

CURRICULUM VITAE: WADE BOLTON WORTHEN

PERSONAL:

Wade Bolton Worthen
Biology Department
Furman University
Greenville, SC 29613
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EDUCATION:

1988: Ph. D. Ecology, Rutgers-The State University of New Jersey, New Brunswick, NJ.
1985: M. S. Ecology, Rutgers-The State University of New Jersey, New Brunswick, NJ.
1982: B. S. Biology, Bucknell University, Lewisburg, PA.

PROFESSIONAL EXPERIENCE:

Positions:

2021 – present: Rose J. Forgione Professor of Biology, Furman University
2001 - present: Professor of Biology, Furman University
2001 - 2005: Adjunct Professor of Biology, Clemson University
1994 - 2001: Associate Professor of Biology, Furman University
1988 - 1994: Assistant Professor of Biology, Furman University
1983 - 1988: Graduate Teaching Assistant, Rutgers University

Courses Taught at Furman University:

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|---------------------------------------|---|
| BIO 075 - Seminar in Biology | BIO 342 - Tropical Ecology (Costa Rica) |
| BIO 102 - Biology and the Environment | BIO 343 - Environmental Systems |
| BIO 111 - Foundations of Biology | BIO 421 - Invertebrate Zoology |
| BIO 220 - Genetics | BIO 440 - Population Genetics and Evolution |
| BIO 221 - Research and Analysis | EST 301 - Environment and Society |
| BIO 230 – The Nature of Diversity | FYW 1200 – Competition in Nature and Culture |
| BIO 250 - Darwin and the Galapagos | FYW 1127 – Walk the Land |
| BIO 255 - Insect Diversity (MayX) | FYW 1272 – Biodiversity: The Other Earthlings |
| BIO 340 - Ecology | |

HONORS:

2021 – present: Rose J. Forgione Professor of Biology

2014 - 2017: Furman Standard Award, Furman University

1994 - 1996: Henry and Ellen Townes Research Professor, Furman University

SOCIETY MEMBERSHIPS and DUTIES:

Current:

World Dragonfly Association (Subject Editor, *International Journal of Odonatology*)

Dragonfly Society of the Americas

Past:

Association of Southeastern Biologists (Subject Editor for *Southeastern Naturalist* for 3 years)

Entomological Society of America (Subject Editor for the *Journal of Insect Science* for 3 years)

Insects (Special Issue Editor: Odonates in Human Environments)

GRANTS:

UNITED STATES FOREST SERVICE

2025-2027: “Hurricane Helene Disaster Recovery Survey of Odonata in West South Carolina” - \$38,000

UNITED STATES STATE DEPARTMENT

2023: Fulbright Scholars Program: “The effects of forest restoration on odonate communities in biological corridors of Costa Rica” - \$32,020.

NATIONAL SCIENCE FOUNDATION

1994-5: Div. of International Programs: International Post-doctoral Fellowship: "Causes of latitudinal diversity patterns" -\$19,800

1991-2: ILI "Equipment for Introductory Courses." L. K. Thompson, co-coordinator. -\$21,973

ENVIRONMENTAL PROTECTION AGENCY

1996-7: "Paris Mountain Watershed Laboratory: A Long Term Study" with K. Sargent, B. Andersen, and R. Kerstetter -\$33,200

RESEARCH AND PROFESSIONAL GROWTH GRANTS (FU)

2014-17: “The Effect of Competition and Predation in Dragonfly Communities: Tropic vs. Temperate Comparisons” - FURMAN STANDARD AWARD - \$9000

2011-12: "Biological Inventory at Furman Forest: Birds, Beetles, and Moths" - \$1543
2010-11: "Survey of Dragonflies at State Parks" - \$1047
2009-10: "All Taxa Biological Inventory at Furman Forest: Terrestrial Mammals" - \$1260
2008-9: "Competition between dragonfly species: Does size matter?" - \$1088
2005-6: "Morphological and metabolic correlates of resource use among dragonflies" - \$1155
2000-1: "Effect of sediment type on dragonfly larvae" - \$680
1999-0: "Classification of larval dragonflies" - \$700
1998-9: "Thermal ecology of woodland *Drosophila* species" - \$595
1993-4: "Interactive effects among the determinants of community structure" - \$500
1991-2: "The effects of competition and predation on the structure of mycophagous fly communities" - \$1000
1990: Knight Foundation, Summer Research Stipend: "Competition, predation, and the structure of mycophagous fly communities" - \$3000
1990-1: "Competition, predation, and the structure of fly communities" - \$650
1989-90: "Coexistence among fly species in model communities" - \$1638

PEER-REVIEWED PUBLICATIONS (* = undergraduate co-author):

- Worthen, W. B., and M. Guevara-Mora. 2025. Habitat associations of riverine odonates near La Fortuna, Costa Rica: effects of stream size and landscape context. *International Journal of Odonatology*, 28: 7182. <https://doi.org/10.48156/1388.2025.1917325>
- Worthen, W. B., and M. Guevara-Mora. 2024a. The effects of light environment on adult odonate communities in disturbed and intact forest: The importance of small-scale effects. *Diversity* 2024, 16, 557. <https://doi.org/10.3390/d16090557>
- Worthen, W. B., and M. Guevara-Mora. 2024b. A comparison of odonate communities in primary and secondary cloud forest at Santa Elena Cloud Forest Reserve, Monteverde, Costa Rica. *Notulae odonatologicae* 10: 129-140. <https://doi.org/10.60024/nodo.v10i4.a3>
- Frawley*, K., D. Bakkes, and W. B. Worthen. 2024. The effects of habitat and climate on tick abundance and diversity on a game reserve in the Limpopo Province, South Africa. *International Journal of Acarology* Mar 2024. DOI: [10.1080/01647954.2024.2323533](https://doi.org/10.1080/01647954.2024.2323533)
- Worthen, W. B., and M. D. Harrell*. 2023. Differences in perch height and response to intruders for territorial and non-territorial *Calopteryx maculata* (Odonata: Calopterygidae). *International Journal of Odonatology*, 26: 145-152. <https://doi.org/10.48156/1388.2023.1917220>
- Worthen, W. B., R. K. Fravel*, and C. P. Horne*. 2021. Downstream changes in odonate (Insecta: Odonata) communities along a suburban to urban gradient: untangling natural and anthropogenic effects. *Insects* 12(3): 201. <https://doi.org/10.3390/insects12030201>
- Worthen, W. B., and M. G. Chamlee*. 2020. Determinants of adult odonate community structure at several spatial scales: effects of habitat type and landscape context. *International Journal of Odonatology*, 23:365-379. <https://doi.org/10.1080/13887890.2020.1796831>.

- Rasmussen, P.R., J.A. Self*, L. Few*, and W. B. Worthen. 2019. Sibling niches and the diagnosis of attention-deficit hyperactivity disorder. *The Journal of Individual Psychology*, 75:104-121. <https://doi.org/10.1353/jip.2019.0010>
- Worthen, W. B. 2018. Differences in male-male tandem formation in two species of *Micrathyria* (Odonata: Libellulidae). *Notulae Odonatologicae* 9(2) 2018: 60-66. <https://doi.org/10.5281/zenodo.1481073>
- Worthen, W. B. 2018. Confirming the relationship between body size and perch height in tropical odonates (Odonata: Libellulidae): wet-season contrasts and experimental tests. *International Journal of Odonatology* 21:229-239. <https://doi.org/10.1080/13887890.2018.1536894>
- Worthen, W. B., and L. Hoke*. 2018. Pseudoreplication in species comparisons: do individual differences matter? *Notulae Odonatologicae* 9(1) 2018: 18-25. <https://doi.org/10.1080/13887890.2018.1536894>
- Worthen, W. B. 2017. Perch selection in a guild of tropical dragonflies (Odonata: Libellulidae): relationships with body size and thermal ecology. *International Journal of Odonatology* 20(2): 63-78. <https://doi.org/10.1080/13887890.2017.1330225>.
- Worthen, W. B. 2016. Observation of wing-whirring behavior in a tropical perching dragonfly, *Micrathyria atra* (Odonata: Libellulidae). *Notulae Odonatologicae* 8(8): 262-265.
- Worthen, W. B., and P. H. Morrow*. 2016. Perch selection by three co-occurring species of *Celithemis* (Odonata: Libellulidae): Testing for a Competitive hierarchy among similar species. *Psyche* 2016. <http://dx.doi.org/10.1155/2016/9028105>.
- Worthen, W. B., and T. M. Hart*. 2016. Resistance to *Arrenurus* spp. parasitism in odonates: Patterns across species and comparisons between a resistant and susceptible host. *Journal of Insect Science* 16 (1):1-6. <https://doi.org/10.1093/jisesa/iew022>.
- Worthen, W. B., and L. H. Turner*. 2015. The effects of odonate species abundance and diversity on parasitism by water mites (*Arrenurus* spp.): testing the dilution effect. *International Journal of Odonatology* 18:233-248. DOI: [10.1080/13887890.21015.1081112](https://doi.org/10.1080/13887890.21015.1081112)
- Worthen, W. B., and H. J. Horacek*. 2015. The distribution of dragonfly larvae in a South Carolina stream: Relationships with sediment type, body size, and the presence of other larvae. *Journal of Insect Science* 15: 1-6. DOI: [10.1093/jisesa/iev013](https://doi.org/10.1093/jisesa/iev013)
- Worthen, W. B., and C. C. Phillips*. 2014. Are community patterns in flight height driven by antagonistic interactions? *International Journal of Odonatology* 17: 7-26. <https://doi.org/10.1080/13887890.2013.874300>
- Worthen, W. B., and D. Merriman*. 2012. Relationships between carabid beetle communities and forest stand parameters: Taxon congruence or habitat association? *Southeastern Naturalist* 12: 379-386. <https://www.jstor.org/stable/42003870>
- Worthen, W. B. 2010. Emergence-site selection by the dragonfly *Epitheca spinosa* (Hagen). *Southeastern Naturalist* 9:251-158. <https://doi.org/10.1656/058.009.0204>
- Worthen, W. B. 2010. Flying Dragons: A Colorful field experiment in resource partitioning. *American Biology Teacher* 72:432-435.

- Worthen, W. B. and C. M. Jones*. 2007. The effects of wind speed, competition, and body size on perch height selection in a guild of Libellulidae species (Odonata). *International Journal of Odonatology* 257-272. <https://doi.org/10.1080/13887890.2007.9748303>
- Worthen, W. B., and C. M. Jones*. 2006. Relationships between body size, wing morphology, and perch height selection in a guild of Libellulidae species (Odonata). *International Journal of Odonatology* 9:235-250. <https://doi.org/10.1080/13887890.2006.9748281>
- Worthen, W. B., and E. R. Patrick*. 2004. The effect of intraspecific and interspecific interactions on perch-height preferences of three odonate taxa. *International Journal of Odonatology* 7:529-541. <https://doi.org/10.1080/13887890.2004.9748237>
- Worthen, W. B., S. Gregory*, J. Felten*, and M. J. Hutton*. 2004. Larval habitat associations of the Common Sanddragon (*Progomphus obscurus* Rambur) at two spatial scales (Odonata: Gomphidae). *International Journal of Odonatology* 7:97-109. <https://doi.org/10.1080/13887890.2004.9748199>
- Worthen, W. B. 2003. Nested subset structure of larval odonate assemblages in the Enoree River (USA). *International Journal of Odonatology* 6:79-90. <https://doi.org/10.1080/13887890.2003.10510452>
- Worthen, W. B., and D. C. Haney. 2002. Desiccation tolerance of three mycophagous *Drosophila* species. *American Midland Naturalist* 147:387-392. <https://www.jstor.org/stable/3083212>
- Worthen, W. B. 2002. Community ecology of larval odonates in the Enoree River basin of South Carolina. *Southeastern Naturalist* 1:205-216. <https://www.jstor.org/stable/3878038>
- Worthen, W. B., T. E. Blue*, D. C. Haney, and C. B. Andersen. 2001. Abundance of *Boyeria vinosa* larva in the Enoree River basin, USA: chemical, physical, and biological correlates. *International Journal of Odonatology* 4:231-241. <https://doi.org/10.1080/13887890.2001.9748170>
- Worthen, W. B., C. C. Cuddy*, D. C. Haney, V. L. Turgeon, and C. B. Andersen. 2001. The effect of an industrial spill on the macrofauna of a South Carolina stream: physiological to community-level responses. *Journal of Freshwater Ecology* 3:467-477. <https://doi.org/10.1080/02705060.2001.9663835>
- Andersen, C. B., W. B. Worthen, and B. Polkinghorn. 2001. Humanism in the environmental sciences: a reevaluation. *Journal of College Science Teaching* 31:202-206.
- Worthen, W. B., and D. C. Haney. 1999. Temperature tolerance in three mycophagous *Drosophila* species: relationships with community structure. *Oikos* 86:113-118. <https://doi.org/10.2307/3546575>
- Worthen, W. B., M. T. Jones*, and R. M. Jetton*. 1998. Community structure and environmental stress: desiccation promotes nestedness in mycophagous fly communities. *Oikos* 81:45-54. <https://doi.org/10.2307/3546466>
- Rohde, K., W. B. Worthen, M. Heap, B. Hugueny, and J. Guegan. 1998. Nestedness in assemblages of metazoan ecto- and endoparasites of marine fish. *International Journal of Parasitology* 28:543-9. [https://doi.org/10.1016/S0020-7519\(98\)00013-7](https://doi.org/10.1016/S0020-7519(98)00013-7)

- Worthen, W. B. 1996. Membership patterns and nested subset analyses: Basic descriptors for community ecology. *Oikos* 76:417-426. <https://doi.org/10.2307/3546335>
- Worthen, W. B., and K. Rohde. 1996. Nested subset analyses of colonization-dominated communities: metazoan ectoparasites of marine fishes. *Oikos* 75:741-748. <https://doi.org/10.2307/3545888>
- Worthen, W. B. 1996. Latitudinal variation in the development time and mass of *Drosophila melanogaster*: comparisons within and between populations along a latitudinal gradient. *Evolution* 50:2523-2529. <https://doi.org/10.1111/j.1558-5646.1996.tb03640.x>
- Worthen, W. B., M. L. Carswell*, and K. A. Kelly*. 1996. Nested subset structure of larval mycophagous fly assemblages: Nestedness in a non-island system. *Oecologia* 107:257-264. <https://doi.org/10.1007/BF00327910>
- Worthen, W. B., B. R. Bloodworth*, and M. B. Hobbs*. 1995. Habitat variability in the effects of predation and microclimate on mycophagous fly communities. *Ecography* 18:248-258. <https://doi.org/10.1111/j.1600-0587.1995.tb00128.x>
- Worthen, W. B., S. Mayrose*, and R. G. Wilson*. 1994. Complex interactions between predation, rainfall, and microclimate: Effects on mycophagous fly communities. *Oikos* 69:277-286. <https://doi.org/10.2307/3546148>
- Worthen, W. B., M. N. Hipp*, C. T. Twardokus*, and R. Roller*. 1993. Effects of ant predation and larval density on mycophagous fly communities. *Oikos* 66:526-532. <https://doi.org/10.2307/3544948>
- Lewis*, G. P. and W. B. Worthen. 1992. Effects of predation and microenvironment on the survival of *Drosophila tripunctata* larvae. *Oikos* 64:553-559. <https://doi.org/10.2307/3545175>
- Worthen, W. B. and J. L. Moore*. 1991. Higher order interactions and indirect effects: A resolution using laboratory *Drosophila* communities. *American Naturalist* 138: 1092-1104. <https://doi.org/10.1086/285271>
- White, D. W., W. B. Worthen, and E. W. Stiles. 1990. Woodlands in a post-agricultural landscape in New Jersey. *Bulletin of the Torrey Botanical Club* 117:256-265. <https://doi.org/10.2307/2996694>
- Worthen, W. B. and T. R. McGuire. 1990. Predictability of ephemeral mushrooms and implications for mycophagous fly communities. *American Midland Naturalist* 124:12-23. <https://doi.org/10.2307/2426075>
- Worthen, W. B. 1989. Effects of resource density on mycophagous fly dispersal and community structure. *Oikos* 54:145-153. <https://doi.org/10.2307/3565260>
- Worthen, W. B. 1989. Predator-mediated coexistence in laboratory communities of mycophagous *Drosophila* (Diptera: Drosophilidae). *Ecological Entomology* 14:117-126. <https://doi.org/10.1111/j.1365-2311.1989.tb00761.x>
- Worthen, W. B. 1988. Slugs (*Arion* spp.) facilitate mycophagous drosophilids in laboratory and field experiments. *Oikos* 53:161-166. <https://doi.org/10.2307/3566058>

- Worthen, W. B. and T. R. McGuire. 1988. A criticism of the aggregation model of coexistence: non-independent distribution of dipteran species on ephemeral resources. *American Naturalist* 131:453-458. <https://doi.org/10.1086/284801>
- Worthen, W. B. and E. W. Stiles. 1988. Pollen-limited fruit set in isolated patches of *Maianthemum canadense* (Desf.) in New Jersey. *Bulletin of the Torrey Botanical Club* 115:299-305. <https://doi.org/10.2307/2996163>
- Worthen, W. B. and E. W. Stiles. 1986. Phenotypic and demographic variability among patches of *Maianthemum canadense* (Desf.) in central New Jersey, and the use of self-incompatibility for clone discrimination. *Bulletin of the Torrey Botanical Club* 113:398-405. <https://doi.org/10.2307/2996432>

OTHER PUBLICATIONS (* = undergraduate co-author):

BOOKS and BOOK CHAPTERS:

- Worthen, W. B., A. S. Henderson, P. R. Rasmussen, and T. L. Benson (Eds.). 2009. *Competition: A multidisciplinary analysis*. Boston, MA: Sense.
- Worthen, W. B. 2009. Dominance of the competition paradigm. IN: W. B. Worthen, A. S. Henderson, P. R. Rasmussen, and T. L. Benson (Eds.). *Competition: A multidisciplinary analysis*. (pp. xiii-xv). Boston, MA: Sense.
- Worthen, W. B. 2009. Darwin's entangled bank: the competition paradigm in ecology. IN: W. B. Worthen, A. S. Henderson, P. R. Rasmussen, and T. L. Benson (Eds.). *Competition: A multidisciplinary analysis*. (pp. 17-31). Boston, MA: Sense.

ARTICLES:

- Worthen, W. B. 2022. An odd pose. *Argia* 34(3): 37.
- Worthen, W. B. 2023. If you don't leave my territory... *Argia* 35(2): 55.
- Worthen, W. B. 2016. *Celithemis* – Breaking Boundaries. *Argia* 28 (3): 27.
- Worthen, W. B. 2009. A second Odonata survey at Congaree National Park, Richland Co., SC. *Argia* 21: 19.
- Worthen, W. B. 2009. The Darwin Legacy. *Furman Magazine* 52(3): 2-7.
- Worthen, W. B. 2008. Fueling the Fire: point-counterpoint on offshore drilling. Counterpoint: Don't Drill. *G Magazine* (The Magazine of Greenville), Sept-Oct 2008 issue, pp. 63, 65.
- Worthen, W. B., and C. M. Jones*. 2007. Odonata Survey of Union County, South Carolina. *Argia* 18: 32-33.
- Bried, J., P. Hunt, and W. B. Worthen. 2007. How Often and How Long? Studying Temporal Survey Design for Adult Odonates. *Argia* 18:7-8
- Worthen, W. B. 2005. Odonata survey of Paris Mountain State Park and Jones Gap State Park, Greenville County, South Carolina. *Argia* 17:27-28.
- Worthen, W. B. 2003. A survey of odonates of Congaree Swamp National Monument, Richland Co., South Carolina. *Argia* 15:14-16.

Worthen, W. B. 2003. A Guide to the Dragonflies of Congaree Swamp National Monument.
Worthen, W. B. 2001. New dragonfly records for Sierra County, New Mexico. *Argia* 13:14.

PAPERS PRESENTED AT SCIENTIFIC MEETINGS:

(* = undergraduate co-authors)

- Horne*, C., W. B. Worthen, and K. Fravel*. 2020. The effect of habitat parameters at several scales on the abundance and diversity of larval dragonflies (Insecta: Odonata). Meeting of the South Carolina Independent Colleges and Universities, Spartanburg, SC, 20 Feb, 2020.
- Horne*, C., W. B. Worthen, and K. Fravel*. 2020. The effect of habitat parameters at several scales on the abundance and diversity of larval dragonflies (Insecta: Odonata). Annual Meeting of the Association of Southeastern Biologists, March 2020. (Cancelled – COVID).
- Fravel*, K., W. B. Worthen, and C. Horne*. 2020. Changes in adult odonate communities along the Reedy River in Greenville Co., SC: habitat associations at several spatial scales. Annual Meeting of the Association of Southeastern Biologists, March 2020. (Cancelled – COVID).
- McGovern*, P. J., and W. B. Worthen. 2020. Spatiotemporal patterns in water mite (*Arrenurus* spp.) parasitism of dragonflies. Annual Meeting of the Association of Southeastern Biologists, March 2020. (Cancelled – COVID).
- Beck*, P., and W. B. Worthen. 2020. The effect of male maturity on intra- and interspecific aggression by the dragonfly, *Erythemis simplicicollis*. Annual Meeting of the Association of Southeastern Biologists, March 2020. (Cancelled – COVID).
- Chamlee*, M., and W. B. Worthen. 2018. Determinants of dragonfly community structure at several spatial scales: Implications for conservation. Annual Meeting of the Association of Southeastern Biologists, April 2019.
- Hart*, T. M., and W. B. Worthen. 2015. The effect of water mite parasitism on fluctuating asymmetry and immune response of two dragonfly host species, *Argia fumipennis* and *Pachydiplax longipennis*. Annual Meeting of the Association of Southeastern Biologists. April 3, 2015.
- Hetherington*, L. D., H. E. Clevenger*, and W. B. Worthen. 2014. Small-scale habitat preferences of ground beetles (Coleoptera: Carabidae) and responses to vegetative regrowth after Kudzu removal. Annual Meeting of the Association of Southeastern Biologists. April 3, 2014.
- Horacek*, H. J., and W. B. Worthen. 2014. The Distribution of Dragonfly Larvae in a South Carolina Stream: Relationships with sediment type, body size, and the presence of other larvae. Annual Meeting of the Association of Southeastern Biologists, April 3, 2014.
- Turner*, L. and W. B. Worthen. 2014. Community structure of dragonfly assemblages and effects on parasitism rate: A test of the “Dilution Effect”. Annual Meeting of the South Carolina Independent Colleges and Universities.

- Turner*, L. and W. B. Worthen. 2014. Community structure of dragonfly assemblages and effects on parasitism rate: A test of the "Dilution Effect". Annual Meeting of the Association of Southeastern Biologists.
- Worthen, W. B. 2013. Battling the green menace: an attempt at kudzu removal and restoration. Annual Meeting of the South Carolina Exotic Pest Plant Council.
- Merriman*, D. and W. B. Worthen. 2012. Comparing biodiversity across taxonomic groups: Carabid beetle communities and local tree size and diversity. Annual Meeting of the Association of Southeastern Biologists.
- Merriman*, D., A. Schulz*, and W. B. Worthen. 2012. The effects of forest structure on beetle, butterfly, and moth diversity at Furman forest. Annual Meeting of the South Carolina Independent Colleges and Universities.
- DeLancey*, B. and W. B. Worthen. 2011. Changes in microhabitat selection and head dimensions between three different age classes of *Desmognathus quadramaculatus*. Southeastern Biology 58: 408.
- Chandler*, L. and W. B. Worthen. 2011. The effects of body size and interspecific competition on perch height of libellulid dragonflies. Annual Meeting of the South Carolina Independent Colleges and Universities.
- DeLancey*, B., and W. B. Worthen. 2009. Habitat selection in three species of co-occurring desmognathine salamanders in Greenville Co, SC. Southeastern Biology 55.
- DeLancey*, B., and W. B. Worthen. 2009. Habitat selection in three species of co-occurring desmognathine salamanders in Greenville Co, SC. Annual Meeting of the South Carolina Academy of Science, Columbia, SC.
- Worthen, W. B. 2008. The Furman Lake Restoration Project. American Association for Sustainability in Higher Education. Raleigh, NC. Nov 9-11, 2008.
- Worthen, W. B. 2008. Dragonflies at Congaree: A report on a 2002 survey and plans for a 2008 survey and experiment on perch-height. Congaree National Park Research Symposium, Columbia, SC.
- Jones*, C. M. and W. B. Worthen. 2006. Relationships between morphology and perch height preference in a guild of summer dragonflies. Southeastern Biology 53:217.
- Gregory*, S. K., M. J. Hutton*, and W. B. Worthen. 2002. Habitat selection by larval dragonflies: correlations with sediment particle size. Southeastern Biology 49:108-109.
- Haney, D. C., A. Mitchum*, W. B. Worthen, C. B. Andersen, and J. Wheeler. 2001. Effects of land use on fish diversity and abundance in the Enoree River, SC. Southeastern Biology 48:144.
- Felten*, J., W. B. Worthen, and C. B. Andersen. 2001. Biological description of Enoree River (SC) tributaries: Effects of water chemistry and habitat on abundance of *Progomphus obscurus*. Southeastern Biology 48:109.
- Mitchum, A. *, D.C. Haney, W.B. Worthen, and J. Porterfield. 2001. Fish distribution in the Enoree River, SC. Southeastern Biology 48:93.

- O'Daniel*, E., L. Fikes*, W. B. Worthen, D.C. Haney, and C. B. Andersen. 2001. Comparison of diversity and abundance of larval odonate populations in rural and urban streams in the Enoree River watershed, SC. *Southeastern Biology* 48:110.
- Blue*, T. E., W. B. Worthen, C. Cuddy*, D. C. Haney, C. B. Andersen, and S. Wheeler. 2000. The abundance of *Boyeria vinosa* larva (Odonata: Aeshnidae) in comparison to the physical and chemical properties of the Enoree River of South Carolina. *Bulletin of the Association of Southeastern Biologists* 47:101-102.
- Cuddy*, C., W. B. Worthen, D. C. Haney, T. Blue*, C. B. Andersen, and S. Wheeler. 2000. Human impact on the ecology of the Upper Enoree River. *Bulletin of the Association of Southeastern Biologists* 47:180.
- Haney, D. C., W. B. Worthen, C. B. Andersen, K. A. Sargent, and S. Wheeler. 2000. Interdisciplinary teaching using a watershed research program. *Bulletin of the Association of Southeastern Biologists* 47:167.
- Horner*, A., A. Mitchum*, D. C. Haney, W. B. Worthen, C. B. Andersen, and S. Wheeler. 2000. Biological and chemical description of Enoree River (SC) tributaries: Effects of land use patterns on the Upper Enoree, Beaverdam Creek, and Mountain Creek. *Bulletin of the Association of Southeastern Biologists* 47:181.
- Mitchell*, M., S. Monheim*, D. C. Haney, W. B. Worthen, C. B. Andersen, and S. Wheeler. 2000. Biological and chemical description of Enoree River (SC) tributaries II: Effects of land use patterns on Rocky Creek, Gilder Creek, and Mountain Creek. *Bulletin of the Association of Southeastern Biologists* 47:105.
- Haney, D. C., A. Horner*, W. B. Worthen, A. Mitchum*, M. Mitchell*, C. B. Andersen, J. Wheeler. 2000. A Biological study of Enoree River (SC) tributaries: Effects of land use patterns and physicochemical measures on fish diversity and abundance. Annual Meeting of the American Society for Ichthyology and Herpetology.
- Cuddy*, C. C., D. C. Haney, W. B. Worthen, T. Blue*, A. Horner*, C. B. Andersen, J. Wheeler. 2000. Anthropogenic impact on the biology and water chemistry of the Upper Enoree River. Annual Meeting of the American Society for Ichthyology and Herpetology.
- Haney, D. C. and W. B. Worthen. 1999. Temperature tolerance in three mycophagous *Drosophila* species: relationships with community structure. *Bulletin of the Association of Southeastern Biologists* 46: 169.
- Andersen, B., K. A. Sargent, W. B. Worthen, and R. Kerstetter. 1997. The Paris Mountain, SC, watershed project: a public education opportunity. American Water Resources Association, Keystone, CO. Univ. Council on Water Resources Symposium Proceedings 1997, pg. 621.
- Jones*, M. T., R. H. Jetton*, and W. B. Worthen. 1997. Desiccation stress contributes to the nested subset structure of mycophagous fly communities. *Bulletin of the Association of Southeastern Biologists* 44:83.
- Jetton*, R. H., M. T. Jones*, and W. B. Worthen. Desiccation stress contributes to the nested subset structure of mycophagous fly communities. National Conference on Undergraduate Research.

- Worthen, W. B. 1996. Temperature effects on short-term responses to bi-directional selection by tropical and temperate populations of *Drosophila melanogaster*. *Bulletin of the Association of Southeastern Biologists* 43:133-134.
- Worthen, W. B. 1995. The effect of temperature on response to selection. *Southeastern Population Ecology and Genetics*. Highlands, NC.
- Carswell*, M. L., W. B. Worthen, and K. A. Kelly*. 1995. Species-area relationships and nested-subset structure in mycophagous fly communities. *Bulletin of the Association of Southeastern Biologists* 42: 101.
- Kelly*, K. A., W. B. Worthen, and M. L. Carswell*. 1995. Species-area relationships and nested-subset structure in mycophagous fly communities. *Bulletin of the Association of Southeastern Biologists* 42: 101.
- Lucas*, L. M., Mary H. Henderson*, Ron C. Michaelis, Jack Tarleton, Wade B. Worthen. 1995. Uniparental disomy in Prader-Willi syndrome. *National Conference on Undergraduate Research*, Union, NY.
- Bloodworth*, B. R., W. B. Worthen, and M. B. Hobbs*. 1994. The effects of predation and microclimate on mycophagous flies: variation among habitats. *Bulletin of the Association of Southeastern Biologists* 41: 117).
- Hobbs*, M. B., W. B. Worthen, and B. R. Bloodworth*. 1994. The effects of predation and microclimate on mycophagous flies: variation among habitats. *National Conference on Undergraduate Research*, Kalamazoo, MI.
- Worthen, W. B., B. R. Bloodworth*, and M. B. Hobbs*. 1994. Habitat variability in the effects of microclimate and ant predation on mycophagous fly communities. *International Congress of Dipterology*, Guelph, Ont.
- Mayrose*, S., W. B. Worthen, and R. G. Wilson*. 1993. The effects of ant predation, larval density, and soil moisture on the structure of mycophagous fly communities. *Bulletin of the Association of Southeastern Biologists* 40:147.
- Wilson*, R. G., W. B. Worthen, and S. Mayrose*. 1993. The effects of ant predation, larval density, and soil moisture on the survival of *Drosophila tripunctata* larvae. *Bulletin of the Association of Southeastern Biologists* 40:147.
- Worthen, W. B., Sara Mayrose*, and R. Gayle Wilson*. 1993. The effects of biotic and abiotic factors on larval survival and guild structure of mycophagous flies. *Bulletin of the Ecological Society of America* 74:494.
- Perry*, T. W., C. Prudhomme, and W. B. Worthen. 1992. Winter browse availability and use by white-tailed deer. *Assoc. of Southeastern Biologists*, Tuscaloosa, AL.
- Worthen, W. B. 1991. Effects of predation and competition on the survival of *Drosophila tripunctata* larvae in a South Carolina woodland. *Bulletin of the Ecological Society of America* 72: 294.
- Lewis*, G. P. and W. B. Worthen. 1991. Effects of predation and microclimate on survivorship of larval *Drosophila*. *National Conference on Undergraduate Research*, Pasadena, CA.

- Worthen, W. B. and J. L. Moore*. 1990. Indirect effects among three mycophagous *Drosophila* species in laboratory communities. *Bulletin of the Ecological Society of America* 71:373.
- Worthen, W. B. and T. R. McGuire. 1987. Community ecology on an ephemeral resource: are mycophagous fly species randomly associated, and are mushrooms really ephemeral? *Bulletin of the Ecological Society of America* 68:452.
- Worthen, W. B. and E. W. Stiles. 1985. Pollinator limitation of fruit set in *Maianthemum canadense* and evidence of density dependent foraging by pollinators. *Bulletin of the New Jersey Academy of Science* 30: 49.

DISSERTATION AND THESIS:

- Worthen, W. B. 1988. The effects of resource distribution, facilitation and predation on the structure of mycophagous fly communities: manipulations of a model system. Ph.D. Dissertation, Rutgers, The State University of New Jersey.
- Worthen, W. B. 1985. Reproductive biology of *Maianthemum canadense*: patch variability and interactions with the biotic environment. M.S. Thesis, Rutgers, The State University of New Jersey.

INVITED SEMINARS:

- Worthen, W. B. 2009. Dragonflies at Congaree. Meeting of the Butterfly Society of the Carolinas. June 27, 2009.
- Worthen, W. B. 2004. Environmental stress and community structure: patterns in terrestrial and aquatic insect communities. July 13, 2004. Berry College, Rome, GA.
- Worthen, W. B. 2003. Environmental stress and community structure: patterns in larval dragonfly communities. South Carolina Association of Naturalists, Jan 15, 2003.
- Worthen, W. B. 2002. Environmental stress and community structure: patterns in terrestrial and aquatic insect communities. The 15th Annual Mike Duke Memorial Seminar, The Department of Entomology, North Carolina State University.
- Worthen, W. B. 2002. Environmental stress and community structure: patterns in terrestrial and aquatic insect communities. Biology Dept., University of South Carolina - Spartanburg.
- Worthen, W. B. 2002. Environmental stress and community structure: patterns in terrestrial and aquatic insect communities. Graduate Program in Entomology, Clemson University, Clemson, SC.
- Worthen, W. B. 2000. The physiological determinants of community structure. Berry College, Berry, GA.
- Worthen, W. B. 2000. Studies in mycophagous fly ecology: from physiology to community structure. Western Carolina University, Cullowhee, NC.
- Worthen, W. B. 1997. Latitudinal gradients in species diversity: why are the tropics so diverse? Dept. of Biology Newberry College, Newberry, SC.

- Worthen, W. B. 1995. Nestedness and non-random community structure. Graduate Program in Zoology, University of New England, Armidale, NSW (Australia).
- Worthen, W. B. 1995. The effects of habitat subdivision on biodiversity. Dept. of Biology, Anderson College, Anderson, SC.
- Worthen, W. B. 1992. The effects of biotic and abiotic factors on the structure of mycophagous fly communities. Graduate Program in Entomology, Clemson University, Clemson, SC.