

Brett Matthew Gibson, Ph. D.

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Academic and Professional Experience

Assistant Professor, Psychology Department, University of New Hampshire, 9/1/03 to Present.

Postdoctoral Fellow, University of Iowa, 9/1/01- 9/1/03
(Supervisor – Edward A. Wasserman)

Postdoctoral Fellow, University of Toronto, 9/1/99-9/1/01
(Supervisor – Sara J. Shettleworth)

Education

University of Nebraska, Lincoln, NE, 9/1/95-9/1/99, Ph.D. in Psychology, granted 9/1/99, Dissertation conducted under the supervision of Alan C. Kamil: “Way Finding by Clark’s nutcrackers (*Nucifraga columbiana*) and humans: an assessment of the spatial information used during landmark navigation and the flexibility of some navigational systems.”

Bucknell University, Bucknell, PA, 9/1/93-6/1/95, M.S. in Animal Behavior, granted 6/95. Thesis conducted under the supervision of Owen R. Floody: “Time course of VMN lesion effects on lordosis and ultrasound production in hamsters.”

University of Minnesota, Morris, MN, 9/1/87-6/1/91, B.A. in Psychology, granted 6/1/91, Honors: Graduation with distinction, three time annual ‘Scholar of the College’ award winner.

RESEARCH

General interests: animal behavior and cognition, neurobiology, evolution

Specific interests: spatial memory and navigation, neurobiology of spatial systems, attention and perception in animals

Publications (numbers in parenthesis indicate journal impact factors)

Gibson, B. M. & Kamil, A. C. (accepted). Can the study spatial memory in Corvids be used as a model of testing Tinbergen's four questions? *Behavioral Processes*.

Gibson, B. M., Leichtman, M., & Costa, R. (in press). The use of geometric information improves with development for a 2-D memory task. *Learning and Motivation* (1.85)

*Gibson, B. M. & Wilks, T. (in press). Clark's nutcrackers use a sense of direction during search for a goal. *Animal Behaviour* (2.71).

*Gibson, B. M., Wilks, T., & Kelly, D. (2007). Rats learn to use geometry cues during search for a goal. *Journal of Comparative Psychology*, 121, 130-144. (1.57)

*Gibson, B. M., Wasserman, E. A., & Kamil, A. C. (2007). Pigeons and people select efficient routes when solving a one-way "traveling salesperson" task. *Journal of Experimental Psychology: Animal Behavior Processes*, 33, 244-261. (2.34)

Kelly, D., & Gibson, B. M. (2007). Spatial Navigation: Orienting in Real and Virtual Environments. *Comparative Cognition and Behavior Reviews*, 2, 111-124. (new)

*Gibson, B. M., Lazareva, O. F., Wasserman, E. A., Gosselin, F., & Schyns, P. G. (2007). Geons and bubbles: object recognition by pigeons. *Current Biology*, 1, 1-5. (14.3)

Gibson, B. M., Leichtman, M., Kung, D., Simpson, M. (2007). Use of landmark features and geometry by children and adults during a two-dimensional search task. *Learning and Motivation*, 38, 89-102. (1.85)

Gibson, B. M., Wasserman, E. A., & Cook, R. G. (2006). Not all same-different discriminations are created equal: Evidence contrary to a unidimensional account of same-different learning. *Learning and Motivation*, 37, 189-208. (1.85)

*Gibson, B. M., & Shettleworth, S. J. (2005). Place vs. response learning revisited: Tests of blocking on the radial maze. *Behavioral Neuroscience*, 119(2), 567-586. (2.97)

*Gibson, B. M., Wasserman, E. A., Gosselin, F., & Schyns, P. G. (2005). Applying bubbles to localize features that control pigeons' visual discrimination

behavior. *Journal of Experimental Psychology: Animal Behavior Processes*, 31(3), 376-382. (2.34)

Gibson, B. M., Juranovich, I., Shettleworth, S. J., Pratt, J., & Klein, R. (2005). Looking for inhibition of return (IOR) in the pigeon. *Learning & Behavior*, 33(3), 296-308. (1.85)

Gibson, B. M., & Kamil, A. C. (2005). The fine-grained spatial abilities of three seed-caching corvids. *Learning & Behavior*, 33, 59-66. (1.85)

Gibson, B. M., & Wasserman, E. A. (2004). Time-course of control by identity and relational cues during same-different discrimination training. *Learning & Behavior*, 32, 183-189. (1.85)

Gibson, B. M., & Wasserman, E. A., Frei, L., & Miller, K. (2004). Recent advances in operant conditioning technology: A versatile and affordable computerized touchscreen system. *Behavior Research Methods Instruments and Computers*, 36(2), 355-362. (0.97)

Gibson, B. M., & Shettleworth, S. J. (2003). Competition among spatial cues in a naturalistic food carrying task. *Learning & Behavior*, 31, 143-159. (1.85)

*Gibson, B. M., & Wasserman, E. A. (2003). Pigeons learn stimulus identity and stimulus relations when both serve as redundant, relevant cues during same-different discrimination training. *The Journal of Experimental Psychology: Animal Behavior Processes*, 29, 84-91. (2.34)

*Gibson, B. M., & Kamil, A. C. (2001). Tests for cognitive mapping in Clark's nutcrackers (*Nucifraga columbiana*). *Journal of Comparative Psychology*, 115, 403-417. (1.57)

Gibson, B. M. (2001). Cognitive maps not used by humans (*Homo sapiens*) during a dynamic navigational task. *Journal of Comparative Psychology*, 115, 397-402. (1.57)

Gibson, B. M., & Kamil, A. C. (2001). Search for a hidden goal by Clark's nutcrackers (*Nucifraga columbiana*) is more accurate inside than outside a landmark array. *Animal Learning & Behavior*, 29, 234-249. (1.85)

Gibson, B. M., Shettleworth, S. J., & McDonald, R. J. (2001) Finding a goal on dry land and in the water: Differential effects of disorientation on spatial learning. *Behavioural Brain Research*, 123, 103-111. (5.60)

Gibson, B. M., & Floody, O. E. (1998). Time course of VMN lesion effects on lordosis and ultrasound production in hamsters. *Behavioral Neuroscience*, 112, 1236-1246. (2.97)

Kemble, E. D., & Gibson, B. M. (1992). Avoidance and hypoalgesia induced by novel odors in mice. *The Psychological Record*, 42, 555-563. (0.51)

Kemble, E. D., Gibson, B. M., & Rawleigh, J. M. (1991). Effects of eltoprazine hydrochloride on exploring behavior and social attraction in mice. *Pharmacology, Biochemistry and Behavior*, 38, 759-762. (2.09)

Kemble, E. D., Behrens, M., Rawleigh, J. M., & Gibson, B. M. (1991). Effects of yohimbine on isolation-induced aggression, social attraction, and conspecific odor preference in mice. *Pharmacology, Biochemistry and Behavior*, 40, 781-785. (2.09)

Rawleigh, J. M., Gibson, B. M., & Kemble, E. D. (1990). Effects of yohimbine on novel open field exploration of mice. *Bulletin of the Psychometric Society*, 28, 424-425. (7.79)

Kemble, E. D., Meek, L. R., & Gibson, B. M. (1989). Effects of fluprazine hydrochloride on three aversively motivated tasks. *The Psychological Record*, 39, 573-581. (0.51)

Meek, L. R., Kemble, E. D., & Gibson, B. M. (1989). Effects of fluprazine hydrochloride on reactivity to a non-conspecific intruder. *The Psychological Record*, 39, 203-210. (0.51)

Invited Presentations

Gibson, B. M. (2007). The spatial cognitive abilities of three corvid birds. Fall meeting of the Audubon society, Newcastle, NH

Gibson, B. M. Lazareva, O. F., Wasserman, E. A., Gosselin, F., Schyns, P. G., & Biederman, I. (2005). Use of the Bubbles Procedures to Isolate the Visual Features Controlling Categorical Behavior in People and Pigeons. Paper presented at the Vision Science Society Conference in Sarasota, FL.

Gibson, B. M. (2004). An examination of the spatial behavior of three species: the Clark's nutcracker, the black hooded rat, and the feral pigeon. UNH Zoology Department Seminar, Durham, NH.

Gibson, B. M. (2003). Places and faces: spatial learning and categorization by animals. Paper presented at the University of Iowa's Department of Psychology Brown Bag series, Iowa City, Iowa.

Conference Presentations

Gibson, B. M., Tornick, J. (2008). Test of metamemory and inference by exclusion in the Clark's nutcracker. Paper presented at the annual meeting of the Comparative Cognitive Society, Melbourne, FL.

Wilks, T. & Gibson, B. M. (2007). Sense of direction in the Clark's nutcracker: The use of geocentric and egocentric cues. Paper presented at the annual meeting of the Animal Behavior Society, Burlington, VT.

Kennell, A., Scott, M., & Gibson, B. M. (2007). Spatial learning cues and acquisition time in two rodent species occupying different habitats. Paper presented at the annual meeting of the Animal Behavior Society, Burlington, VT.

Gibson, B. M., Wilks, T., & Kelly, D. (2007). Rats learn to use geometry cues during search for a goal. Paper presented at the annual meeting of the Comparative Cognitive Society, Melbourne, FL.

Gibson, B. M., Leichtman, M., Kung, D., & Simpson, M. (2005). The use of feature and geometry cues during a 2-D search task by adults and children. Paper presented at the annual meeting of the Comparative Cognitive Society, Melbourne, FL.

Wasserman, E. A., Lazareva, O. F., Gibson, B. M., Gosselin, F., Schyns, P. G., & Biederman, I. (2004). Geons and bubbles: Object recognition by pigeons. Poster presented at the annual meeting of the Vision Science Society, Sarasota, FL

Gibson, B. M., Wasserman, E. A., & Kamil, A. C. (2004). Do pigeons solve the traveling salesperson salespigeon problem? Paper presented at the annual meeting of the Comparative Cognitive Society, Melbourne, FL.

Gibson, B. M., Wasserman, E. A., Gosselin, F., & Schyns, P. G. (2003). Pigeons use specific and consistent features to discriminate human faces. Paper presented at the annual meeting of the Psychonomic Society, Kansas City, MO.

Gibson, B. M., Shettleworth, S. J., & McDonald, R. J. (2002). Finding a goal on dry land and in the water: differential effects of disorientation on spatial learning. Poster presented at the annual Animal Behavior Society conference, Bloomington, IN.

Shettleworth, S. J., & Gibson, B. M. (2002). Associations, maps, and modules in spatial learning: New experiments with rats. Paper presented at the conference for the Society for the Quantitative Analyses of Behavior (SQAB). Montreal, Canada.

Gibson, B. M., & Wasserman, E. A. (2002). Pigeons learn both stimulus identity and stimulus relations during a same-different discrimination task. Paper presented at the annual meeting of the Comparative Cognitive Society, Melbourne, FL.

Gibson, B. M., & Shettleworth, S. J. (2001). Place vs. response learning revisited: Parallel learning on the radial maze. Paper presented at the annual meeting of the Comparative Cognitive Society, Melbourne, FL.

Gibson, B. M., & Shettleworth, S. J. (2001). Place and response learning on the radial maze. Paper presented at a bi-monthly meeting of the Learning and Biology group at the University of Toronto, Toronto, ON

Gibson, B. M. (2000). Use of vectors but not cognitive maps by Clark's nutcrackers and humans. Paper presented at the annual meeting of the Comparative Cognitive Society (CCS), Melbourne, FL.

Gibson, B. M., & Kamil, A. C. (1998). Getting there from here: Do Clark's nutcrackers have cognitive maps?. Paper presented at the annual meeting of the Animal Behavior Society (ABS), Carbondale, Ill.

Gibson, B. M., & Floody, O. R. (1997). Time course of VMN lesion effects on lordosis and ultrasound production. Poster presented at the annual meeting of the Society for Neuroscience, New Orleans, LA.

Gibson, B. M., & Floody, O. R. (1997). Time course of VMN lesion effects on lordosis and ultrasound production. Poster presented at the annual meeting of the Society for Neuroscience, New Orleans, LA.

Gibson, B. M., & Kamil, A. C. (1997). The use of an operant psychophysical task

to estimate the spatial discriminative abilities of three Corvid species.

Poster presented at the annual meeting of the Nebraska Behavioral and Biology Group, Lincoln, NE.

Gibson, B. M., & Kamil, A. C. (1996). Investigations of spatial memory in Clark's nutcrackers using an open field matching-to-sample paradigm. Poster presented at the annual meeting of the Animal Behavior Society, Flagstaff, AZ.

Gibson, B. M., & Kamil, A. C. (1996). Clark's nutcrackers use relative geometry to search for hidden goal in an open field. Poster presented at the annual meeting of the Nebraska Behavioral and Biology Group, Lincoln, NE.

Gibson, B. M., & Kemble, E. D. (1990). Effects of eltoprazine hydrochloride on exploring behavior and social attraction in mice. Paper presented at the annual meeting of the Midwestern Psychological Association, Midland, MI.

Gibson, B. M., & Kemble, E. D. (1988). Effects of fluprazine hydrochloride on reactivity to a non-conspecific intruder. Paper presented at the meeting of the National Conference on Undergraduate Research, Asheville, NC.

Grants/Awards

- 2007 – NSF Career Grant, Investigations of spatial planning in Corvid birds. Submitted 7.17.07 (\$900,000), not funded
- 2007 – UROP stipend awarded to Max Mehlman (\$1500)
- 2007 – UROP stipend awarded to Maria Clara Zocolli (\$500)
- 2007 – SURF stipend awarded to Amanda Bemis (\$4700)
- 2005 – NIMH (R03-BSTART), Investigations of IOR in the Pigeon. Submitted 2.1.06, (\$50,000), not funded
- 2005 – UNH President's Fellowship, An examination of possible genetic contributions to spatial and non-spatial memory. Submitted 1.15.06 (\$50,000), not funded
- 2005 – Human Frontier Science Program application, Orienting mechanisms: an ontogenetic and phylogenetic study. Submitted 1.15.05 (\$500,000), not funded
- 2005 – Summer Faculty Fellowship from the UNH Graduate School (\$5230)
- 2005 – UROP stipend awarded to Grant Monroy for fall of 2005 (\$1000)
- 2004 – UROP stipend awarded to Mike Simpson and Debbie Kung (student Honors Students) for spring of 2005 (\$800)
- 2004 – Faculty Technology Summer Institute Conference (\$2,000)
- 2004 – UROP stipend awarded to Arielle Cecalea (student Research Assistant) for fall of 2004 (\$500)

TEACHINGCourses taught as primary instructor

<i>Course</i>	<i>Mean Student Evaluation Score (out of 5)</i>
Introductory Psychology	not available
Biopsychology	not available
Research Methods	4.33 (n=2)
Animal Cognition/Behavior	4.72 (n=9)
Navigation (graduate)	4.5 (n=1)
Learning (undergraduate)	4.43 (n=3)
Learning (graduate)	4.71 (n=1)

Training

2008: Seminar on classroom discussion techniques, sponsored by the Center for teaching Excellence at UNH

2008: Seminar on teaching writing intensive courses, sponsored by the Center for teaching Excellence at UNH

2006: Seminar on the proper use of Microsoft Powerpoint, sponsored by the Center for teaching Excellence at UNH

2005: Seminar on the evaluation of performance and Classroom Activity Exercises (CATs), sponsored by the Center for teaching Excellence at UNH

2004: (summer): Faculty Instructional Technology Summer Institute

MENTORSHIPGraduate Students

2007 - present: Jan Tornick

2004 - present: Tyler Wilks

Undergraduate StudentsIndependent study students

Spring 2008: Kasandra Babineau

Spring 2008: Andrea Simoneau

Spring 2008: Jordan Zywiec

Summer 2007: Max Mehlman

Spring 2007: Lindsay Kirby

Summer 2006: Kimberly Gilbert

Summer 2006: Lindsay Kirby
Spring 2006: Cat Rust
Spring 2005: Amanda Woollett
Spring 2005: Maura Ciasulli
Spring 2004: Felica McGowan

Undergraduate Research Opportunities Program (UROP) Students

2007-2008: Max Mehlman
2006-2007: Maria Clara Zoccoli
2004-2005: Grant Monroy
2004-2005: Mike Simpson
2004-2005: Debbie Kung
2004-2005: Arielle Cecalia

Summer Undergraduate Research Program (SURF) Students

2008: Max Mehlman
2007: Amanda Bemis

Honors Students

2007-2008: Lowell Burton
2007-2008: Amanda Bemis
2007-2008: David Kispert
2006-2007: Alisha Kennel
2006-2007: Maria Clara Zoccoli
2006-2007: Rachel Costa
2004-2005: Mike Simpson
2004-2005: Debbie Kung

Research Assistant Volunteers

2008-2009: Amy Morgan
2007-2008: Max Mehlman
2007-2008: Jordan L Zywiec
2006-2007: Lindsay Kirby
2006-2007: Allison Bryan
2005-2006: Cat Rust
2005-2006: Nahal Saheli
2004-2005: Claire Zoccoli
2004-2005: Grant Mahoney
2004-2005: Meghan Powers
2004-2005: Maria Zoccoli
2004-2005: Tim Stetson
2003-2004: Tia Marola
2003-2004: Tom Conomacos

SERVICE

Ad hoc Reviewer

Behavior Research Methods, Instruments, & Computers

Journal of Comparative Psychology

Trends in Cognitive Science

Behavioural Processes

Animal Cognition

Cognition

Journal of Experimental Psychology: Animal Behavior Processes

Journal of Experimental Biology

Learning & Motivation

National Science Foundation

Ad hoc reviewer and invited to be a panel member – declined due to grant submission conflict

Austrian Science Fund (FWF)

University Community

2008: Judge for UNH Graduate Student Paper Competition

2007: Departmental Election Committee, Chair

2007: Psychology Department Technology Committee (FACTEC), Chair

2005 – present: Institutional Animal Care and use Committee (IACUC), Member

2006: UNH Freshman Camp Faculty Day, Speaker

2006 (summer): IACUC, Interim Chair

2005- 2006: Psychology Department Colloquium Committee, Member

2005- 2007: Psych Club Faculty Representative

2005- 2007: Psychology Department Undergraduate Program Committee (UPDOC), Member

2004-2005: Member of the Ad Hoc Committee on Pre-Medical, Pre-Dental, and Pre-Veterinary Education, Member

2004-2005: Psychology Department Graduate Program Committee (GRAPDOC), Member

2003-2004: Campus Alcohol, Tobacco, and other Drug use Committee, Member

2003: Psychology Department behavioral neuroscience faculty search committee, Member

PROFESSIONAL SOCIETIES

Animal Behavior Society

Comparative Cognition Society

RESEARCH FEATURED IN POPULAR MEDIA

National Geographic TV (Spring, 2008) – Pigeon cognition

Boston Globe (March, 2007)

Union Leader (February, 2007) – Pigeon perception

University of New Hampshire Magazine (Winter, 2007) - Clarks' nutcracker navigation

Monitor on Psychology (September, 2007) – Traveling salesman problem

ABCNEWS.com (October, 2006) – Clarks' nutcracker spatial memory