta, USA (2000)
- Amphibians of Germany
Missouri Herpetological Association Meeting; Lay Biological Station (1999)
- Reproductive Character Displacement in *Hyla cinerea*?"
South-Central Evolution and Behavior Conference; Univ. of Oklahoma Biol. Station (1999)
- Reproductive Character Displacement in the green treefrog
Welder Wildlife Foundation Symposium, Sinton, TX (1999)

SERVICE*Judged Student Presentations (Posters & Talks) for:*

- UWM Biological Sciences Research Symposium (2011, 2012, 2013)
Animal Behaviour Society (2012)

Reviewed manuscript for:

- Animal Behaviour, Amphibia-Reptilia, Behavioral Ecology, Caribbean Journal of Science, Copeia, Current Zoology, **Ethology**, Journal of Herpetology, Zoological Journal of the Linnean Society, Naturwissenschaften

Reviewed textbook chapters for:

- Smith & Smith: "Elements of Ecology", 7th edition; Benjamin Cummings (Publ.) (3 chapters)

Reviewed M.S. thesis for:

- 2008 MAGS Distinguished Master's Thesis Award Competition

PROFESSIONAL AFFILIATIONS

Society for the Study of Evolution
Animal Behaviour Society
The Herpetologists' League

Society for the Study of Amphibians and Reptiles
American Society of Ichthyologists and Herpetologists
Societas Europea Herpetologica

PUBLIC OUTREACH ACTIVITIES*Talks / Presentations*

- 2013 “Frog Communication” Gottfried Prairie and Arboretum, UW-Fond du Lac, Fond du Lac
- 2012 “Frog Communication” Science for Everyone Series, Riveredge Nature Center, Newburg
- 2009 “Frog Talk” Talk about communication in Frogs at the Urban Ecology Center, Milwaukee
- 2008 “Amphibian Decline” Talk at the Milwaukee County Zoo
- 2007 “Anuran Communication” Research Talk for UWM BioClub
- 2006 - “The Fishes of Columbia” Poster presentation for Flatbranch Watershed Conservation Fest
- “The Fishes of Columbia” Poster for the Columbia Watershed Education Coordinator
- Fish Survey Team Leader; Bioblitz Columbia; Columbia, MO (Spring & Fall Bioblitz)
- 2005 Volunteer; Bioblitz Columbia; Columbia, MO

Publications in journals for the general public (german / english)

- Höbel, G.** 2007: Treasure Islands – looking for Poison Arrow Frogs at Bocas del Toro Archipelago, Panama. Reptiles Magazine, 2007(3):80-87.
- Höbel, G.** 2006: The Amphibians of Germany. Reptiles Magazine, 2006(12):44-53.
- Höbel, G.** 2006: Der Gladiatorfrosch. DATZ, 59(2): 54-56.
- Höbel, G.** 2005: Keeping Dwarf Clawed Frogs. Tropical Fish Hobbyist, 2005(9):96-100.
- Höbel, G.** 2005: Prächtiger Nordamerikaner - Der Grossehr Sonnenbarsch. DATZ, 58(7):60-63.
- Höbel, G.** 2005: Der Orangekehl Springbarsch – ein empfehlenswerter Kaltwasserfisch aus Nordamerika. Aquaristik Aktuell 2005(2):61-64.
- Höbel, G.** 2004: Fortpflanzungsstrategien Costaricanischer Anuren I. DATZ, 57(7):38-42.
- Höbel, G.** 2004: Fortpflanzungsstrategien Costaricanischer Anuren II. DATZ, 57(8):24-28.
- Höbel, G.** 2003: Glasfrösche – zarte Juwelen des Regenwalds. DATZ, 56(7):6-9.
- Höbel, G.** 2002: Zwergkrallenfrösche im Aquarium. DATZ, 55(5): 58-59.
- Höbel, G.** 1999: Die Zwergbaumsteiger des Bocas-del-Toro-Archipels. DATZ, 52(1): 42-46.

LANGUAGES

German, English (fluent), Spanish (fluent)

OTHER INTERESTS

Schutzhund, Nature photography, Fishing, Stained Glass / Glass Jewelry