

MICHAEL E. DORCAS, PH.D.

Scientific Consultant | Technical Writer & Editor | Grant Strategy | Environmental & Life-Sciences SME
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PROFESSIONAL SUMMARY

Senior scientific consultant, technical writer/editor, ecologist, and former Endowed Professor of Biology with 30+ years of experience in research, scholarly publishing, environmental review, grant strategy, and complex scientific communication. Author/coauthor of 150+ scholarly publications, including 118 peer-reviewed journal articles, 25 book chapters, and 8 books; secured and managed more than \$2.2 million in competitive research funding. Provides reviewer-ready manuscript development, defensibility-oriented technical review, research synthesis, proposal strategy, and biological subject-matter expertise for research, nonprofit, environmental, life-sciences, and AI-evaluation projects.

CORE CONTRACT SERVICES & EXPERTISE

- Scientific and technical manuscript editing
- Grant strategy, funding landscapes, and proposal development
- Research design critique, methods review, and evidence synthesis
- AI model evaluation, prompt review, and biological reasoning assessment
- Technical reports, white papers, industry guides, and stakeholder materials
- Journal submission and peer-review response strategy
- Environmental impact report / EIA / EIR review and refinement
- Biology, ecology, conservation, and life-sciences SME review
- Laboratory-animal welfare, 3Rs, New Approach Methodologies, and JoVE-style educational review
- Herpetology, invasive species, conservation biology, and physiological ecology

SELECTED CONTRACT & CONSULTING EXPERIENCE

Founder and Principal Consultant | *Tantilla Consulting / Tantilla LLC* | 2025-Present

- Conduct scientific consulting focused on manuscript development, technical writing/editing, environmental review, grant strategy, research evaluation, and biological subject-matter expertise.
- Reviewed and substantively revised a comparative environmental report for data-center, warehouse, and manufacturing alternatives, evaluating water demand, energy use, greenhouse-gas emissions, noise, land-use alternatives, fiscal assumptions, and regulatory defensibility.
- Developed a strategic roadmap to transform an eight-year underwater video and acoustic archive into a research, education, conservation, and technology platform, including mission language, partnership strategy, funding pathways, website copy, presentation materials, and grant-package support.
- Provide substantive and developmental editing for interdisciplinary manuscripts; reorganize arguments, strengthen links between results and interpretation, preserve disciplinary voice, and prepare manuscripts for reviewers and journal audiences.
- Review laboratory-animal and life-sciences educational materials for JoVE, including humane endpoints, the 3Rs, NAMs, organ-on-chip systems, transport/acclimatization, anesthesia, euthanasia, and welfare monitoring.
- Develop and evaluate advanced biology, ecology, and conservation prompts for AI research projects; assess model reasoning, factual accuracy, experimental design, and scientific reliability.
- Build grant prospect pipelines, proposal positioning language, budget frameworks, funder-alignment notes, and strategy materials for nonprofit, conservation, research, and technology clients.

REPRESENTATIVE DELIVERABLES

- Edited manuscripts with margin comments, revision strategy, and journal-facing polish
- Grant prospect matrices, go/no-go recommendations, and proposal-positioning language
- Research-roadmap documents, partner/funder strategy, and project framing language
- Environmental report rewrites with defensibility notes and technical-claim review
- Website-ready scientific summaries, one-page overviews, slide content, and funder materials
- Expert review notes on biological accuracy, research logic, and evidentiary strength

ACADEMIC & SCIENTIFIC LEADERSHIP

Professor of Biology; Nancy and Erwin Maddrey Professor of Biology (2015-2016) | Davidson College | 1998-2016

- Led research and teaching programs in ecology, conservation biology, invasive-species biology, herpetology, and physiological ecology; translated complex biological research for scholarly, agency, student, and public audiences.
- Secured and managed more than \$2.2 million in competitive funding from NSF, USGS, USFWS, Department of Defense, Duke Energy, and other public/private partners.
- Authored/coauthored high-impact scientific work, including a Proceedings of the National Academy of Sciences paper on Burmese pythons and mammal declines in Everglades National Park.
- Directed and mentored 70+ student researchers and supervised projects from concept and field design through analysis, writing, presentation, and publication.
- Provided scientific consultation and technical expertise to government agencies, utilities, nonprofits, conservation organizations, and professional societies.

Science Instructor, Adult Continuing Education Program | FCI Fort Dix, NJ | 2021-2025

Developed and taught science curriculum for adult learners in a structured educational setting, emphasizing analytical reasoning, scientific literacy, and clear communication of biological concepts.

Postdoctoral Fellow | University of Georgia - Savannah River Ecology Laboratory | 1995-1998

Conducted externally funded ecological field research and contributed to long-term conservation, biodiversity, and herpetology projects with university and agency collaborators.

SELECTED CREDENTIALS & SCIENTIFIC RECORD

- AAAS Fellow and NSF CAREER Award recipient
- 118 peer-reviewed journal articles; 150+ scholarly publications overall
- 160+ scientific presentations and 70+ invited seminars
- Books with University of Georgia Press, Johns Hopkins University Press, University of Oklahoma Press, and other academic/natural-history outlets
- Author/coauthor of 8 scholarly books and 25 book chapters
- 84 grants/contracts totaling more than \$2.2 million
- Journal editor/reviewer and reviewer/panelist for NSF, USGS, DoD/ERDC, and other agencies
- Longstanding expertise in ecology, conservation biology, herpetology, invasive species, physiological ecology, and applied environmental science

SELECTED PUBLICATIONS & BOOKS

- Dorcas, M.E., et al. 2012. Severe mammal declines coincide with proliferation of invasive Burmese pythons. PNAS 109:2418-2422.
- Dorcas, M.E. and J.D. Willson. 2011. Invasive Pythons in the United States. University of Georgia Press.
- Gibbons, W. and M. Dorcas. 2015. Snakes of the Southeast, Revised Edition. University of Georgia Press.
- Dorcas, M. and W. Gibbons. 2011. Frogs: The Animal Answer Guide. Johns Hopkins University Press.
- Dorcas, M.E., J.D. Willson, and J.W. Gibbons. 2007. Crab trapping causes population decline in diamondback terrapins. Biological Conservation 137:334-340.

SELECTED SCIENTIFIC SERVICE

- Associate Editor and manuscript reviewer for herpetology, ecology, conservation, and natural-history journals
- Grant reviewer/panel participant for federal and applied-research agencies, including NSF, USGS, and U.S. Army Engineer Research and Development Center
- Scientific reviewer for laboratory-animal and life-sciences educational content addressing animal welfare, the 3Rs, NAMs, and research methods
- Public and professional speaker on ecology, conservation, invasive species, amphibians, reptiles, scientific research, and environmental communication

EDUCATION

Ph.D., Biology, Idaho State University | M.S., Biology, University of Texas at Arlington | B.S., Biology, University of Texas at Arlington

Full academic CV, selected publications, and project-specific writing samples available upon request.