T. KEITH PHILIPS

• Department of Biology • Western Kentucky University • 1906 College Heights Blvd. #11080 • Bowling Green • KY • 42101-1080 • USA • office: (270) 745-3419 • lab: (270) 745-2394 • fax: (270) 745-6856 • e-mail: keith.philips@wku.edu

EDUCATION

Ph.D. 1997. The Ohio State University, Columbus, OH

Entomology, with emphasis on Coleoptera systematics. Dissertation: Systematics of New World Spider Beetles (Coleoptera: Ptinidae) (advisors: Norman Johnson and Charles Triplehorn).

M.S. 1990. Montana State University, Bozeman, MT

Entomology, with emphasis on Coleoptera systematics. Thesis: A Revision of the Methiini (Coleoptera: Cerambycidae) of the West Indies and circum-Caribbean Area (advisor: Michael Ivie).

B.Sc. 1986. Carleton University, Ottawa, ON

Biology Honours degree. Thesis: A cultural study of three species of the fungal plant pathogen *Colletotrichum* (Glomerellales: Glomerellaceae) (advisor: William Illman)

PROFESSIONAL EMPLOYMENT

- 2023- University Distinguished Professor, Western Kentucky University, Bowling
- 2018- Director, Biotechnology Center, Western Kentucky University, Bowling Green
- 2012-14. Graduate Student Coordinator, Western Kentucky University, Bowling Green

2011- Professor, Western Kentucky University, Bowling Green Instructor of insect biodiversity, systematics and evolution, and general biology for majors. Research on diversity, evolution, and ecology of insects and related projects.

2006-11. Associate Professor, Western Kentucky University, Bowling Green

- 2000-06. Assistant Professor, Western Kentucky University, Bowling Green
- **1999-00. Post-doctoral Fellow, University of Pretoria, South Africa** Diversity and evolution of the scarabaeine dung beetles of the world.
- 1996-99. Instructor, The Ohio State University, Mansfield campus and Stone Laboratory, Put-in-Bay, OH

First year general biology course, including laboratory, at regional campus; intensive classroom and field course on insect biology/diversity at Lake Erie research station.

1997. Systematist, Ohio Biological Survey and the Ohio River Valley Water Sanitation Commission (ORSANCO), Cincinnati and Columbus, OH Invertebrate diversity survey, including collection of live Chironomidae larvae for rearing and association with adults. Ohio River (Cincinnati to Mississippi River). 1996-98. Systematist, National Biological Service, Lake Michigan Ecological Station, Porter, IN

Contract involving identification and databasing of Coleoptera from oak savannah habitats to determine the effect of fire frequency on beetle diversity.

- 1990-96. Graduate Teaching Associate, The Ohio State University, Departments of Entomology and Biology, Columbus, OH Courses taught: Systematics & Biodiversity, Advanced and Introductory Entomology, Field Entomology, Bee Biology, General Biology, Biology & Society, Biology of Human Diversity.
- 1988-90. Graduate Research and Teaching Associate, Montana State University, Department of Entomology, Bozeman, MT Assistant Curator of the Entomology Research Collection; Survey team member

Assistant Curator of the Entomology Research Collection; Survey team member investigating the effects of fire intensity on the diversity of Coleoptera and Hymenoptera in various habitats in Glacier National Park, Montana; Teaching associate: Insects and Society and Field Entomology.

RESEARCH INTERESTS

Insect diversity, ecology, evolution, behavior, and conservation, especially in the Coleoptera, including the bostrichoid beetles, especially spider beetles, scarabaeine dung beetles, and the trechine cave beetles of the eastern USA.

REFEREED PUBLICATIONS – STUDENTS HIGHLIGHTED

- **202x.** Sukhdeo, C.A., T.K. Philips, and N.M. Anthony. Predicting dung beetle (Coleoptera: Scarabaeinae) compositional turnover under current and future climate change in West and Central Africa. J. of Insect Conservation. Final Draft.
- **202x.** Philips, T.K., and P. Moretto. Review of the genus *Pseudopedaria* (Scarabaeinae, Coprini) with the description of two new species from Central Africa. Pending submission to African Entomology.
- **202x.** Hendricks, Austin, T. Keith Philips, Tobias Engl, Rüdiger Plarre, Vincent G. Martinson. The bacterial microbiome in Spider and Deathwatch beetles. Microbiology Spectrum. In review.
- **202x.** Yan-Da Li, T. Keith Philips, Di-Ying Huang, Chen-Yang Cai. *Toxesbium* gen. nov., the first true member of Ernobiinae from mid-Cretaceous amber of northern Myanmar (Coleoptera: Ptinidae). Palaeobiodiversity and Palaeoenvironments. In review.
- 2024. Askren, M.E. & Philips, T.K. Two new species of *Trigonogenius* [Coleoptera: Ptinidae: Ptininae] from Northwest Argentina and a review of the Argentinian species. Revista de la Sociedad Entomológica Argentina. In press.
- 2023. Yan-Da Li, T. Keith Philips, Di-Ying Huang, Chen-Yang Cai. Earliest fossil of Eucradinae in mid-Cretaceous amber from northern Myanmar (Coleoptera: Ptinidae). Bulletin of Geosciences 98: 171-180.
- **2023.** Apostolopoulos, T. and T.K. Philips. Five new species of *Pseudomezium* Pic (Coleoptera: Ptinidae), a genus endemic to South Africa. In press, African

Entomology 31: e13198 (7 page). DOI: https://doi.org/10.17159/2254-8854/2023/a13198

- 2023. Chambliss, R. and T.K. Philips. *Coleotestudus*: A new genus of spider beetle (Coleoptera: Ptinidae) for North American *Niptus* with two new species from Mexico. Journal of Insect Diversity 39: 19-31. DOI: <u>10.12976/jib/2023.39.1.3</u>
- 2023. Philips, T.K., J.G. Bowen, A.G. Soumah and P. Moretto. Dung Beetle (Coleoptera: Scarabaeidae, Scarabaeinae) diversity of the highest elevation in West Africa: the Nimba Mountain Range, International Journal of Tropical Insect Science 43: 1097– 1109. <u>https://doi.org/10.1007/s42690-023-01017-3</u>
- **2023.** Philips, T.K., C.A. Sukhdeo [former student], and S.B. Peck. Dung Beetles (Scarabaeidae: Scarabaeinae) Attracted to Carrion in Ghana, West Africa and Evidence for Adult Food Source Plasticity. African Entomology 31: e12593. https://doi.org/10.17159/2254-8854/2023/a12593
- 2022. Apostolopoulos, T. and T.K. Philips. Possible consequences of the global climate crisis on caves based on thermal tolerance and dehydration resistance in the cave beetle *Darlingtonea kentuckensis* Valentine. Journal of Cave and Karst Studies 84: 119-128.
- 2022. Philips, T.K., A.D. Mudge, J. Orozco [former student], R. Neidlinger, G. Beinhundner, and C. Joly, A Rich and Diverse Fauna: An Illustrated Guide to the Cetoniines of Ghana with Comparisons to Ivory Coast and Benin (Coleoptera: Scarabaeidae: Cetoniinae). Zootaxa 5150 (2): 151–188. https://doi.org/10.11646/zootaxa.5150.2.1
- **2021.** Whorrall K.A. and T.K. Philips. Seven new species of spider beetle (Coleoptera: Ptinidae) in the genus *Cordielytrum* Philips Zootaxa 5040 (3): 414–427. https://doi.org/10.11646/zootaxa.5040.3.6
- **2020.** Gearner, O. M. and T.K. Philips. The new genus *Notaferrum* (Coleoptera: Ptinidae): the first known spider beetle associated with weaver ants. Zoosystema 43:29-36.
- 2020. Whorrall K.A. and T.K. Philips. An unusual new genus of spider beetle (Coleoptera: Ptinidae) from a guano island of Peru. Revista de la Sociedad Entomológica Argentina 79 (4): 8-14.
- 2020. Philips, T.K. and G. Mynhardt [former student]. Description of *Kelypitnus steineri*, a minute-sized spider beetle (Ptinidae) from Madagascar. Journal of Insect Biodiversity 017 (2): 048–057. <u>https://doi.org/10.12976/jib/2020.17.2.3</u>
- 2020. Boyd, O.F., T.K. Philips J. Johnson, and J. Nixon. Geographically structured genetic diversity in the cave beetle *Darlingtonea kentuckensis* Valentine 1952 (Coleoptera: Carabidae: Trechinae). Subterranean Biology 34: 1-23. https://doi.org/10.3897/subtbiol.34.46348
- 2020. Philips, T.K., K.A. Whorrall, O. Gearner, and J.-B. Huchet. A new genus of spider beetle (Coleoptera: Ptinidae) from Peru, South America. Zookeys 934: 81-91. <u>https://doi.org/10.3897/zookeys.934.38670</u>
- 2019. Peris, D., T. Bao, B. M\u00e4hler and T.K. Philips. A morphologically unique species of Ptinidae (Coleoptera) and the first found in mid-Cretaceous Kachin amber (Myanmar). Journal of Systematic Palaeontology 18:10, 873-883. DOI: <u>10.1080/14772019.2019.1695291</u>

- 2019. Gearner, O., T.K. Philips and R.H. Neidlinger. A Revision of the Spider Beetle Genus *Eutaphroptinus* Borowski (Coleoptera: Ptinidae). Tijdschrift voor Entomologie 162: 33-39. <u>https://doi.org/10.1163/22119434-20192083</u>
- 2019. Lynch, W.L., T.K. Philips and H. Klompen. Arthropod fauna associated with Black and Turkey Vulture nests (Accipitriformes: Cathartidae) in South Central Kentucky, USA. Biologia. <u>https://doi.org/10.2478/s11756-019-00359-z</u>
- 2019. Sukhdeo, C.A., T.K. Philips, G.C. Tasse, E.B. Fokam, and K. Morgan. Elevational variation of dung beetle (Coleoptera: Scarabaeinae) communities on Bioko Island, Equatorial Guinea. African Zoology 54: 151-160.
- 2019. Gearner, O.M., T.K. Philips, and P. Koniar. New Species of the Bizarre South African Endemic Genus *Meziomorphum* Pic (Coleoptera: Ptinidae). Annals of the Ditsong Museum of Natural History 8: 137-149.
- **2018.** Vlasak, J., T.K. Philips and M.A Ivie. Notes on the Methiini of the West Indies (Coleoptera: Cerambycidae). Coleopterists Bulletin 74: 1-9.
- 2018. Mongyeh, E.T., T.K. Philips, H.K. Kimbia and E.B Fokam. Elevational effects on dung beetle (Scarabaeidae: Scarabaeinae) communities on Mount Cameroon, West Central Africa. Environmental Entomology 47: 1072–1082.
- 2018. Philips, T.K., and R.L. Dickmann. A New Species of *Mezium* Curtis (Coleoptera: Ptinidae) from South Africa with Notes on the Genus and Species Limits. Coleopterists Bulletin 72: 317-330.
- 2017. Ricci, C.A., A.J. Meier, O.W. Meier, T.K. Philips. The effects of *Exyra ridingsii* (Lepidoptera: Noctuidae) on *Sarracenia flava (Nepenthales: Sarraceniaceae)*. Environmental Entomology 46(6):1346-1350.
- 2017. Niemiller M.L., K.S. Zigler, K.A. Ober, E.T. Carter, A.S. Engel, G. Moni, T.K. Philips, and C.D.R. Stephen. Rediscovery and conservation status of six extreme short-range endemic *Pseudanophthalmus* cave beetles (Carabidae: Trechini) in the Interior Low Plateau and Appalachians karst regions of Tennessee, USA. J. of Insect Conservation 10: 495-501.
- **2016.** Hudson, L.N....T.K. Philips (multi-authored). The database of the PREDICTS (Projecting Responses of Ecological Diversity In Changing Terrestrial Systems) project. Ecology and Evolution 7(1):145-188. doi: 10.1002/ece3.2579.
- 2016. Philips, T.K., C.S. DeWildt*, R. Sigismund and H. Davis. Survey of the insects found in the caves of Ghana, West Africa. Journal of Cave and Karst Studies. 78: 128-137.
- 2016. Ceríaco, L. M. P., Gutiérrez, E. E., Dubois, A., et al. (493 supporting coauthors). Photography-based taxonomy is inadequate, unnecessary, and potentially harmful for biological sciences. Zootaxa 4196 (3): 435–445.
- **2016**. Philips, T.K., M. Callahan, J. Orozco [former student], and N. Rowland. A molecular and morphological phylogenetic analysis of the North American beetle genus *Trichiotinus* (Coleoptera: Scarabaeidae: Trichiinae). Psyche 2016: 1-9.
- **2016**. Ricci, C.A., A.J. Meier, O.W. Meier, and T.K. Philips⁻ The effects of fire and other habitat characteristics on habitat selection of *Exyra ridingsii*, the Riding's pitcherplant looper moth. Castanea 81: 83-90.

- 2016. Philips, T.K. and A.L. Smith. New Records for *Ptinus peringueyi* Pic (Coleoptera: Ptinidae) and a Discussion of Morphological Variation in this Species Coleopterists Bulletin, 70: 403-406.
- **2016**. Philips, T.K. An evolutionary analysis of the Oniticellini and Onthophagini dung beetles (Scarabaeidae:Scarabaeinae). Zookeys 579: 9-57.
- **2014**. Hudson, L.N....T.K. Philips (multi-authored). The PREDICTS Database: A Global Database of How Local Terrestrial Biodiversity Responds to Human Impacts. Ecology and Evolution 4: 4701-4735.
- **2014**. Peris, D., T.K. Philips, X. Delclòs and C. Soriano. Anobiid beetles (Coleoptera: Polyphaga) from the Cretaceous conifer forests. Cretaceous Research (2015-hardcopy) 52:440-452.
- 2013. Mynhardt, G. and T.K. Philips. A third new genus and species of spider beetle, Okamninus annae (Coleoptera: Ptinidae), from Dominican amber. Palaeodiversity 6: 23–28.
- 2013. Huchet, J.B., G. Pereira, Y. Gomy, T. K. Philips, C. E. Alatorre-Bracamontes, M. Vásquez-Bolaños and J. Mansilla. Archaeoentomological study of a pre-Columbian funerary bundle (mortuary cave of Candelaria, Coahuila, Mexico). Annales de la Société entomologique de France (N.S.) 49: 277-290.
- 2013. Wood, M.V. and T.K. Philips. *Carinomezium*: another new genus of spider beetle (Coleoptera: Ptinidae) from Namaqualand, South Africa. Tijdschrift voor Entomologie 156: 11-19.
- 2012. Orozco, J. and T.K. Philips. *Pachnoda marginata* (Drury) (Coleoptera: Scarabaeidae: Cetoniinae) developing in bat guano in a West African cave. Coleopterists Bulletin 66: 378-379.
- 2012. Mudge, A.D., J. Orozco, T.K. Philips, and P. Antoine. Cetoniine Diversity of the Upper Guinean Forests and Savannas of Ghana (Coleoptera: Scarabaeidae: Cetoniinae). Terrestrial Arthropod Review 5: 133-174.
- **2012**. Bell, K.L. and T.K. Philips. Molecular systematics and evolution of the Ptinidae (Coleoptera: Bostrichoidea) and related families. Zoological Journal of the Linnean Society 165: 88-108.
- **2011**. Smiley, M.E. and T.K. Philips. Review of the spider beetle genus *Pseudomezium*. African Entomology 19: 572-596.
- 2011. Trimboli, S. and T.K. Philips. Description of a new species of *Meziomorphum* (Coleoptera: Ptinidae)from the Western Cape region of South Africa. Coleopterists Bulletin 65: 109-114.
- **2011.** Philips, T.K. and G. Mynhardt. Description of *Electragnostus intermedius*, the first spider beetle from Dominican amber (Coleoptera: Ptinidae), with implications on spider beetle phylogeny. Entomapeiron Paleoentomology 4:37-51.
- **2010**. Philips, T.K. and M.E. Smiley. A new species of spider beetle from the Dominican Republic. Florida Entomologist 93: 567-570.

- **2010**. Krell F.-T. and T.K. Philips. *Formicdubius* Philips & Scholtz from South Africa, a junior synonym of *Haroldius* Boucomont, and a survey of the trichomes in the African species (Coleoptera, Scarabaeidae, Onthophagini). Zookeys 34: 41-48.
- 2010. Orozco, J. and T.K. Philips. Morphological evidence on the phylogeny of the New World Cetoniini (Coleoptera: Scarabaeidae: Cetoniinae). Insect Systematics and Evolution 41: 39-54.
- **2009**. Akotsen-Mensah, C. and T.K. Philips. Description of a new genus of spider beetle (Coleoptera: Ptinidae) from South Africa. Zootaxa. 2160: 51–67.
- **2009**. Davis, A.L.V. and T.K. Philips. Regional Fragmentation of Rain Forest in West Africa and Its Effect on Local Dung Beetle Assemblage Structure. Biotropica 41: 215–220.
- 2009. Bell, K.L. and T.K. Philips. Six New Species of the Myrmecophile *Polyplocotes* Westwood (Coleoptera: Ptinidae) from South Australia. Australian Journal of Entomology. 48:15–24.
- **2008**. Bell, K.L. and T.K. Philips. A Revision of the South African myrmecophile *Diplocotidus* (Coleoptera:Ptinidae). African Entomology 16: 33-40.
- **2008**. Philips, T.K. and M.A. Ivie. Seven new species of *Canthochilum* Chapin from Hispaniola (Coleoptera: Scarabaeidae: Scarabaeinae). Zootaxa 1730: 27-42.
- 2008. Bell, K.L. and T.K. Philips. Four New Species of the Myrmecophile *Diplocotes* Westwood (Coleoptera: Ptinidae) from Central and North-eastern Australia. Australian Journal of Entomology 47: 80-86.
- **2008**. Philips, T.K. and K.L. Bell. *Attavicinus*, a new generic name for the myrmecophilous dung beetle *Liatongus monstrosus* (Scarabaeidae: Scarabaeinae) and notes on the species. Coleopterists Bulletin 62: 67-81.
- **2008**. Ivie, M.A. and T.K. Philips. Three new species of *Canthonella* Chapin from Hispaniola, with new records and nomenclatural changes for West Indian dung beetles (Coleoptera: Scarabaeidae: Scarabaeinae). Zootaxa 1701: 1–14.
- **2007.** Majka, C.G., T.K. Philips, and C. Sheffield. *Ptinus sexpunctatus* Panzer (Coleoptera: Anobiidae: Ptininae) newly recorded in North America. Entomological News 118: 73-76.
- 2006. Emlen, D.J. and T.K. Philips. Phylogenetic evidence for an association between tunneling behavior and the evolution of horns in dung beetles (Coleoptera: Scarabaeidae: Scarabaeinae) (pp. 47-56). In: M.L. Jameson and B.C. Ratcliffe (editors), Scarabaeoidea in the 21st Century: A Festchrift Honoring Henry F. Howden. Coleopterists Society Monograph, No. 5, 219 pp.
- 2005. Philips, T.K. Acanthaptinus triplehorni: A new genus and species of spider beetle (Coleoptera: Ptinidae) from Madagascar. Annales Zoologici (Warszawa) 55: 583-587.
- 2005. Davis, A.L.V. and T.K. Philips. Effect of Deforestation on a Southwest Ghana Dung Beetle Assemblage (Coleoptera: Scarabaeidae) at the Periphery of Ankasa Conservation Area. Environmental Entomology 34: 1081-1088.
- **2005**. Ocampo, F.C. and T.K. Philips. Food relocation and nesting behavior of the Argentinian dung beetle genus *Eucranium* Brullé and comparison with the southwest

African *Scarabaeus (Pachysoma)* (Coleoptera: Scarabaeidae: Scarabaeinae). Revista de la Sociedad Entomologica Argentina 64: 53-59.

- **2004**. Forgie, S. A., T.K. Philips and C.H. Scholtz. Evolution of the Scarabaeini (Scarabaeidae: Scarabaeinae). Systematic Entomology 30: 60-96.
- **2004**. Philips, T.K. and D.E. Foster. *Cryptopeniculus nigrosetus* n.g., n.sp. (Coleoptera: Ptinidae) from the Namaqualand region of South Africa. Zootaxa 577: 1-11.
- 2004. Philips, T.K., R. Pretorius, and C.H. Scholtz. A phylogenetic analysis of the dung beetles: (Scarabaeinae: Scarabaeidae): Unrolling an evolutionary history. Invertebrate Systematics 18: 1-36.
- **2004**. Philips, T.K., D. W. Edmonds and C.H. Scholtz. Phylogenetic analysis of the New World Phanaeini (Scarabaeidae: Scarabaeinae): Hypotheses on origins and relationships. Insect Systematics and Evolution 35: 43-63.
- **2003**. Lee, C.-F., T.K. Philips and P.-S. Yang. Revision of the genus *Afroeubria* Villiers (Coleoptera: Psephenidae: Eubriinae). Annals of the Transvaal Museum 40:137-143.
- 2003. Harrison, J. du G. and T.K. Philips. Phylogeny of *Pachysoma* MacLeay and related flightless Scarabaeini (Scarabaeidae: Scarabaeinae). Annals of the Transvaal Museum 40: 47-71.
- 2003. Lee, C.-F., T.K. Philips and P.-S. Yang. *Afrobrianax*, a new genus of the Eubrianacinae (Coleoptera: Psephenidae) with notes on its phylogenetic position and description of one new species from South Africa. African Entomology 11:1-8.
- **2002**. Philips, T.K., C.H. Scholtz and F.C. Ocampo. A phylogenetic analysis of the Eucraniini (Scarabaeidae: Scarabaeinae). Insect Systematics and Evolution 33: 241-252.
- **2002**. Davis, A.L.V., C.H. Scholtz and T.K. Philips. Historical biogeography of scarabaeine dung beetles. Journal of Biogeography 29: 1-41.
- 2001. Pretorius, R., T.K. Philips and C.H. Scholtz. Geometric morphometrics, the metendosternite and its use in phylogenetics of the Scarabaeinae (Coleoptera). Elytron 14: 125-144.
- **2001**. Philips, T.K. A record of *Micromalthus debilis* LeConte (Coleoptera: Micromalthidae) from Central America and a discussion of its distribution. Florida Entomologist 84:159-160.
- 2001. O'Neill, K.M., W.P. Kemp, C. Seibert, M.G. Rolston, J.A. Bess, and T.K. Philips. Natural enemy assemblages on native and reseeded grasslands in southwestern Montana: a family-level analysis. Western North American Naturalist 61: 195-203.
- **2000**. Philips, T.K. and C.H. Scholtz. A new genus and species of trichome bearing dung beetle (Scarabaeidae: Scarabaeinae) from South Africa. African Entomology 8: 227-231.
- **2000**. Philips, T.K. A Phylogenetic analysis of the New World Ptininae (Coleoptera: Bostrichoidea). Systematic Entomology. 25: 1-29.
- **1999**. Bond, W.B. and T.K. Philips. Diversity, phenology, and flower hosts of anthophilous long-horned beetles (Coleoptera: Cerambycidae) in a southeastern Ohio forest. Entomological News. 110: 267-278.

- **1999.** Philips, T.K. Revision of the New World genus *Niptinus* Fall (Coleoptera: Anobiidae: Ptininae). Journal of the Kansas Entomological Society. 71: 137-158.
- 1998. Philips, T.K., W.E. Steiner, and C.A. Triplehorn. A new species of Central American *Platydema* Laporte and Brullé (Coleoptera: Tenebrionidae) recently established in Florida. Coleopterists Bulletin. 52: 291-296.
- 1998. Philips, T.K. A new genus and species of putatively myrmecophilous ptinine, *Coleoaethes tetralobus* (Coleoptera: Anobiidae: Ptininae). Pan-Pacific Entomologist. 74(2): 1-5.
- 1998. Philips, T.K., and M.A. Ivie. The Methiini of the West Indies (Coleoptera: Cerambycidae) with notes on circum-Caribbean species. Entomologica Scandinavia. 29: 57-87.
- 1998. Philips, T.K. and D.C. Smith. Notes on the biology and hosts of *Procecidochares atra* (Loew) (Diptera: Tephritidae): Evidence for cryptic species. Entomological News. 109: 159-164.
- 1998. Philips, T.K. A new genus and species of spider beetle from the Virgin Islands: *Lachnoniptus lindae* (Coleoptera: Anobiidae: Ptininae). Florida Entomologist. 81: 1-6.
- **1998**. Philips, T.K., M.A. Ivie and L.L. Ivie. Leaf mining in spider beetles (Coleoptera: Anobiidae: Ptininae): An unreported mode of larval feeding in the Bostrichoidea. Proceedings of the Entomological Society of Washington. 100: 147-153.
- **1997**. Philips, T.K. *Cubaptinus* Zayas, a new synonym of *Fabrasia* Martínez and Viana (Coleoptera: Anobiidae: Ptininae). Coleopterists Bulletin. 51: 52.
- 1996. Philips, T.K., R.G. Hancock, and W.A. Foster. Epigamic display and unique mating position in *Wyeomyia arthrostigma*. (Diptera: Culicidae). Journal of Insect Behavior. 9: 739-753.
- 1990. Ivie, M.A., T.K. Philips, and K.A. Johnson. High altitude aggregations of *Anetia briarea* Godart (Nymphalidae: Danainae). Journal of the Lepidopterist's Society. 44: 209-214.
- **1990**. Ivie, M.A. and T.K. Philips. New Species of *Canthonella* Chapin from Hispaniola (Coleoptera: Scarabaeidae: Scarabaeinae). Journal of the New York Entomological Society. 98: 429-433.
- **1989**. Philips, T.K. and M.A. Ivie. Familial placement of *Atenizoides curacaoae* (Coleoptera: Cerambycidae, Anthicidae). Pan-Pacific Entomologist. 65: 162.
- 1983. Klassen, R.A., J.V. Matthews Jr., and T.K. Philips. Taxa in lake sediments of the District of Keewatin. Current Research, Geological Survey of Canada, Part A: 357-361.

BOOK CHAPTERS

202x. Philips, T.K., and R.H. Neidlinger. Ptinidae. *In* <u>American Beetles Vol. 2</u>, Arthur V. Evans, Andrew B.T. Smith, Paul E. Skelley, (Editors), CRC Press. Submitted.

- **202x**. Philips, T.K., and M.A. Ivie. Jacobsoniidae. *In* <u>American Beetles Vol. 2</u>, Arthur V. Evans, Andrew B.T. Smith, Paul E. Skelley, (Editors), CRC Press. Accepted.
- **202x**. Philips, T.K. Amphizoidae. *In* <u>American Beetles Vol. 1</u>, Arthur V. Evans, Andrew B.T. Smith, Paul E. Skelley, (Editors), CRC Press. Accepted.
- **202x**. Philips, T.K. and D.K. Young. Micromalthidae. *In* <u>American Beetles Vol. 1</u>, Arthur V. Evans, Andrew B.T. Smith, Paul E. Skelley, (Editors), CRC Press. Accepted.
- **2022**. Ober, K.A., M.L.Neimiller and T.K. Philips. Cave trechine (Coleoptera: Carabidae) diversity and biogeography in North America. *In* <u>Cave Life Drivers of Diversity</u> <u>and Diversification</u>. J.J. Wynne (Editor). John Hopkins Press. 352 pp.
- 2011. Philips, T.K. The Evolution and diversification of the Scarabaeine Dung Beetles. In <u>Dung Beetle Ecology and Evolution</u>. L.W. Simmons & J. Ridsdill-Smith (Editors). Wiley-Blackwell, Hoboken, NJ.
- 2010. Philips, T.K. and K.L. Bell*. Ptinidae. In <u>Handbook of Zoology, Coleoptera II</u>, R.A.B. Leschen, R.G. Beutel, & J.F. Lawrerence (Editors). De Gruyter Publishers, Berlin/ New York.
- 2008. Philips, T.K. The Spider Beetles of Argentina. In <u>Biodiversidad de Artrópodos</u> <u>Argentinos vol. 2</u>. Claps, L.E.; G. Debandi & S.A. Roig-Juñent (Editors). Sociedad Entomológica Argentina.
- 2002. Philips, T.K. Anobiidae. In <u>American Beetles Vol. 2</u>, R.H. Arnett, Jr., M.C. Thomas, P.E. Skelley, J.H.Frank (Editors), CRC Press.
- **2002**. Philips, T.K., M.A. Ivie, and J.J. Giersch. Jacobsoniidae. *In* <u>American Beetles Vol. 2</u>, R.H. Arnett, Jr., M.C. Thomas, P.E. Skelley, J.H.Frank (Editors), CRC Press.
- **2002**. Philips, T.K. and M.A. Ivie. Bothrideridae. *In* <u>American Beetles Vol. 2</u>, R.H. Arnett, Jr., M.C. Thomas, P.E. Skelley, J.H.Frank (Editors), CRC Press.
- **2001**. Philips, T.K. and W. Xie. Amphizoidae. *In* <u>American Beetles Vol. 1</u>, R.H. Arnett and M. Thomas (Editors), CRC Press.
- **2001**. Philips, T.K. and D.K. Young. Micromalthidae. *In* <u>American Beetles Vol. 1</u>, R.H. Arnett and M. Thomas (Editors), CRC Press.

SCARABAEINAE RESEARCH NETWORK PUBLICATIONS

2009. Nichols, E., T. A. Gardner, C. A. Peres, S. Spector and The Scarabaeinae Research Network* (* additional ScarabNet members contributed to this effort: Keith Philips and Karen Bell). Co-declining mammals and dung beetles: an impending ecological cascade. Oikos 118: 481-487.

2007. Nichols, E., T. Larsen, S. Spector, A.L. Davis, F. Escobar, M. Favila, K. Vulinec, and The Scarabaeinae Research Network* (* additional ScarabNet members contributed to this effort: Toby A. Gardner and Keith Philips). Global dung beetle response to tropical forest modification and fragmentation: A quantitative literature review and meta-analysis. Biological Conservation 137: 1-19.

PROJECTS IN PROGRESS: SUMMARY

- Cave beetles of the eastern USA, including next generation sequencing (M. Niemiller, K. Ober, and grad students of mine)
- Expanded molecular (and will be combined with morphological data) analysis of the bostrichoid beetles (continuing studies with K. Bell, X. Bellés, and others).
- Ecological studies of dung beetles in Africa (with numerous collaborators, including students).
- Phylogeny of spider beetles using morphological data (with G. Mynhardt).
- Amber fossil spider beetle descriptions, including new genera (with G. Mynhardt).
- Conservation of insects in Upper Guinean forests of West Africa.
- Combined molecular and morphological analysis of the psephenid water penny beetles (with M. Wood (current MS student), C.-F. Lee, and W. Shepard).
- Phylogeographic studies of the dung beetle genus *Anachacos* in Ghana using CO1 sequence data (with L. Paemka (former MS student) and K. Bell).
- Ecology of a cave beetle in Mammoth Cave National Park (with C. DeWildt (former MS student) and K. Helf).
- Coleoptera fauna and behavior associated with the honey bee, *Apis mellifera*, in Southern Africa (with P. Kryger and J. Orozco (former MS student)).
- New genera of spider beetles from South Africa, Peru, and Australia
- The evolution of aggregation behavior of lycid beetles and their mimics in South Africa (with M. Ivie).
- Spider beetles of the West Indies.
- Larval and pupal descriptions of phylogenetically important spider beetles (Anobiidae).
- Seed feeding in spider beetles (with F. Keller)

ONGOING PROJECTS WITH COLLABORATORS

• Eric Fokum - University of Buea, Cameroon. We are co-advising a Ph.D. student, Elvis Mongyeh. One paper has been published with the student and a second one is nearly ready for submission. Eric and I also published with another student, Christie Sukhdeo. who I co-advised for her Ph.D. at the University of New Orleans. These studies are on dung beetle diversity, abundance, and ecology on Mt Cameroon and elevational effects on dung beetle diversity and abundance on Bioko Island, Equatorial Guinea.

• Yan-Da Li (Nanjing Institute of Geology and Paleontology, and Centre for Excellence in Life and Paleoenvironment, Chinese Academy of Sciences, Nanjing, China and, University of Bristol, UK) – description and comparison of a new genus of fossil anobiid beetle from Burmese amber.

• Karen Bell (University of Western Australia, Perth, Australia), and Xavier Bellés (Evolution of Insect Metamorphosis Group, Head Institute of Evolutionary Biology, Barcelona, Spain) - Molecular analysis of the bostrichoid beetles using single genes and a next generation sequencing approach.

• Shaun Forgie (Dung Beetle Innovations, Aukland, New Zealand) and Bruce Gill [Agriculture Canada (retired)) – rediscovery of a giant Angolan dung beetle that was thought extinct but only "lost" for a century.

• **Philippe Morretto** (Toulon, **France**) – revision of the African dung beetle genus *Pseudopedaria* and the dung beetle fauna of the Nimba Mountain Range, Guinea, West Africa (the latter has been submitted).

• Rich Leschen and Kyle Whorrell (Landcare Research Institute and University of Aukland, New Zealand) – studies of the ptinid beetle fauna in NZ including a "missing link" transitional form between two beetle families.

Ming Bai (Institute of Zoology, Chinese Academy of Sciences No. 1, China) – study of a Myanmar fossil anobiid beetle with a never-before-seen unique block shaped pronotum.
Diana Silva (Museo de Historia Natural, Lima, and National University of San Marcos,

Peru) – study of the spider beetles of Peru.

• Mario Enrique Elgueta Donoso (Museo Nacional de Historia Natural, Santiago, Chile) – study of the tenebrionid beetle fauna of the Atacama Desert in Chile.

• Jean-Bernard Huchet (Muséum national d'Histoire naturelle, Paris, France) – study of insects found in archeological sites with preserved human remains.

• **Gaspar Soumah** (Institut de Recherche Environnementale de Bossou (IREB), **Guinea**) – study of the dung beetle fauna of a World Heritage Site - the Nimba Mountain Range in southwest Guinea (submitted).

• **Chi-Feng Lee** (Taiwan Agricultural Research Institute, **Taiwan**) – Molecular phylogeny of the global water penny beetles with former grad student Matt Wood)

• **Karen Ober** (College of the Holy Cross, **MA**) – phylogeny of the Cave beetle *Pseudanopthalmus pubescens* species group with former grad student Jed Nixon (his thesis work).

• **Matt Niemiller** (U of Alabama, Huntsville, **AB** and **Jarrett Johnson** (Biology, WKU) – phylogeny of the cave beetle *Darlingtonea* with former WKU grad student, Tommy Apostolopoulos (his thesis work in part).

• Vince Martinson (U of New Mexico, NM) – investigating the microbiome symbionts of the bostrichoid beetles (spider beetles, anobiid beetles, and related families).

• Christie Sukhdeo (Antelope Valley College, Lancaster, CA) – Two manuscripts: 1. Predicting dung beetle (Coleoptera: Scarabaeinae) compositional turnover under current and future climate change in West and Central Africa and 2. Comparative phylogeography of three widespread dung beetle species (Coleoptera:

Scarabaeinae) in an Afromontane biodiversity hotspot.

• Fran Keller (Folsom Lake College, CA) - Newly reported seed feeding behavior in spider beetles

• Glene Mynhardt (Hanover College, IN) - Phylogeny of spider beetles using morphological data and amber fossil spider beetle descriptions, including two new genera yet to be described.

• Kurt Helf (National Park Service, Cumberland Piedmont Network, Mammoth Cave, KY)

– Evolutionary history of the cave beetles of eastern North America.

• Michael Ivie (Montana State University, MT) – Jacobsoniidae chapter update for the book "American Beetles."

• **Daniel Young** (University of Wisconsin, **WI**) – Micromalthidae chapter update for the book "American Beetles."

ONGOING PROJECTS WITH WKU COLLABORATORS:

• Eric Conte (Chemistry). Study of the glandular secretion of a Peruvian spider beetle, *Xenocotylus*, using Gas Chromatography- Mass Spectrometry.

• **Rodney King** and undergrad students (**Biology**) – Study investigating the presence of the *Wolbachia* bacterial symbiont and its viral bacteriophage in spider beetles.

• **Jarrett Johnson** (**Biology**) – Evolution of the cave beetle *Darlingtonea* with former grad student, Tommy Apostolopoulos and with Matt Niemiller (U. of Alabama, Huntsville).

PRESENTATIONS (GRAD STUDENT PRESENTATIONS WITH *. NOTE: Undergrad student presentations and WKU student research conference presentations not included)

- 2024. Entomology Society of America Annual Meeting, Phoenix AZ. A phylogeographic study of the Kentucky endemic cave beetle *Neaphaenops tellkampfii* Erichson (1844) (Coleoptera: Carabidae: Trechini). Mahamad Miya* and T. Keith Philips.
- 2024. Entomology Society of America Annual Meeting, Phoenix AZ. The astonishing and unexplored diversity of Peruvian spider beetles (Coleoptera: Ptinidae). Marlena Askren* and T. Keith Philips.
- 2019. Entomology Society of America Annual Meeting, St. Louis MO. The Enigmatic Evolution of the Spider Beetles and Related Families (Coleoptera: Bostrichoidea). Olivia Gearner* and T. Keith Philips.
- **2019.** Entomology Society of America Annual Meeting, St. Louis MO. Delineation of formerly undescribed, morphologically cryptic members of the *Pseudanophthalmus pubescens* species group (Coleoptera: Carabidae). Jedidiah Nixon* and T. Keith Philips.
- 2019. Entomology Society of America Annual Meeting, St. Louis MO. Exploration of the obscure diversity of spider beetles (Coleoptera: Ptinidae) in Western South America. Kyle Whorrall* and T. Keith Philips.
- **2018. Kentucky Academy of Science**. A phylogenetic examination of the *Pseudanophthalmus* cave beetles (Trechinae) of western Kentucky. Jed Nixon* and T. Keith Philips.
- **2018. Kentucky Academy of Science**. New Discoveries of Relationships in Spider Beetles and Related Families Using Molecular Phylogenetics. Olivia Gearner* and T. Keith Philips.
- 2018. Green River Grotto Club, Bowling Green KY. Geographically Structured Genetic Diversity in the Cave Beetle *Darlingtonea kentuckensis* and notes on other eastern NA cave trechines (Coleoptera, Carabidae, Trechina). Boyd, O.*, Philips, K. and Johnson, J. (invited talk).
- 2018. Geological Society of America, Southeastern Section, Knoxville TN. Geographically Structured Genetic Diversity in the Cave Beetle *Darlingtonea kentuckensis* Valentine 1952 (Coleoptera, Carabidae, Trechina). Boyd, O.*, Philips, K. and Johnson, J. (invited talk).
- 2017. Entomology Society of America Annual Meeting, Denver CO. New Species of the Bizarre South African Endemic Genus *Meziomorphum* Pic (Coleoptera: Ptinidae). Olivia Gearner* and T. Keith Philips.
- **2017.** Entomology Society of America Annual Meeting, Denver CO. Discovery of novel *Dignomus* (Coleoptera: Ptinidae) from sub-Saharan Africa. Amelia Smith* and T. Keith Philips.
- 2017. National Cave and Karst Management Symposium, Eureka Springs AR. Rediscovery and conservation status of short-range endemic *Pseudanophthalmus* cave beetles (Carabidae: Trechini) in Tennessee, Alabama, and Georgia. Matthew Niemiller, T. Keith Philips (multiauthored)
- **2016.** International Congress of Entomology, Orlando FL. Poorly known and possible myrmecophiles in the spider beetles and dung beetles. T. Keith Philips (invited talk).
- **2016.** International Congress of Entomology, Orlando FL. Comparative phylogeography of three widespread dung beetles (Coleoptera: Scarabaeinae) in Cameroon. Christie Sukhdeo* and T. Keith Philips.
- **2016.** International Congress of Entomology, Orlando FL. To the end of the World, the rediscovery of the World's largest flightless dung beetle in southeast Angola, *Scarabaeus cancer* (Arrow) (Coleoptera: Scarabaeini). Bruce D. Gill, T. Keith Philips and Shaun Forgie.
- **2016.** WKU Science Café, Bowling Green KY. Dung beetles, landmines, and conservation: Stalking an extinct dung beetle in war-torn Angola, Africa. T.K. Philips (Feb. 2016, invited).
- **2015.** Agriculture Canada, Ottawa ON. Systematic studies on spider beetles and cave beetles, T.K. Philips (Feb. 2015, invited).

- **2014.** Entomology Society of America Annual Meeting, Portland OR. Genetic diversity in the genus *Darlingtonea*: phylogeography and species limits. Olivia F. Boyd* and T. Keith Philips.
- **2014.** Entomology Society of America Annual Meeting, Portland OR. New species of *Pseudanophthalmus* from Western Kentucky Caves. Olivia F. Boyd* and T. Keith Philips.
- 2014 11th Annual Southeastern Ecology and Evolution Conference (SEEC), Statesboro, GA. Characterization of West Central African dung beetle (Coleoptera: Scarabaeidae) fauna and their vulnerability to human activity. (Poster), 2nd Place Best Graduate Student Poster. Christie A. Sukhdeo*, T. Keith Philips, and Nicola M. Anthony
- **2013.** Entomology Society of America Annual Meeting, Austin TX. The poop on dung beetle evolution. T. Keith Philips. (Symposium on decomposers, invited talk).
- 2013. Entomology Society of America Annual Meeting, Austin TX. A preliminary look at the phylogeography of the monotypic cave beetle genus *Darlingtonea* (Coleoptera: Carabidae). Boyd, O.* and Philips, TK. (2nd place best grad student Poster)
- **2013. 10**th **Mammoth Cave Research Symposium**. Valkanas E.* Philips TK, Rowland N, Helf K. The cave beetle *Neaphaenops tellkampfi* Erichson: Relationships within and among related genera using molecular data. (Poster, Feb.)
- **2011.** Entomology Society of America Annual Meeting, Reno. Untangling the spider beetle web: redefining generic groups based on morphology. (talk- Glene Mynhardt* presenter).
- **2011.** Entomology Society of America Annual Meeting, Indianapolis. *Explorations into the amazing diversity of Pseudomezium: an endemic and enigmatic genus from South Africa.* M. Smiley* and T. Keith Philips (poster).
- **2011.** Entomology Society of America Annual Meeting, Indianapolis. A survey of the dung beetles of the critically endangered habitats of the Nimna Mountain Range and environs, Guinea, West Africa. T. Keith Philips and Josh Jackson* (Poster).
- **2010.** University of Manitoba, Winnipeg. *Hotspots in Africa: Beetles, Diversity, and Conservation.* T. Keith Philips (Invited talk).
- **2009.** Entomology Society of America Annual Meeting, Indianapolis. *Dung beetle diversity in the Guinean forest of Ghana*. T. Keith Philips, (Invited talk).
- **2009.** University of Nebraska, Lincoln. Insects or bush meat: Conservation efforts in the Upper Guinean forests of Ghana. T. Keith Philips, (Invited Talk).
- **2007.** Purdue University, West Lafayette. Insects or bush meat: Conservation efforts in the Upper Guinean forests of Ghana. T. Keith Philips, (Invited Talk).
- **2006.** Entomology Society of America Annual Meeting, Indianapolis. *A survey of the beetles of Ghana*. T. Keith Philips, (Invited Talk).
- **2006.** VII Reunión Latinoamericana de Scarabaeideología, Santa Cruz, Bolivia. *Dung* beetles in the Upper Guinean forests of Ghana. T. Keith Philips, (Talk).
- **2005.** Entomology Society of America Annual Meeting, Ft. Lauderdale. Description of a new genus of spider beetle from South Africa. C. Akotsen-Mensah* and T. Keith Philips (Coleoptera: Ptinidae). (Poster).
- **2005.** Entomology Society of America Annual Meeting, Ft. Lauderdale. *A phylogenetic analysis of the Oniticellini and Onthophagini (Scarabaeidae: Scarabaeinae.* T. Keith Philips (Poster).
- **2005.** Scarabaeinae Research Network meeting, Archbold Biological Station, Florida. Dung Beetle Studies in Ghana and the evolution of the Oniticellini and the Onthophagini (Scarabaeidae: Scarabaeinae). T. Keith Philips (Talk).
- **2004.** Kentucky Academy of Sciences, Murry State University. Evolution of the sacred scarab (Scarabaeidae: Scarabaeinae. T. Keith Philips (Talk).
- **2004.** Scarabaeinae Research Network meeting, Earth University, Costa Rica. Evolution of the sacred scarab (Scarabaeidae: Scarabaeinae. T. Keith Philips (Talk).
- **2004.** VI Reunión Latinoamericana de Scarabaeideología, Earth University, Costa Rica. *A phylogenetic analysis of the Oniticellini and Onthophagini (Scarabaeidae: Scarabaeinae.* T. Keith Philips (Talk).

- **2004.** Sigma Xi Student Research Conference, Bowling Green. Dung beetles (Scarabaeinae) in the Upper Guinean forests of Ankasa, Ghana. Douglas Foster* and T. Keith Philips (Poster).
- **2003.** Entomology Society of America Annual Meeting, Cincinnati. *Dung beetles* (*Scarabaeinae*) in the Upper Guinean forests of Ankasa, Ghana. Douglas Foster* and T. Keith Philips (Poster).
- **2003.** Kentucky Academy of Science, Bowling Green. *Dung beetles (Scarabaeinae) in the Upper Guinean forests of Ankasa, Ghana*. Douglas Foster* and T. Keith Philips (Poster).
- **2003.** Agriculture Canada Biodiversity Research Centre, Ottawa. *The evolution of the scared scarab and its kin.* T. Keith Philips T. Keith Philips (Invited talk).
- **2002.** Entomology Society of America Annual Meeting, Fort Lauderdale. *Rockin' and rolling: Evolutionary patterns in the scared scarab and its kin.* T. Keith Philips (Invited talk).
- **2002.** WKU Kentucky Biodiversity Conference, Bowling Green. Diversity of Kentucky scarabaeines and their evolution. T. Keith Philips (Talk).
- **2001.** Entomology Society of America Annual Meeting, San Diego Afrobrianax, a new genus of the Eubrianacinae (Coleoptera: Psephenidae) with notes on its phylogenetic position and description of one new species from South Africa. T. Keith Philips and Chi-Feng Lee (Poster).
- **2001.** Entomology Society of America Annual Meeting, San Diego Phylogenetic analysis of the New World Phanaeini (Scarabaeidae: Scarabaeinae): Hypotheses on relationships and origins. T. Keith Philips (Poster).
- **2001. IV Reunión Latinoamericana de Scarabaeideología, Quito, Ecuador** *Estudio filogenetico preliminar de la tribu Phanaeini (Scarabaeidae: Scarabaeinae).* T. Keith Philips and W.D. Edmonds (Talk: presented by W.D. Edmonds).
- **2001.** Ohio Academy of Science, Mount Union College, Alliance, OH. *Diversity, phenology, and flower hosts of anthophilous long-horned beetles in a southeastern Ohio forest.* T. Keith Philips and B. Bond (Talk: presented by B. Bond).
- **2000.** Entomology Society of America Annual Meeting, Montreal, QC. Evolution of the scared scarab and its kin. T. Keith Philips (Poster).
- **2000.** Santa Barbara Museum of Natural History, Santa Barbara, CA. The evolution of spider beetles and dung beetles: revelations of a phylogenetic approach. T. Keith Philips (Invited talk).
- **1999.** Department of Zoology and Entomology, University of Pretoria, Pretoria, South Africa. *Biology and Evolution of the Scarabaeinae*. T. Keith Philips (Talk).
- **1999.** Department of Biology, Western Kentucky University, Bowling Green, KY. Hypotheses on the evolution of animals: Case studies with spider beetles and dung beetles. T. Keith Philips (Invited talk).
- **1998.** Northern Michigan University, Marquette, MI. The biodiversity of New World spider beetles (Coleoptera: Anobiidae): Not just stored product pests. T. Keith Philips (Invited talk).
- **1998.** National Museum of Natural History, Washington, D.C. Systematics of New World spider beetles (Coleoptera: Anobiidae: Ptininae). T. Keith Philips (Invited talk).
- **1997.** Entomology Society of America Annual Meeting, Nashville, TN. *Revision of the neotropical genus* Prosternoptinus (*Coleoptera: Anobiidae: Ptininae*). T. Keith Philips (Poster).
- **1997.** Entomology Society of America Annual Meeting, Nashville, TN. *Effects of prescribed burning on the diversity of Scarabaeidae in southern Ohio oak forests.* (A. Smith, K. Philips, and D. Horn). (Poster).
- **1997.** Department of Entomology, The Ohio State University, Columbus, OH. Systematics of New World spider beetles (Coleoptera: Anobiidae: Ptininae). (Talk).
- 1997. Mosquito Control Association Annual Meeting, Salt Lake City, UT. Epigamic display and unique mating position in Wyeomyia arthrostigma. (Diptera: Culicidae). (K. Philips, R. Hancock, and W. Foster). (Talk presented by W. Foster).

- **1997.** North Central Branch Meeting of the Entomological Society of America, Columbus, OH. Impact of fire on Scarabaeidae in southern Ohio oak forests. (A. Smith, K. Philips, and D. Horn). (Poster).
- **1996.** Entomological Society of America Annual Meeting, Louisville, KY. *A phylogenetic analysis of the New World ptinines: Are spider beetles really monophyletic?* T. Keith Philips (Talk).
- **1996.** Entomological Society of America Annual Meeting, Louisville, KY. Scarabaeidae as indicators of impact of burning in southern Ohio oak forests. (A. Smith, K. Philips, and D. Horn). (Poster).
- **1995.** Entomological Society of America Annual Meeting, Las Vegas, NV. Identification of areas of endemism using a geographic information system. (N. Johnson, F. Ejchel, K. Philips, J. Tipping, P. Kovarik). (Poster).
- **1995.** Annual Meeting: Ohio Systematists, Columbus, OH. Use of heliconiine and *ithomiine butterflies (Nymphalidae) for identification of areas of endemism in Latin America.* T. Keith Philips (Talk).
- **1994.** Entomological Society of America Annual Meeting, Dallas, TX. Systematics of New World spider beetles (Anobiidae: Ptininae). T. Keith Philips (Poster).
- **1994.** Department of Entomology, Montana State University, Bozeman, MT. New World ptinines (spider beetles) and their "discovery" in Venezuela. T. Keith Philips (Talk).
- **1991.** Department of Entomology, The Ohio State University, Columbus, OH. *Aggregation in a primitive danaine butterfly.* T. Keith Philips (Talk).
- **1989.** Entomological Society of America, Annual Meeting, San Antonio, TX. *Revision of the* Methia necydalea *species-group* (*Coleoptera: Cerambycidae*). T. Keith Philips (Talk).
- **1989.** Montana Academy of Sciences, Annual Meeting, Bozeman, MT. Scarabaeinae (Coleoptera: Scarabaeidae) of Pedernales, Dominican Republic. T. Keith Philips (Talk).
- **1988.** Department of Entomology, Montana State University, Bozeman, MT. Entomological Wanderings in Southeast Asia. T. Keith Philips (Talk).

ADDITIONAL MEETINGS

2021: Coleopterists Society Annual Meeting, Denver CO. (virtual).

2021: Entomology Society of America Annual Meeting, Denver CO. (virtual).

2012: Entomology Society of America Annual Meeting, Knoxville TN.

- 2008: Entomology Society of America, Reno NV.
- 2006: Scarabaeine Research Network, Santa Cruz, Bolivia.
- 2001: Kentucky Biodiversity Conference, Bowling Green KY.
- 2001: Sigma Xi Meeting, Bowling Green KY.
- 2000: Canada Museum of Nature and Canadian National Collection, Ottawa, ON.

1988: International Congress of Entomology, Vancouver, BC.

GRANTS (FUNDED IN BOLD)

EXTERNAL:

- 2018. Percy Sladen Fund: Research on spider beetle diversity in South Africa. (£500)
- **2017.** NSF: Dimensions: Collaborative Research: Comparative molecular systematics and biogeography of subterranean invertebrates from eastern North America, Matthew Niemiller, PI (Collaborator)
- **2017.** NSF: Dimensions: Collaborative Research: Genomic analysis of arthropod diversification into extreme subterranean habitats. Markus Friedrich, PI (Collaborator)
- **2015**. National Geographic Young Explorers Fund. (with PhD student Christie Sukhdeo). Impacts of bush-meat hunting on dung beetle diversity and dung removal rates in Cameroon (\$20,000)
- 2015. National Science Foundation, EPSCoR, Research Scholars Program. Phylogeography and molecular systematics of the trechine cave beetle genera *Darlingtonea* and *Neaphaenops* (\$15,000).
- **2014**. National Geographic Explorers Fund. (with Shaun Forgie, Landcare Research Institute, Aukland, New Zealand). Rediscovery of *Scarabaeus cancer*: a charismatic dung beetle lost for a century (\$14,000)
- 2014. Percy Sladen Memorial Fund. Rediscovery of *Scarabaeus cancer* in Angola: a charismatic dung beetle lost for a century (£600)
- 2014. Systematics Research Fund, Society for Systematic Biologists Grant (with PhD student Christie Sukhdeo). The Highland Scarabaeinae Dung Beetle Fauna in Cameroon and Hypotheses on Modes of Speciation (\$2000)
- 2014. Sigma Xi (with PhD student Christie Sukhdeo). The Highland Scarabaeinae Dung Beetle Fauna in Cameroon and Hypotheses on Modes of Speciation (\$800).
- **2014**. Lewis and Clarke Grant (with PhD student Christie Sukhdeo). The Highland Scarabaeinae Dung Beetle Fauna in Cameroon and Hypotheses on Modes of Speciation
- **2013**. Explorers Club Grant (with PhD student Christie Sukhdeo). The Highland Scarabaeinae Dung Beetle Fauna in Cameroon and Hypotheses on Modes of Speciation
- 2011. Federal Assistance Award, US Dept. of State. University Entomology/Biology Curriculum Development Project in Afghanistan. (\$10,000). Awarded but declined.
- 2010-12.Bilateral Research Activities Programme, Landcare Research Institute, New Zealand. (collaboration with S. Forgie). (~\$12,000)
- **2010**. National Science Foundation, Biological Surveys and Inventories (**NSF-BSI**). Systematics of the Southern African Spider Beetles (\$518,000- Submission July 12, 2010- not funded). (PI).
- 2010. National Science Foundation, Research Experiences for Undergraduates (NSF-REU). (\$300,000). (listed as primary collaborator due to PI limit of two persons).

- **2010.** National Science Foundation, Undergraduate Research Mentoring (**NSF-URM**). (~\$1,000,000- Submission April 26, 2010- not funded). (co-PI).
- 2010. National Science Foundation, Planetary Biological Inventory Collaborative Research (NSF-PBI). The Scarabnet Global Dung Beetle Inventory (\$1,100,000- WKU share of \$3,000,000). Jan. 2010 resubmission- Not funded (co-PI).
- 2009. National Science Foundation, Revisionary Syntheses in Systematics (NSF-REVSYS). Systematics of the South African Spider Beetles & Phylogeny of the Bostrichoidea (\$479,000). Resubmitted July 2010 as NSF-BSI. (PI).
- **2008.** National Science Foundation, Planetary Biological Inventory Collaborative Research (**NSF-PBI**). The Scarabnet Global Dung Beetle Inventory (\$1,300,000- WKU share of \$3,000,000). Jan. 2008 submission- Not funded (co-PI).
- 2004-09. National Science Foundation, Biotic Surveys and Inventories, A survey of the insects of the Upper Guinean Forests in Ghana with systematic studies on spider beetles and dung beetles (\$403,000). (PI).
- 2003-04. National Science Foundation Epscor, Ecological studies of dung beetles in the Upper Guinean rain forests of Ghana (\$31,000). (PI).

PRE-WKU:

- **1998-00.Post-doctoral Fellowship, University of Pretoria**, South Africa. For studies on the evolutionary history of the Scarabaeinae of the world (R65,000/yr.)
- **1997. Guana Island Club** (H. and G. Jerecki). For spider beetle research on Guana Island, British Virgin Islands (in kind support).
- **1997.** The Conservation Agency. For research travel to Guana Island, British Virgin Islands (\$250).
- **1997.** Virgin Islands Beetle Fauna Project, Montana State University. For research travel to Guana Island, British Virgin Islands (\$250).
- **1995-7**. **Knull Fund**, The Ohio State University. For travel to the Entomology Society of America Annual Meeting Las Vegas, Louisville, and Nashville.
- **1994.** Latin America Studies Program Tinker Grant. For research travel to Venezuela (\$600).
- **1994.** Graduate Student Alumni Research Awards Program, The Ohio State University. For research in Venezuela (\$2000).
- **1990, 1992-96**. **Osborn Fund**, The Ohio State University. For travel to Entomological Society of American Annual Meeting in San Antonio, Baltimore, Indianapolis, Dallas, Las Vegas, and Louisville.
- **1991**. **Knull Research Fund**, The Ohio State University. For research in Chiapas, Mexico and Guatemala.
- **1989. Research Creativity Grant**, Montana State University. For travel to Entomological Society of America Annual Meeting, San Antonio.

1988. Department of Entomology Student Travel Grant, Montana State University. For travel to XVIII International Congress of Entomology, Vancouver.

INTERNAL (excluding student research grants)

- 2024. QTAG. Exploration and sampling of the spider beetle diversity north of Lima in the Peruvian coastal deserts (\$3000).
- 2022. RCAP. The Unexplored Diversity of the Spider Beetles and their link to Lomas Habitats in the Atacama Desert of South America (Coleoptera: Ptinidae) (~\$10,000).
- 2021. QTAG. Diversity in darkness: shedding light on patterns of cryptic speciation in the widespread cave beetle genus *Darlingtonea* Valentine (Coleoptera, Carabidae) using 3RAD sequencing (\$3000)
- 2019. RCAP I. The Amazing and Unexplored Diversity of Peruvian Spider Beetles (Coleoptera: Ptinidae) (\$12,300)
- 2018. QTAG- Research in South Africa Biodiversity and evolution of spider beetles (\$3000)
- 2013-14. RCAP II. Population Genetics of Eastern North American Cave beetles. (\$6000).
- 2012-13 RCAP I: Research & Creative Activities Program, Western Kentucky University. Exploration of Mount Cameroon, and Adjacent Highlands: Unknown Insect Biodiversity in a Vanishing Habitat on Earth. (\$5650) (PI).
- 2011. RCAP II. Exploration of the Nimba Range, Guinea: Unknown Insect Biodiversity in a Vanishing Habitat on Earth. (\$4700) (PI).
- 2010. Summer Faculty Research Fellowship. Phylogeny of the oniticelline and onthophagine dung beetles (\$6,000).
- 2008-10. Grant Submission Incentive Funds, Western Kentucky University. (\$700, \$1,000, \$675, and \$900).
- 2008-09. Proposal Incentive Fund, Western Kentucky University. For research on dung beetle diversity and evolution (\$6,200).
- **2004.** Center for Biodiversity Studies, Department of Biology, and Ogden College (Western Kentucky University). For travel to the Latin-American Scarabaeologists and the Scarabaeinae Research Network joint meeting (\$1,000).
- **2004.** Summer Faculty Research Fellowship, Western Kentucky University. For research on dung beetle diversity and evolution (\$5,000).
- **2003.** Summer Faculty Research Fellowship, Western Kentucky University. For research on dung beetle diversity and evolution (\$5,000).
- **2002.** Center for Biodiversity Studies, Department of Biology, and Ogden College (Western Kentucky University). For research on eucraniine dung beetles in Argentina (\$2,000).

- **2001.** Center for Biodiversity Studies, Department of Biology, and Ogden College (Western Kentucky University). For travel to the Entomological Society of America annual meeting in San Diego (\$1,000).
- **2001.** Center for Biodiversity Studies, Department of Biology, and Ogden College (Western Kentucky University). For research on water penny beetles and spider beetles in South Africa (\$2,000).
- **2001.** Junior Faculty Award, Western Kentucky University. For research material (\$4,000).
- **2000. Office of sponsored Programs**, Western Kentucky University. For travel to the Entomological Society of America annual meeting in Montreal (\$1,200).

COURSES TAUGHT: THOSE TAUGHT REGULARLY IN BOLD

UNDERGRADUATE

Biol 113 Introductory Biology lecture – non-major's course (taught for ~ eight years)
Biol 114 Introductory Biology lab – non-major's course. Coordinator for eight years.
Biol 120 Introductory Biology lecture (when we had only the one first year biology course)
Biol 121 Introductory Biology lab (when we had only the one first year biology course)
Biol 122 Evolution, Diversity and Ecology (every semester, regular and honors)
Biol 224 Zoology lecture (2000, 2001)
Biol 225 Zoology lab (2000, 2001)
Biol 285 Costa Rican Biodiversity Studies and Research (honors) - January since 2011
Biol 325 Insect Biodiversity (every fall, regular and honors)
Biol 380 Challenges of a Changing Biosphere (2021 - Colonnade Connections course
Biol 399 Research Experiences for Undergraduate Students (every semester)
Biol 475 Biodiversity of the Beetles (~ once every two years)

GRADUATE

Biol 501 Advances in Systematics (2017)
Biol 503 Contemporary Research in Biology (2002, 2017)
Biol 516 Investigations in Biology (2012)
Biol 522 Biological Systematics (every second spring)
Biol 525 Advanced Insect Biodiversity (~every summer)
Biol 598 Graduate Seminar (2015, 2019)
Biol 601 Internship/ College Instruction (2012)
Biol 675 Biodiversity of the Beetles (~ once every two years)
Biol 675 Insect Evolution (2014, 2021)
Biol 675 Molecular Phylogenetic Methods (~ once every two years)

LAB RESEARCHERS

 Research Associate: Robert Neidlinger (disabled army veteran volunteer) Sept. 2012- 2019. 2021-current – occasional volunteer.
 Post-doctoral: Karen Bell, Aug. 2005- June 2007 (currently: faculty, U. Western Australia).

Ph.D. :	Sourabh Verma , (Co-advisor, Banaras Hindu University, India). Current
	Mongyeh Elvis Taminaih (Co-advisor, Univ.of Buea, Cameroon PhD (did not finish).
	Christie Sukhdeo (PhD completed 2020. Univ. New Orleans, High School Biology Teacher, Palo Alto Unified School District, CA).
	Glene Mynhardt (PhD completed 2012, at Ohio State Univ., Associate Professor, Hanover College, IN).
M.S.:	 Marlena Askren (current) Mahamad Miya (current) Jacob Bowen (current) Adam Miles (co-advisor, graduated 2024) Byron Meade (graduated 2024, on-line) Robert Chambliss (graduated 2022) Tommy Apostolopoulos (graduated 2022) Kyle Whorrall (graduated 2020, PhD U. of Aukland, NZ), Jed Nixon (graduated 2020) Olivia Gearner (graduated 2019- jump prog., PhD Purdue) Amelia Smith (graduated 2017, PhD Purdue) Matthew Wood (graduated 2015, PhD Oregon State) Robert Moore (on-line, graduated 2014) John Griffin (on-line, graduated 2011) Lily Paemka (co-advised, graduated 2011) Lily Paemka (co-advised, graduated Univ. of Ghana 2008, PhD Univ. of Iowa, 2013, faculty U. of Ghana) Chris DeWildt (graduated 2007, PhD Univ. of Nebraska, 2011, faculty Zamorano University, Nicaragua) Clement Akotsen-Mensah (graduated 2006, PhD Auburn Univ. 2010, faculty Lincoln Univ. MO, USA)
Undergraduate:	Douglas Foster Ben Bryson Sarah Henry Marianne Corcoran Bradley Smith Bonnie Newby

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Brent Collins

John Wilson Brian Payne Danah Whitley Jason Musser

Arron Carver Dara Carver Ronson Elrod Justin Spears Jeremy Cossel Kyle Barnes Thomas Sutter Sophy Helm (fall 2008) Jordan Embry (fall 2008) Daniel Casas (fall 2008) Molly Hays (spring 2009) Alex Chen, (Gatton spring 2009) Catherine Smith, (Gatton, fall 2008- Spring 2011) Michelle Smiley (Fall 2009- Fall 2011) Cuina Lin (Fall 2010) Josh Jackson, (Gatton, Fall 2010-spring 2011) Allison Fruehwald (Fall 2010-spring 2011) Ankita Patel (Fall 2010- Spring 2012) Kelsey Willen (spring 2009-fall 2011) Khusbu Patel (spring 2009- fall 2011) Ashton Fields (Fall 2009- spring 2012) Eva Gray-Jennings (Gatton, Fall 2011) Henry Uradu (Gatton, Spring 2012- Spring 2013) Nathan Serpico (Gatton, Spring 2012-Spring 2013) Kristen Coel (Spring 2014) Suzanne Scott (Fall 2011- spring 2015) Jauan Burbage (Summer 2015) Katie Bautista (Summer 2015) Olivia Gearner (Fall 2015- [5 yr undergrad MS program]) Chris Treichelt (Spring 2014-Spring 2016) Ryan Dickmann (Spring 2014- Spring 2017) Mary Reilly (Spring 2017-2018) Jack J. Marquardt (Gatton, Spring 2017-2018) Tige Littlefield (Gatton, Fall 2017-2018) Hannah Leibman (Gattton, Fall 2018) Jake Bowen (Gatton, Spring 2018-2021) Norman Chan (Gatton, Spring 2019) Ian Storrs (Gatton, Spring 2019-Fall 2020) Carolina Wheeler (Gatton, Fall 2021- Spring 2023) Alexandria [Sebastian] Jameson-Limpp (Gatton Fall 2022-Claudia Witcher (Spring 2023) John Braswell (Spring 2023) Ella Hayley (spring 2024) Kate Hans (2024-Camden Stewart (spring 2024) Shaleena Millay (spring 2024)

AWARDS & HONORS

- 2023. University Distinguished Professor
- **2012.** Research and Creativity Award, both Ogden College and University Awards. Western Kentucky University
- 2003. Nominated for research award, Ogden College, Western Kentucky University
- **1996.** President's Prize, Honorable Mention (2nd place), Section A Student Competition For best paper, Entomology Society of America, Annual Meeting.
- **1996**. Mary Ellen Clay Teaching Award, The Ohio State University. For excellence in teaching. **1994-95**. President, Entomology Graduate Student Association, The Ohio State University.
- 1994. Phi Kappa Phi Honor Society. Recognition and encouragement of superior scholarship.
- 1994. Graduate Associate Teaching Award Finalist, The Ohio State University.

PROFESSIONAL EXPERTISE

Molecular laboratory skills (DNA isolation, PCR, Sequencing, NGS-3-RAD etc. Museum curatorial techniques

Cladistic methodologies including the following software: Mr Bayes, Clados, Ratchet, Hennig 86, Nona, Phast, Piwe, TNT, Geneious, Winclada, Structure, GMYC, etc.

Geographic information systems including Arc-Info, Arc-View, and OSU-Map. Relational databases including Excel and Oracle.

Arthropod Rearing- especially adept at some difficult Coleoptera and arachnids. Field collecting/trapping/sampling techniques for invertebrates.

Collaborative, student-centered teaching style.

PROFESSIONAL SOCIETIES

American Association for the Advancement of Science Coleopterists Society Entomological Society of America Sigma Xi Society of Systematic Biologists Willi Hennig Society Western Kentucky University Center for Biodiversity Studies Biotechnology Center Bioinformatics Center (Non-professional: Nature Conservancy, World Wildlife Fund, National Geography Society. African Wildlife Society)

PROFESSIONAL SERVICE

EXTERNAL SERVICE:

Scientific Editing:

- Subject Editor for Coleoptera: Bostrichoidea, ZooKeys (2015- current)
- Subject Editor for Subterranean Biology (2020- current)

• Associate Editor of Coleoptera, Proceedings of the Biological Society of Washington (2010-current)

Grant Reviewer:

- National Science Foundation reviewer of Environmental Programs grant submissions
- National Geographic Society research proposal reviewer

External Faculty Reviews:

- Two for the National Research Foundation of South Africa.
- Faculty member (insect systematist) at the University of Tennessee
- Faculty member (tick systematist) at Georgia Southern University

Manuscript reviews for additional journals- ~ 1 ~ every 2 months. Partial list as follows: • Animal Biodiversity and Conservation

- Asociación Europea de Coleopterología- Elytron
- Environmental Entomology
- Fauna of Arabia Series
- · Journal of Biogeography
- Journal of Tropical Ecology
- Annales Zoologici
- Cladistics
- Systematic Entomology
- Zootaxa
- Zoological Studies
- African Entomology
- Journal of the Kentucky Academy of Science
- Zootaxa
- The Coleopterists Bulletin

Community and School Presentations:

• Potter Gray Elementary School – annual visits to their school for their Science Day

• **Bowling Green High School** – visits to the biology class of Mr. Joey Stinson and he brought students to my

teaching lab at WKU too.

• Simpson County Elementary School- visit to WKU this past May of 120 grade four students for a three hour visit

to learn about arthropod and insect diversity.

- Class (homeschooled) of Carol Crowe ~10 students for several years to my lab.
- Warren County Public Library (Bob Kirby Branch) annual visit for their insect day.
- Boy Scouts of America (female scouts) lab visit arranged by Sheryl-Hagan-Booth (2021)
- Simpson County Beekeepers Association (talks given and arranged by John Pace, 2011 and 2012):

Honeybees: Their origin and diversity, their amazing abilities, and their buzz! Zombie Flies: A Potential New Threat to Beekeeping?

Master Gardeners: (Jan. 2020)

• Ethnographic Overview and Assessment of Mammoth Cave National Park (2016)

• Science Café (2016) – talk titled: Dung beetles, land mines, and conservation – stalking an "extinct" dung

beetle in war-torn Angola, Africa - Theme of these talks- Scientists share how their research impacts the world.

Entomology Society of America

- Resolutions Committee Chair, 2005
- International Affairs Committee (2005-2014)
- Thomas Say Award Committee (2003-2005)
- Lacordaire Award Committee (2003-2005)
- Moderator, Sect. A, 1996 Annual meeting, Louisville, KY
- Moderator, Sect. A, 1992 Annual meeting, Baltimore, MD
- Judge, student paper competition numerous meetings over the past two decades

The Coleopterists Society

- Editorial Board member (2001-2003)
- Nominating Committee (2007-2009)
- Awards Committee (2008- 2015)

Media:

• WKU Scholar Magazine (Fall 2010) - Can Dung Beetles Save the World

• WKU Talisman Yearbook (2020) - WKU Biology Professor on the Beauty of Bugs (https://wkutalisman.com/?s=Philips)

• WKU student newspaper (2019) - article on my insect class.

• WBKO TV broadcast: periodic interviews (some live) on Cicadas, Ladybird Beetles, Mosquitoes etc.

• Bowling Green Daily News: periodic interviews on insects.

Judging Student Science Projects:

• Intel International Science and Engineering Fair (2002): high school projects in Louisville.

• Sigma Xi (2001): Student research conference in Bowling Green.

Letters of recommendation

WESTERN KENTUCKY UNIVERSITY SERVICE:

• Director of the Biotechnology Center (ARTP) - 4 years and beginning 2nd 4-year term. I supervise the coordinator of the Center, manage the budget, submit annual reports, make an annual presentation at ARTP meeting, give tours, and make sure safety protocols are followed. Recent issues I have dealt with include the discovery of mold in the Center (now rectified) and the creation and implementation of COVID protocols to ensure smooth operation of the Center. A new protocol to save and wash pipette tips was also designed and implemented during the plastic shortage the previous two years. I introduced an annual user fee to help maintain the Center, allowing us to update and repair equipment, including a flow cytometer repaired via grant dollars from a member (B. Williams) and a recent fluorescence microscope acquired via a ~\$500,000 NSF grant acquired by one of our members (A. Srivastava).

• Faculty Senate – 10 + years. I represented the Biology Department as a member of this university-wide body.

• **Graduate Student Coordinator** - **2 years.** I coordinated the incoming admission and funding of graduate students in the Biology Department. I resigned from this position due to my absence during a sabbatical.

• Faculty Grievance Committee - 2 years. Served as a member of this university-wide committee.

• University Research and Creativity Award Committee

Ogden College Sabbatical Committee

• Academic Advisor, Tri-beta Biological Honor Society, (2002-06)

- Media Subject Matter Expert for WKU ongoing since I started working at WKU.
- Mentor for the Renaissance Teacher Quality Improvement Project (2002-04)
- Ogden Open House annual

• International Year of South Africa Committee - Wrote a grant to this committee to support the visit of South African

Dr. Rachel Morake (Diplomatic Corp, Pretoria South Africa). Helped to arrange visits to relevant classes while she

was here.

• IdeaFestival Bowling Green– participated in this annual celebration designed to inspire the next generation of

creators, thinkers, and innovators and will be annual event for my lab.

• FUSE, RCAP grant reviewer

• Preview Day- Ogden College (since 2018?)

WKU BIOLOGY DEPARTMENT SERVICE (at various times)

Recruitment/Public relations/Scholarships Committee

• Instructional/Computer/Extended Campus Committee

Promotion/Continuance/Tenure Guideline Committee

Fish Biologist Search Committee

- Functional Morphologist Search Committee
- Evolution Search Committee
- Comparative Vertebrate Search Committee
- Microbiology Genomic Search Committee

- Student Fulbright Committee
- BSURE Committee
- United Way Representative
- Program Review/Assessment Committee
- Pedagogy Position Search Committee
- Grant Committee
- Undergraduate Curriculum Committee

RESEARCH VISITS

- 2018. Ditsong Museum (Pretoria), South African Museum (Cape Town) and National Collection of Insects (Pretoria)
- 2014. Academy of Natural Sciences of Drexal University, Philadelphia
- 2013. Carnegie Museum of Natural History, Pittsburg, Natural History Museum, London.
- 2009. University of Nebraska State Museum
- 2008. National Collection of Insects, Pretoria, South Africa; Transvaal Museum, Pretoria, South Africa; South African Museum, Cape Town, South Africa.
- 2001. National Collection of Insects, Pretoria, South Africa; Transvaal Museum, Pretoria, South Africa; Albany Museum, Grahamstown, South Africa.
- 2000. Canadian Museum of Nature, Ottawa; Canadian National Collection, Ottawa.
- 1999-00.Transvaal Museum, Pretoria, South Africa; National Collection of Insects, Pretoria, South Africa.
- 1998. Smithsonian Institution, Washington, D.C.; California Academy of Sciences, San Francisco.
- 1996. Smithsonian Institution, Washington, D.C.; The Museum of Comparative Zoology, Cambridge.
- 1995. Canadian Museum of Nature, Ottawa
- 1992. Smithsonian Institution, Washington, D.C.
- 1991. Field Museum of Natural History, Chicago.
- 1989. Canadian Museum of Nature, Ottawa; Canadian National Collection of Insects, Ottawa; Texas A&M University, College Station.
- 1988. Museo Nacional de Historia Natural, Santo Domingo, Dominican Republic; Museum of The Bombay Natural History Society, Bombay, India; Museum of Natural History, Kuching, Malaysia; Sandel Research Centre, Bangalore, India.

FIELD EXPERIENCE

NORTH AMERICA:

Canada: British Columbia, Ontario, Quebec (have traveled in every other province)

USA: Arizona, California, Florida, Georgia, Idaho, Indiana, Kentucky, Maryland, New York, Ohio, Montana, Nevada, New Mexico, South Carolina, Tennessee, Texas, Utah, Virginia, Washington

Mexico (1985-Quintana Roo, Yucatan, 1992-Chiapas)

CENTRAL AMERICA:

Belize (Blue Creek and South Water Caye)

Costa Rica 2007, 2011-2019 (La Selva, Cloudbridge Nature Reserve and Chirripo National Park, Hacienda Barú, Parque Marino Ballena, Parque Manuel Antonio, Parque Corcovado) Guatemala (1992-central and south)

SOUTH AMERICA:

Argentina (2002-Medoza, La Rioja, San Juan)
Bolivia (2006-Santa Cruz region)
Chile (2022 – from Pan de Azucar Nat. Pk. (26.3 latitude) to Arica (18.2 latitude)
Peru (2019- Lima south to Arequipa area, 2022 southern Peru)
Venezuela (1994-"Rancho Grande," Coro, Gran Sabana)

WEST INDIES:

British Virgin Islands (Tortola and Guana Islands) Dominican Republic-1988 Jamaica -1991 Puerto Rico

ASIA:

China 1987 (Guanzhou, Hong Kong, Macau, and New Territories) India 1987, 2013 (Karnataka, Kerela, Maharastra, Rajasthan, Uttar Pradesh) Indonesia 1987 (Bali and Java) Japan 1986 (Fijiyama, Kyoto areas) Malaysia 1987 (Malaya and Sarawak) South Korea 1986 (Sokcho, Mount Sorak, Seoul, Incheon) Thailand 1987 (Chiang Mai to Malaysia border overland and Kho Samui)

AFRICA:

Angola (2015, Cuando Cubango, Bengula, Cuanza Norte, Luanda, Malanje Provinces)
Botswana (2001, most areas)
Cote d'Ivoire (2010, southern half)
Cameroon (2014, northwest and southwest regions)
Ghana (2003, 2005-2011, everywhere)
Guinea (2010, 2011, mainly Mt. Nimba region)
Liberia (2011, Robertsport and Mt. Nimba regions)
Moçambique (2000, central and south)
Namibia (1999, 2000, central and south)
South Africa (1999-2000, 2001, 2008, 2018, everywhere)
Swaziland (1999, parts)
Togo (2007, central western highlands)
Zimbabwe (2000, (Ba)Vumba Mountains, 2001, Hwange area, Victoria Falls)

LANGUAGES

Limited reading and speaking in both French and Spanish.

OUTSIDE INTERESTS

Mountain biking, Hockey (ice and roller), Gardening, Cooking, Oil painting.