

Gregory M. Mueller

Negaunee Institute for Plant Conservation Science and Action

Administration and Noteworthy Committee Work

Chief Scientist and Negaunee Vice President, Science (2009–June 2023). Report directly to the Garden's President / CEO and serve on the Garden's Senior Management team. Duties include leading the Garden's science programs, Library, undergraduate and graduate student training initiatives, and working with other members of the Senior Management Team to achieve the Garden's mission.

(selected activities)

Facilities and Labs: IT Committee (1986-1990 & 2005-2007), Chair SEM Committee (2003-2008)

Exhibit Development: Co-Developer for the curatorial component of "La Selva Fria" exhibition (1993), Chief Content Specialist for "Underground Adventure" exhibition (1995-1999), Academic Affairs-Exhibition Liaison Committee (2005-2008)

Education Initiatives: Coordinator Biodiversity Explorers High School Internship Program (1995-1998), Illinois "UrbanWatch" Protocol Development Team (1997-2003), Field Museum-Monsanto Environmental Education Initiative Steering Committee (1999-2008)

Administration: Scientific Advisory Council (equivalent to Faculty Senate) (1990-1991, 1995-1996), Chair Department of Botany (1996-2005), Environment Team, Field Museum Strategic Planning Initiative (1998-1999), Search Committee for Vice President, Academic Affairs (1999-2000), Academic Affairs Management Group (1999-2001)

Graduate Admissions Committee (1995-2004), CEB Associate Chair (2004-2008), GAANN Training Grant Coordinating Group (2006-2009)

1999-2008: IUCN Species Survival Commission (SSC), Fungi Specialist Group, Member

2009-present: IUCN SSC Mushrooms, Brackets and Puffballs Specialist Group, Chair

2012-present: Global Fungal Red List Initiative, Coordinator

2013-present: IUCN SSC Steering Committee, Member

2017-2021: IUCN SSC Regional Vice Chair for North America and the Caribbean

2017-present: IUCN SSC and WCPA Key Biodiversity Areas Standards and Appeals Committee

2020-present: IUCN SSC Fungal Conservation DC q0.00000912 0 612 792 reWñTf1 0 (iel.85 Tm0 G -0.077 Tc[(2020)] TJET

1990-1995: Editorial Committee, North American Mycological Association (Chair, 1991-1995)
1995-1998: Associate Editor,
1998-2001: Editorial Board, (Chair 2000-2001)
2001-2006: Member of Organization for Flora Neotropica Commission
2012-present. Editorial Board, Biodiversity Data Journal
2012-present: Editorial Board, Mycobiota
2018-present: Editorial Council, Acta Mycologica

Public Service

Contact for mushroom cases, Illinois Poison Center and Chicago area hospitals (1985-present)
Scientific Advisor, Illinois Mycological Association (1985-present)

Research Grants and Contracts

- 1982-1983: U.S.-Sweden Cooperative Research Program. "Sexual Incompatibility Studies in the Mushroom Genus . ." \$2,883 INT-8211779.
- 1982-1983: U.S.-Sweden Cooperative Research Program. "Incompatibility Studies in the Species Complex." 13,000 Skr (awarded to Prof. Nils Fries to support my visit).
- 1984-1987: "A Taxonomic and Biological Study of the Ectomycorrhizal Agaric Genus in North America, North of Mexico." \$135,000 BSR-8315238 (Postdoc on award to Dr. J. Ammirati, U. Washington).
- 1986-1990: "The Agaric Ge

- Sordariales)." \$9,985 DEB-0105077 (for support of Andrew Miller, Ph.D. candidate, University of Illinois, Chicago).
- 2001-2003: Dissertation Improvement Program. "Dissertation Research: Evolutionary history of reproductive systems in closely related taxa of the lichen-forming genus (Ascomycota)." \$10,000 DEB-0105024 (for support of Jutta Buschbom, Ph.D. candidate, University of Chicago).
- 2001-2006: , PEET Program "Studies in the Lasiosphaeriaceae II: Monograph of and Phylogeny of the Lasiosphaeria/Sordariaceae Group (Fungi, Ascomycetes, Sordariales)." \$744,579 DEB-0118695 (Senior Associate; PI, Sabine Huhndorf).
- 2002-2007: , Ecology and Ecosystems "Mycorrhizal regulation of ecosystem response to chronic nitrogen deposition." Field Museum subcontract \$229,818 DEB-0134748 (with J. Lussenhop and H. BassiriRad, University of Illinois, Chicago, and R. M. Miller, Argonne National Labs).
- 2005-2009: Systematics "REVSYS: Monographing a Model Clade of Ectomycorrhizal Fungi: ". \$328,727 (DEB-0445216).
- 2005-2009: "Building Capacity for Biodiversity Research, Conservation, and Educati

1999-2000:

- Mueller, G. M., A. von Hofsten, A. Axén, and B. A. Strack. 1993. Basidiospore wall ultrastructure of the false-truffle and its phylogenetic significance. 85: 890-893.
- Fischbein, C. B., J. W. Lipscomb, G. M. Mueller, J. B. Leikin. 1993. Field test of the new fungal identification system in Poisindex. 35: 204-206.
- Mueller, G. M. and E. M. Pine. 1994. DNA data provide evidence on the evolutionary relationships between mushrooms and false truffles. 11(2): 61-74.
- Mueller, G. M. 1995. Macrofungi. Pages 192-194 In LaRoe, E.T., G. S. Farris, C. E. Puckett, P.D. Doran, and M. J. Mac., eds., . U.S. Department of the Interior, National Biological Service, Washington, DC.
- Mueller, G. M. and R. E. Halling. 1995. Evidence for high biodiversity of Agaricales (Fungi) in neotropical montane forests. Pages 303-312. In Churchill, S. P., Balslev, H., Forero, E., and Luteyn, J. L., eds., . The New York Botanical Garden Press.
- Lodge, D. J. et. al. (including G. Mueller). 1995. A survey of patterns of diversity in non-lichenized fungi. 70: 157-173.
- Wu, Q.-X. and G. M. Mueller. 1995. The genus (Basidiomycetes, Aphyllophorales) in Costa Rica and Colombia. XXV (98-100): 487-496.
- Mueller, G. M. 1996. Distribution and species composition of (Agaricales) in tropical and subtropical America. In Carranza, J. and G. M. Mueller, eds. 44 (Suppl.) 4: 131-136.
- Mueller, G. M. 1996. Introduction and dedication. In Carranza, J. and G. M. Mueller, eds. 44 (Suppl.) 4: 7.
- Albee, S. A., G. M. Mueller, and B. R. Kropp. 1996. Polymorphisms in the large intergenic spacer of the nuclear ribosomal repeat identify strains. 88: 970-976.

- O'Dell, T. E., D. J. Lodge, and G. M. Mueller. 2004. Approaches to sampling macrofungi. Pages 163-168, In: Mueller, G. M., G. Bills, and M. S. Foster, eds. Elsevier Academic Press, San Diego, CA.
- Buschbom, J. and G. Mueller. 2004. Resolving evolutionary relationships in the lichen-forming genus and related allies (Porpidiaceae, Ascomycota). 32: 66-82.
- Halling, R. E., M. Mata, and G. M. Mueller. 2004. Three new Boletes for Costa Rica. Pages 141-147, In: C. L. Cripps ed., 89.
- Fischbein, C. S. Aks, and G. M. Mueller. 2004/2005. Mushroom poisoning. Pages 533-540, In: Erickson, T. B., W. R. Ahrens, S. E. Aks, C. R. Baum, and L. Ling, eds McGraw-Hill Press.
- Buyck, B., R. E. Halling, and G. M. Mueller. 2005. The inventory of in Costa Rica: Discovery of two very rare North American species in montane oak forest. 46: 57-74.
- Schmit, J. P., G. M. Mueller, Y.-O. Huang, P. R. Leacock, J. L. Mata, and Q.-X. Wu. 2005. Assessment of tree species richness as a surrogate for macrofungal species richness.

- Halling, R. E., G. M. Mueller, and M. J. Dallwitz. 1998. and s in Costa Rica: Descriptions, illustrations, identification and information retrieval. URL: <<http://www.nybg.org/bsci/res/hall/deltaindent.html>>. [searchable database]
- Wu, Q.-X. and G. M. Mueller. 1999. A searchable database for Rolf Singer's fungal genera, species, infra-specific taxa, and publications. URL: <http://www.fieldmuseum.org/research_collections/botany>
- Mueller, G. M. and M. Mata. 2000. Inventory of Costa Rican fungi. URL: <http://www.inbio.ac.cr/papers/gt_Hongos/en/index.htm>
- Schaub, M., G. Tonkovich, P. R. Leacock, W. Alverson, C. Dunn, K. Havens, and G. M. Mueller. 2002-present. vPlants: A virtual herbarium o

- Mueller, G. M. and M. Coleman. 1986. Morphological variation in an isolate of the mushroom genus in response to exogenously-applied phosphorus. p. 35. (Abstr.)
- Shih, L., G. M. Mueller, and J. F. Ammirati. 1986. Basidial cytology of species (Agaricales). 37: 42. (Abstr.)
- Mueller, G. M., K. F. LoBoglio, P. A. Kaiser, J. F. Ammirati. 1987. Morphology of mycorrhizae formed by and western N.A. conifers. 38: 41. (Abstr.)
- Mueller, G. M. 1988. in northern South America. 39: 41. (Abstr.)
- Mueller, G. M. 1988. El género en la costa del Golfo de Estados Unidos, México, Centroamérica y la partenorte de Sudamérica. p. 44. (Abstr.)
- Mueller, G. M. and B. A. Strack. 1988. Hongos ectomicorrízicos asociados con especies de de América del Sur: composición de especies, distribución y especificad del huésped. p. 111. (Abstr.)
- Mueller, G. M. 1989. Phenetic and cladistic analyses of the genus . 40: 40. (Abstr.)
- Mueller, G. M. 1990. Herbaria: Repositories of ecological, morphological and molecular data. 41 (Abstr.)
- Mueller, G. M. 1990. Ectomycorrhizal agarics of neotropical forests: notes on species composition and distribution. p. 40. (Abstr.)
- Mueller, G. M. 1991. Evidence for limited geographic range in putatively cosmopolitan species of . 42: 28. (Abstr.)
- Methven, A. S. and G. M. Mueller. 1991. Preliminary observations on the mushroom genus in the oak forests of Costa Rica.

Wu, Q.-X. and G. M. Mueller. 1994. Biogeography of macrofungi: relationships between temperate eastern Asia and eastern North America.

Mueller, G. M., P. R. Leacock, and J. F. Murphy. 1998. Rapid methods for assessing the diversity and distribution of Illinois macrofungi. 49: 38 (Abstr.)

Mueller, G. M., P. R. Leacock, and J. F. Murphy. 1998. Rapid methods for surveying and monitoring Illinois macrofungi diversity. 90: 33 (Abstr.)

Mueller, G. M. and Q.-X. Wu. 1998. How host specific are _____ and _____ ?

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Schmit, J. P., J. F. Murphy, and G. M. Mueller. 1998. Macrofungal diversity in a temperate oak forest. 49: 47 (Abstr.)

Wu, Q.-X., G. M. Mueller, Y.-Q. Huang, and D. Quist. 1998. Preliminary assessment of macrofungal diversity in the temperate forests of Chang Bai Mountain, China. 49: 55 (Abstr.)

Mueller, G. M., Schmit, J. P., and Leacock, P. R. 1999. Responses of mushroom-tree mutualists of our dune and forest ecosystems to a witch's brew of atmospheric contaminants.

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Mueller, G. M., Schmit, J. P., and Leacock, P. R. 1999. Diversity of macrofungi at Cowles Bog, Indiana Dunes National Lakeshore, a site impacted by airborne pollutants.

p. 40 (Abstr.).

Mueller, G. M., Q.-X. Wu, Y.-Q. Huang, and S.-Y. Guo. 1999. Biogeographic relationships between North American and Chinese Macrofungi. p. 199 (Abstr.)

Mueller, G. M., Schmit, J. P., and Leacock, P. R. 1999. Macrofungal diversity at a midwestern U. S. oak woodland impacted by airborne pollutants. p. 485

(Abstr.) (poster).

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- Fischbein, C., G. M. Mueller, P. Leacock, M. Wahl, and S. Aks. 2001. Digital imaging: A promising tool for mushroom identification. Mycological Society of America Annual Meeting, Salt Lake City, Utah. (Abstr.) (poster)
- Mueller, G. M., M. Mata, L. Umaña, S. Huhndorf, F. Fernandez, J. Carranza, and R. E. Halling. 2001. Costa Rican National Fungal Inventory. Mycological Society of America Annual Meeting, Salt Lake City, Utah. *Inoculum* 52(3): 51. (Abstr.)
- Mueller, G. M. and M. Mata. 2002. El Inventario de Hongos de Costa Rica. Latin American Congress of Mycology. Xalapa, Mexico. (Abstr.).
- Mueller, G. M., M. Mata, and R. E. Halling. 2002. Agaricales de Costa Rica. Latin American Congress of Mycology. Xalapa, Mexico. (Abstr.).
- Halling, R. E., M. Mata, and G. M. Mueller. 2002. Diversity and Distribution of Boletes in Costa Rica. Latin American Congress of Mycology. Xalapa, Mexico. (Abstr.).
- Leacock, P. R., G. M. Mueller, J. P. Schmit, and J. F. Murphy. 2002. Effects of prescribed burning on macrofungi in an oak woodland community near Chicago, IL. *Inoculum* 53(3): 40. (Abstr.).
- Guzmán-Dávalos, L., G. M. Mueller, J. Cifuentes, A. N. Miller, and A. Santerre. 2002. Traditional infrageneric classifications of *Gymnopilus* (Agaricales, Cortinariaceae) are not supported by ribosomal DNA sequence data. International Mycological Congress, Oslo, Norway, p. 204 (Abstr.).
- Aldana-Gomez, R., G.M. Mueller, and B. Buyck. 2002. Preliminary results in assessing phylogenetic and

- multivariate analysis of selected species. Mycological Society of America Meeting Abstracts. 56(4): 30.
- Mueller, G. M. and K. Hosaka. 2006. Biogeography and host preference of austral members of , a model clade of ectomycorrhizal fungi. International Mycological Congress, Cairns, Australia. (abstracts).
- Mueller, G. M., P.G. Avis, P.R. Leacock. 2007. Diversity and Species Composition of the Chicago Region's Macrofungi" Indiana Dunes Research Forum, Indiana Dunes National Lake Shore, IN
- Mueller, G. M. and K. Hosaka. 2007. Host Specificity Versus Geology in Shaping Biogeographic Patterns of Ectomycorrhizal Fungi. Botanical Society of America – American Society of Plant Taxonomist Meeting, Chicago, IL (abstracts).
- Mueller, G. M. and K. Hosaka. 2007. Presidential Address: Using the Clade as a Model to Study Diversity and Biogeographic Patterns of Ectomycorrhizal Fungi. Mycological Society of America, Baton Rouge, LA (abstracts).
- Mueller, G. M. and K. Hosaka. 2007. Diversity, Biogeography, and Host Specificity of the Clade (Basidiomycota, Agaricomycetes). XVth Congress of European Mycologists and 1st meeting of the European Mycological Association, St. Petersburg, Russia. (abstracts).
- Mueller, G. M. and K. Hosaka. 2007. Using the Clade as a Model to Study Diversity and Biogeographic Patterns of Ectomycorrhizal Fungi. 1st Workshop and Symposium on Pyrenees Fungi, Moulis, France.
- Jennifer Schwarz Ballard, J. G.M. Mueller, P. Beneveniste. 2010. The Science Career Continuum, an education ladder program to engage and educate underserved minority students in environmental sciences at the Chicago Botanic Garden. 4th Global Botanic Garden Congress, Dublin, Ireland.
- Mueller, G. M. and K. Hosaka. 2010. A Gondwanan origin for the clade (Basidiomycota, Agaricomycotina) Clade. VI Southern Connection Congress, San Carlos de Bariloche, Argentina
- Mueller, G. M. and A. Dahlberg. 2010. IUCN Red-Listing and Fungal Conservation: Using Established Tools for Assessing and Reporting on the Conservation Status of Fungal Species. 9th International Mycological Congress, Edinburgh, UK.
- Wilson, A. W., M. C. Aime, T. W. Henkel, and G. M. Mueller. 2010. Systematics and biogeography of associated Cantharellaceae from the Guiana Shield. Mycological Society of America, Lexington, KY.
- Mueller, G. M. 2011. Conserving mushrooms and their relatives. Latin American Mycological Congress, San José, Costa Rica.
- Mueller, G. M. 2011. Climate change and fungal conservation. European Mycological Congress, Greece.

- sampling. International Mycological Congress, Bangkok, Thailand.
- Mueller, G.M. 2014. Challenges and opportunities for fungal conservation. 1st meeting of the Polish Mycological Society. Lodz, Poland.
- Mueller, G.M. 2014. Assessing the Conservation Status of Fungi: The Global Fungal Red List Initiative. Latin American Mycological Congress. Medellin, Colombia.
- Johnson, L., K. Sandona, C. González Chávez, R. Carrillo, C. Gilberto, G.M. Mueller, and A. Porrás-Alfaro. 2014. Root-associated fungi in _____ from four plantation systems in Mexico.

- Mueller, G. M. 1997. Symposium entitled "Assessing Costa Rican Fungal Diversity". The Association for Tropical Biology/Organization for Tropical Studies Annual Meeting, San José, Costa Rica. (see Abstracts of Presented Papers) (organizer).
- Mueller, G. M. 1997. Report from museum partners. Presentation at the All Taxa Biodiversity Inventory Planning Workshop "Discover Life in America." Great Smoky Mountains National Park, Gatlinburg, TN. (invited participant).
- Huhndorf, S. H., G. M. Mueller, F. Lutzoni, F. Fernandez, and A. Miller. 1998. Studies in the Lasiosphaeriaceae: Monographs to two key genera and family-level phylogeny (Fungi, Ascomycetes, Sordariales). Poster presented at NSF Partnership for Enhancing Expertise in Taxonomy Workshop, Woods Hole, MA. (invited participant).
- Rossmann, A. G. Mueller, S. Stephenson, and J. Lodge. 1998. "Initiatives and Issues in Fungal Biodiversity." MSA Informal Session, San Juan, Puerto Rico. (co-organizer).
- Mueller, G. M. and M. Mata. 1998. A week-long planning workshop entitled "National Fungal Inventory Workshop," National Institute of Biodiversity, Santa Domingo, Heredia, Costa Rica. (co-organizer and senior author of final report, 36 pp.).
- Mueller, G. M. and Q. X. Wu. 1998. How host specific are _____ and _____? Second International Congress on Mycorrhiza Symposium entitled "Phylogeny and Systematics." Uppsala, Sweden. (see Abstracts of Presented Papers) (invited presenter).
- Mueller, G. M. 1998. Morphological and molecular divergence between disjunct species of _____. Presentation at a special symposium on the biogeographic relationships between North American and Chinese macrofungi and lichens. Institute of Microbiology, Chinese Academy of Sciences, Beijing, China. (co-organizer).
- Mueller, G. M., F. Fernando, and M. Mata. 1999. Three-week-long field course on macro- and microfungi for Costa Rican fungal parataxonomists as part of the Costa Rican National Inventory, National Biodiversity Institute (INBio), Costa Rica. (instructor)
- Mueller, G., J. P. Schmit, and P. Leacock. 1999. Responses of mushroom-tree mutualists of our dune and forest ecosystems to a witch's brew of atmospheric contaminants. Field Museum/ Indiana Dunes/ Chicago Wilderness Symposium entitled "Ecology and the Chicago Region: from Cowles to Chicago Wilderness." Chicago. (invited presenter).
- Mueller, G. M. and J. Cifuentes. 1999. Symposium entitled "Methods for Studying Neotropical and South Temperate Agaricales." Latin American Mycological Congress, Caracas, Venezuela. (co-organizer).
- Mueller, G. M., T. J. Entwistle, and R. Vilgalys. 1999. Symposium entitled "Vicariance Biogeography Revisited - New Perspectives from Ferns, Bryophytes, Algae and Fungi." XVI International Botanical Congress, St. Louis, MO (co-organizer).
- Mueller, G. M., J. Lussenhop, et. al. 1999. Soil Ecology Society International Conference "Out of the Black Box: Ecological Lessons from the Underground." The Field Museum, Chicago (host and local organizing committee member).
- Mueller, G. M. 2000. Macrofungi as indicators of environmental stress. Research roundtable: Vegetation. Calumet Research Summit, Chicago. (invited participant)
- Halling, R. and G. Mueller. 2000. The macrofungi of Costa Rica: A collaborative study. NSF Biotic Surveys and Inventories Workshop, Orcas Island, WA.
- Moskovits, D. K., C. Fialkowski, G. M. Mueller, and T. A. Sullivan. 2000. Chicago Wilderness: a new force in urban conservation. Missouri Botanical Garden Fall Symposium, St. Louis, MO. (invited presenter).
- Mueller, G. M., M. Mata, L. Umaña, F. Fernandez, S. Huhndorf. 2001. Workshop on macrofungi and microfungi. National Biodiversity Institute (INBio), Costa Rica. (co-organizer)
- Halling, R. E., J. Carranza, and G. M. Mueller. 2001. Workshop for Central American students: Training on macrofungi. University of Costa Rica, San Pedro. (co-organizer)

Mueller, G. M. 2002. Symposium entitled "Diversidad fúngica en Costa Rica" Latin American Congress of Mycology, Xalapa, Mexico. (organizer)

Mueller, G. M., J. P. Schmit, and R. Courtecuisse. 2002. Symposium entitled "Fungal Biodiversity: What do we know? What can we predict?"

