

## MICHAEL D. BAY

### CONTACT INFORMATION

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### ACADEMIC TRAINING

1994: Ph.D., Zoology (ecology), University of Arkansas, Fayetteville

1987: M.A., Biology, Sam Houston State University, Huntsville, Texas

1984: B.S., Biology (chemistry minor), Cameron University, Lawton, Oklahoma

### PROFESSIONAL EXPERIENCE

2020-2023: Senior Leader in Entomology. U.S. Navy Reserve.

2019-Present: U.S. Navy Reserve, Medical Forces Support Command, San Antonio, Texas, Public Affairs Officer, Billet title- Environmental Science Officer. Rank- Commander.

2018- 2023: Professor and Chairman, Dept. of Biological and Environmental Sciences, East Central University, Ada, Oklahoma.

2017-2019: U.S. Navy Reserve, 4<sup>th</sup> Medical Battalion, USMC, San Diego, California, Billet- Entomology Officer. Rank- Commander.

2017- 2018: U.S. Navy Reserve, OIC, EMF Dallas, Midwest City, Oklahoma. Billet- Entomology Officer. Rank- Lieutenant Commander.

2016-17: U.S. Navy Reserve, AOIC, EMF Dallas, Midwest City, Oklahoma. Billet- Entomology Officer. Rank- Lieutenant Commander.

2007-2018: Professor of Biology, East Central University, Ada, Oklahoma

2004-2012: U.S. Army Reserve, Medical Service Corps- 1900<sup>th</sup> Medical Detachment, Executive Officer, Springfield, Missouri; 180<sup>th</sup> Medical Detachment, Executive Officer, Beloit, Wisconsin- deployed in service of OIF and OEF, May 2009- May 2010. Highest rank attained- Major.

2001-2007: Associate Professor of Biology, East Central University, Ada, Oklahoma

1995-2001: Assistant Professor of Biology, East Central University, Ada, Oklahoma.

1991-95: Instructor of Biology, Averett College, Danville, Virginia.

1987-91: Teaching Assistant in Zoology, University of Arkansas, Fayetteville, Arkansas.

1985-87: Assistant Instructor of Biology, Sam Houston State University, Huntsville, Texas.

1983-84: Laboratory Assistant in Biology, Cameron University, Lawton, Oklahoma.

1979-85: farm/ranch worker, Bay Brothers Dairy, Lawton, Oklahoma

#### **SPECIAL TRAINING:**

2016: Operational Entomology Training, Navy Entomology Center of Excellence (NECE), Jacksonville, FL

2013: DOD Pesticide Certification; Public Health (Category 8), NEPMU 5, San Diego, Ca.

2007: diseases of military importance, environmental injuries and diseases I, environmental diseases and injuries II, Toxicology and poisonings (Medical Zoology Branch, U.S Army Medical Department Center and School)

2006: Dept. of Defense Pest Management and Pesticides Certification (Medical Zoology Branch, U.S Army Medical Department Center and School)

2004: army medical officer training (Fort Sam Houston, Texas)

1993: certificate, hazardous materials (Averett College, Virginia)

#### **PUBLICATIONS/ MANUSCRIPTS**

Bay, M.D. Malaria in passerine birds: A review of ecology and pathology, with notes from Oklahoma birds and potential vectors. In preparation

Bay, M.D. and R. Noah. 2022. Military Tropical Medicine Training – Protecting the Force from Infectious Disease. The Rudder 14 (2), P. 14

Bay, M.D. and R. Noah. 2022. Leader and Professional Development Command. The Rudder 10 (3), P. 14

Bay, M.D. 2022. Training Future leaders for Navy Reserve Medicine. The Navy Reserve 1 (2), P. 15

Bay, M.D. 2022. Medical Service Corps Officers Contribute to Mission Success of NR Naval Medical Forces Support Command. The Rudder 10 (2), P.8

Bay, M.D. 2021. Operational Readiness Exercise Training, NEMTI. In Naval Reserve Medicine Newsletter, March Vol 2 (3), P.5

Bay, M.D. 2021. Navy Reserve, Naval Medical Forces Support Command. The Rudder, March, Vol 9 (3), P. 7

Bay, M.D. 2020. NR NMFSC Develops TNCC in a Virtual Format Due to Covid-19. Navy Reserve Medicine 1 (7), P. 5

Bay, M.D., and F. Pfeffer. 2014. A Winter Record for the Rose- Breasted Grosbeak in Pontotoc County, Oklahoma. Bull. OK. Ornith. Soc. 47 (3), 17-20.

Bay, M.D. 2011. Anatomy dissection guide with reference to the human and cat. First Edition. Fountainhead Press.

Bay, M.D. 2011. An issue with scorpions. The Chronicle 17(42).

Andrews, K.D. and M.D. Bay. 2010. Manual for the Zoology Laboratory. Second Edition. Fountainhead Press.

Bay, M.D. and K D. Andrews. 2009. Prevalence of hematozoa parasites in some common passerine birds from east-central Oklahoma. Texas Journal of Science 61, 311-317.

Bay, M.D. 2009. A matter of scorpions. Alamo Medicine Newsletter, 1 (3), 13-14.

Andrews, K.D. and M.D. Bay. 2006. Manual for the Zoology Laboratory. First Edition. Fountainhead Press.

Bay, M.D. 2005. Western Tanager in Pontotoc County, Oklahoma. Bulletin of the Oklahoma Ornithological Society 38, 1-3.

Bay, M.D. 2004. Prairie Warbler (*Dendroica discolor*). P. 356-357 in Oklahoma Breeding Bird Atlas, D. Reinking (Ed). Univ. of Oklahoma Press.

Bay, M.D. 2004. American Redstart (*Setophaga ruticilla*). P. 362-363 in Oklahoma Breeding Bird Atlas, D. Reinking (Ed). Univ. of Oklahoma Press.

Bay, M.D. 2004. Prothonotary Warbler (*Protonotaria citrea*). P. 364-365 in Oklahoma Breeding Bird Atlas, D. Reinking (Ed). Univ. of Oklahoma Press.

Bay, M.D. 2004. Kentucky Warbler (*Oporornis formosus*). P. 374-375 in Oklahoma Breeding Bird Atlas, D. Reinking (Ed). Univ. of Oklahoma Press.

- Bay, M.D. 2004. Summer Tanager (*Piranga rubra*). P. 382-383 in Oklahoma Breeding Bird Atlas, D. Reinking (Ed). Univ. of Oklahoma Press.
- Bay, M.D. 2004. Indigo Bunting (*Passerina cyanea*). P. 426-427 in Oklahoma Breeding Bird Atlas, D. Reinking (Ed). Univ. of Oklahoma Press.
- Bay, M.D. 2004. Painted Bunting (*Passerina ciris*). P. 428-429 in Oklahoma Breeding Bird Atlas, D. Reinking (Ed). Univ. of Oklahoma Press.
- Ferdinand, R.R. and M.D. Bay. 2000. Modeling migratory bird populations in Oklahoma. *Abstracts of the American Mathematical Society*, Lafayette, Louisiana.
- Bay, M.D. and H. McGaha. 2000. Notes on the ecology of Eastern Bluebird nestlings occupying nest boxes in Pontotoc County, Oklahoma. *Proc. Okla. Acad. Sci.* 80, 129-132.
- Tyler, J.D., M. Haynie, C. Bordner and M. Bay. 2000. Notes on winter food habits of raccoons from western Oklahoma. *Proc. Okla. Acad. Sci.* 80, 115-117.
- Bay, M.D. 1999. The type B song of the Northern Parula: structure and geographic variation along proposed subspecies boundaries. *Wilson Bulletin* 111, 505-514.
- Bay, M.D. 1999. Notes on the singing behavior and use of atypical songs in the Northern Parula Warbler (*Parula americana*). *Texas Journal of Science* 51, 20-24.
- Bay, M.D. 1999. A review of the behavior and ecology of the Northern Parula (*Parula americana*) with notes from Oklahoma and Texas. *Proc. Okla. Acad. Sci.* 79, 33-40.
- McGaha, H.R. and M.D. Bay. 1998. An unusual cavity nest for the Eastern Bluebird in Oklahoma. *Sialia* 20, 16-17.
- Bay, M.D., and W.A. Carter. 1997. Use of Ground Skinks (*Scincella lateralis*) as food for nestling Eastern Bluebirds (*Sialia sialis*). *Bull. Texas Ornith. Soc.* 30, 23-25.
- Bay, M.D. 1996. Breeding birds in early successional Old fields: the effect of area on community structure. *Proc. Okla. Acad. Sci.* 76, 67-72.
- Bay, M.D. 1993. What happened to all the songbirds? *Averett Journal* 23(1), 11-17.

## RESEARCH GRANT AWARDS

2001: East Central University Faculty Research Grant. "The prevalence, Distribution and Ecology of blood Parasites in Oklahoma Birds" (part II).

2000: East Central University Faculty Research Grant. "The Prevalence, Distribution and Ecology of Blood parasites in Oklahoma Birds" (part I).

1998: United States Department of the Interior, National Park Service. "An ecological study of breeding bird communities within the Chickasaw National Recreation Area: Emphasis on breeding migratory forest specialists and potential effects of habitat area on populations".

1996: East Central University Faculty Research Grant. "Ecology and Behavior of the Northern Parula".

1989: Arkansas Audubon Society. Habitat and Area Effects in Breeding Birds in Oldfields.

1988: Wilson Ornithological Society. Habitat and Area Effects on Breeding Birds in Oldfields.

## COURSES I HAVE TAUGHT

environmental science, general zoology, general physiology, human anatomy, human physiology, comparative vertebrate anatomy, histology, vertebrate embryology, field ornithology, marine biology, mammalogy, ichthyology, animal parasitology, natural history of the vertebrates, general ecology, field zoology, tropical biology of Costa Rica, invertebrate zoology, medical entomology, general botany, general education seminar, seminar in biology, history of biology

## SCHOLARLY PRESENTATIONS

2009: Medical threats in Iraq and Afghanistan. 180<sup>th</sup> Medical Detachment, U.S. Army Reserve

2007: Ecological aspects of *Plasmodium*. 14<sup>th</sup> and 1900<sup>th</sup> Medical Detachments, U.S. Army Reserve

1998: Song Biology of Warblers. Oklahoma Ornithological Society

1991: Functional Content and Variation in Songs of the Northern Parula. Wilson and Cooper Ornithological Society, University of Oklahoma, Norman.

1991: Geographic Variation in the Songs of the Northern Parula. Arkansas Academy of Science, University of Arkansas, Fayetteville.

1987: Singing Behavior and Type B song Structure in the Northern Parula. Texas Academy of Science, Huntsville, Texas.

### **TECHNICAL PAPER JUDGE**

1996-2015. Technical papers. Regional meeting of Oklahoma Junior Academy of Sciences.

1996-2015. Technical papers. State meeting of Oklahoma Junior Academy of Sciences.

1998. Technical papers, undergraduate division. Oklahoma Academy of Science.

### **ADVISOR FOR UNDERGRADUATE RESEARCH PROJECTS**

Reed, Haley. Incidence and pathology of *Dirofilaria* infection in Oklahoma Mammals.

Whitney, Tyler. A Comparative Study of the Vestibular System's Development Between Childhood and Young Adulthood

Penton, Melissa. Salivary proteins of mosquitoes collected in Pontotoc County, Ok

McCarn, Elizabeth. Incidence of *Dirofilaria imitus* infection in mosquitoes of Pontotoc County, Ok

Davis, Rick. A comparative study of the blood parasites of migratory and permanent resident birds in Oklahoma.

Mulder, Moninya. Breeding bird communities of the Chickasaw National Recreation Area.

Plemmons, Chet. Incidence of hematozoa infection in nestling Eastern Bluebirds.

McGaha, Hope. Ecological aspects of Eastern Bluebird nestlings from cavity nests in Pontotoc County, Oklahoma.

Coleman, Caprice. Growth rates in nestling Eastern Bluebirds in relation to environmental factors.

Mancillus, Michael. Population biology of breeding birds of the Pushmataha Wildlife Management Area, Pushmataha County, Oklahoma.

### **PROFESSIONAL SERVICE**

2018-20: Research Committee, East Central University

2016-18: Student Achievement Committee, East Central University

2014-2017: Special Awards Coordinator, Oklahoma State Science and Engineering Fair

2011-13: Committee on Committees. East Central University

2010-12: Student Achievement Committee, East Central University

2006-2009: Program Review Committee. East Central University  
2001-2004: Student Conduct Committee. East Central University  
2000-2005: Archivist. Oklahoma Ornithological Society  
2001-2004: General Education Committee. East Central University  
1998: Chairman, Biological Sciences. Oklahoma Academy of Sciences  
1998: Field Meeting Director. Oklahoma Academy of Sciences  
1997-2000: Secretary. Oklahoma Ornithological Society  
1997: Vice Chairman, Biological Sciences. Oklahoma Academy of Science  
1995-2000: Student Development Committee. East Central University  
1993-1994: Vice President, South side District. Virginia Wildlife Federation  
1993-1995: Intercollegiate Athletic Committee. Averett College  
1991-1995: Teacher Education Committee. Averett College

#### **COMMUNITY ACTIVITIES**

2000-03: Concerned Citizens Committee on the Lake Atoka Logging Project  
2001: Boy Scout Troop 9 Committee. First Presbyterian Church, Ada, Oklahoma  
1993: Lake Development Advisory Board. Danville, Virginia

#### **AWARDS/ DISTINCTIONS (Academic)**

2017-18: Teaching Excellence Award, East Central University  
2011-12: Teaching Excellence Award, East Central University  
2007: promotion to professor, East Central University  
2001: promotion to associate professor, East Central University  
2000: tenure, East Central University  
1999: teaching excellence nomination, East Central University  
1999: Distinguished Advisor Award, Sigma Tau Gamma Fraternity

1998: teaching excellence nomination, East Central University

### **AWARDS (Military)**

2011: Army Commendation Medal (2<sup>nd</sup> award)

2010: Army Commendation Medal, Army Achievement Medal, Afghanistan Campaign Medal (with oak leaf cluster), Iraq Campaign Medal (with oak leaf cluster), Global War on Terrorism Service Medal, NATO Medal, Overseas Service Ribbon

2009: Army Reserve Achievement Medal

2004: National Defense Medal, Army Service Ribbon

### **RESEARCH INTERESTS**

ecology, medical entomology, parasitology

### **REFERENCES**

Dr. Ken Andrews, Dean, College of Health and Sciences, East Central University, Ada, Oklahoma 74820, (580) 559-5496. kandrews@ecok.edu

Dr. Charles Biles, Professor (Emeritus), Dept. of Biological and Environmental Sciences, East Central University, Ada, Ok. 74820. (580) 447-4070 (home). adabiolab@gmail.com

Dr. Dwight Myers, Professor and Chair of Chemistry, East Central University, Ada, Ok 74820. (580)-559-5389. dmyers@ecok.edu