

Christopher William Dick

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Education

1999 Ph.D. Department of Organismic and Evolutionary Biology, Harvard University
1997 A.M. Harvard University
1990 B.A. Hampshire College, Amherst, Massachusetts

Appointments

2006 - present Research Associate, Smithsonian Tropical Research Institute
2005 - present Assistant professor, Ecology and Evolutionary Biology, University of Michigan;
Assistant curator, University of Michigan Herbarium
2002-05 Tupper Postdoctoral Fellow, Smithsonian Tropical Research Institute
2001-2002 Mellon Postdoctoral Fellow, Smithsonian Tropical Research Institute
1999-2001 Molecular Evolution Postdoctoral Fellow, Smithsonian Tropical Research Institute
1992 Field Botanist, Biological Dynamics of Forest Fragments Project, Manaus, Brazil
1991 Field Biologist, U.S. Forest Service, Globe Forest District, Arizona

Research interests

Biogeographic history of tropical forests, population structure and phylogeography of tropical trees, plant-pollinator interactions, phylogenetic structure of plant communities.

Grants, Fellowships and Awards

2005	International Plant Genetics Research Institute (IPGRI) Grant	\$5,000
2004	European Union "SeedSource" grant; phylogeography subcontract	\$20,000
2003	Center for Tropical Forest Sciences Research Grant	\$6,500
2002-05	Tupper Postdoctoral Fellowship (3 years), Smithsonian Institution	\$150,000
2001	International Plant Genetics Research Institute (IPGRI) Grant	\$17,200
2000	Mellon Foundation Award, with A. Kremer and E. Bermingham	\$100,800
2000	International Plant Genetics Research Institute (IPGRI) Grant	\$5,000
2000	Research Opportunity Award, Smithsonian Institution	\$1,800
1999	OTS/Mellon Fellowship for Field work in Costa Rica	\$2,800
1999-01	Molecular Evolution Postdoctoral Fellowship, Smithsonian Institution	\$66,000
1998	Department of OEB, Harvard University Student Research Grant	\$2,500
1997	Deland Award, Arnold Arboretum	\$5,000
1994	Sigma Xi Grants-in-Aid of Research	\$700
1994	National Science Foundation Doctoral Fellowship Travel Grant	\$1000
1994	Committee on Latin American Studies, Harvard University	\$2200
1993	Department of OEB, Harvard University Student Research Grant	\$2500
1992-95	National Science Foundation Pre-Doctoral Fellowship	\$80,000
1991	Bowman Travel Award	\$800
1990	Hampshire College Senior Thesis Award	\$1000
1988	Explorer's Club Youth of the Year Award	
1987	Explorer's Club Expedition Grant	\$1000
1985	Johnson Academic Scholarship, Hampshire College	\$10,000

Ph.D. Thesis

1. **Dick, C. W.** 1999. *Effect of Habitat Fragmentation on the Breeding Structure of Amazonian Rain Forest Trees*. Harvard University, Cambridge, MA. (Advised by P. Ashton, R. Lewontin and S. Palumbi)

Journal articles

2. Ward, M., **C. W. Dick**, R. Gribel, A. J. Lowe (2005) To self or not to self... A review of outcrossing and pollen mediated gene flow in neotropical trees *Heredity* 95: 246-254.
3. Hardesty, B. D., **C. W. Dick**, A. Kremer, S. P. Hubbell, and E. Bermingham (2005) Fine scale spatial genetic structure of *Simarouba amara* Aubl. (Simaroubaceae), a dioecious, animal-dispersed Neotropical tree, on Barro Colorado Island, Panama. *Heredity* 95: 290-297.
4. **Dick, C. W.** and S. J. Wright (2005) Tropical mountain cradles of dry forest diversity. *Proceedings of the National Academy of Sciences USA* 102 (31): 10757-10758.
5. Laurance, W. F., A. A. Oliveira, S. G. Laurance, R. Condit, **C. W. Dick**, A. Andrade, H. E. M. Nascimento, T. E. Lovejoy, and J. E. Ribeiro (2005). Altered tree communities in undisturbed Amazonian forests: A consequence of global change? *Biotropica* 37 (2): 160-162.
6. Pennington, R. T., **C. W. Dick** (2004) The role of immigrants in the assembly of the South American rainforest tree flora. *Philosophical Transactions of the Royal Society of London* 359: 1611-1622.
7. Leigh, E.G., P. Davidar, **C. Dick**, J. P. Puyravaud, J. Terborgh, H. T. Steege. S. J. Wright (2004) Why do some tropical forests have so many kinds of trees? *Biotropica* 36 (4): 447-473.
8. **Dick, C. W.**, D. W. Roubik, K. Gruber and E. Bermingham (2004) Long distance gene flow and cross-Andean dispersal of lowland rainforest bees (Apidae: Euglossini) revealed by comparative mtDNA phylogeography. *Molecular Ecology* 13: 3775-3785.
9. Laurance, W. F., A. A. Oliveira, S. G. Laurance, R. Condit, H. E. M. Nascimento, A. C. Sanchez-Thorin, T. E. Lovejoy, A. Andrade, S. D'Angelo, J. E. Ribeiro and **C. W. Dick** (2004) Pervasive alteration of tree communities in undisturbed Amazonian forests. *Nature* 428: 171-175.
10. Austerlitz, F., **C. W. Dick**, C. Dutech, E. Klein, S. Oddou-Muratorio, P. E. Smouse, V. L. Sork (2004) Using genetic markers to estimate the pollen dispersal curve. *Molecular Ecology* 13: 937-954.
11. **Dick, C. W.**, K. Abdul-Salim and E. Bermingham (2003) Molecular systematics reveals cryptic Tertiary diversification of a widespread tropical rainforest tree. *American Naturalist* 160 (12): 691-703.
12. Novick, R. S., **C. W. Dick**, M. Lemes, C. Navarro, A. Caccone and E. Bermingham (2003) Genetic structure of Mesoamerican populations of big-leaf mahogany (*Swietenia macrophylla*) inferred by microsatellite analysis. *Molecular Ecology* 12: 2885-2893.
13. **Dick, C. W.**, G. Etchelecu and F. Austerlitz (2003) Pollen dispersal of tropical trees (*Dinizia excelsa*: Fabaceae) by native insects and African honeybees in pristine and fragmented Amazonian rainforest. *Molecular Ecology* 12: 753-764.
14. Morley, R. J. and **C. W. Dick** (2003) Missing fossils, molecular clocks and the origin of the Melastomataceae. *American Journal of Botany* 90: 1638-1645.
15. **Dick, C. W.** (2001) Genetic rescue of remnant tropical trees by an alien pollinator. *Proceedings of the Royal Society of London B*. 268: 2391-2397.
16. Bermingham, E. and **Dick, C. W.** (2001) The *Inga*: Newcomer or museum antiquity? *Science* 293: 2214-2216.
17. **Dick, C. W.** and M. Hamilton (1999) Microsatellites from the Amazonian tree *Dinizia excelsa* (Fabaceae). *Molecular Ecology* 8: 1765-66.
18. Mindell, D., **Dick, C. W.** and R. Baker (1991) Phylogenetic relationships among microbats, megabats and primates. *Proceedings of the National Academy of Sciences USA* 88: 10322-10326.

Book chapters

19. Laurance, W. F., A. A. Oliveira, S. G. Laurance, R. Condit, H. E. M. Nascimento, **C. W. Dick**, A. C. Sanchez-Thorin, T. E. Lovejoy, and J. E. L. S. Ribeiro (2005). Late twentieth-century trends in tree-community composition in an Amazonian forest. Chapter 9 in Tropical Forests and Global Atmospheric Change (Y. Mahli and O. Phillips, eds.), pp 97-106.
20. **Dick, C. W.**, R. Condit and E. Bermingham (2005) Biogeographic history and the high β -diversity of rainforest trees in Panamá. Chapter 6 in Rio Chagres: A multi-disciplinary profile of a tropical watershed (R.

- Harmon, ed), pp. 259-268. New York, Springer Publishing Company.
21. Moritz, C., **C. W. Dick**, and E. Bermingham (2005) From the past to the future: evolution, ecology and conservation of tropical rainforests. Chapter 1 in Tropical Rain Forests: Past, Present and Future (E. Bermingham, C. W. Dick and C. Moritz, eds.), pp. 1-6. Chicago, University of Chicago Press.
 22. Bermingham, E. and **C. W. Dick** (2005) The history and ecology of tropical rainforest communities. Chapter 2 in Tropical Rain Forests: Past, Present and Future (E. Bermingham, C. W. Dick and C. Moritz, eds.), pp. 7-15. Chicago, University of Chicago Press.
 23. Moritz, C., **C. W. Dick**, and E. Bermingham (2005) Processes, people and the prospects for tropical rainforests. Chapter 25 in Tropical Rain Forests: Past, Present and Future (E. Bermingham, C. W. Dick and C. Moritz, eds.), pp. 529-531. Chicago, University of Chicago Press.
 24. **Dick, C. W.** (2002) Effect of pollinator composition on the breeding structure of tropical timber trees. Pp. 140-152 in B. Degen, M. Loveless and A. Kremer (eds) Modeling and experimental research on genetic processes in tropical and temperate forests, EMBRAPA, Belém.
 25. **Dick, C. W.** (2001) Habitat change, African honeybees and fecundity in the Amazonian tree *Dinizia excelsa* (Fabaceae). In Lessons from Amazonia: The Ecology and Conservation of a Fragmented Tropical Forest (eds. R. O. Bierregaard, C. Gascon, T. E. Lovejoy and R. Mesquita), pp. 146-157. New Haven, CT: Yale University Press.

Edited volume

26. Bermingham, E., **C. W. Dick**, and C. Moritz, editors (2005) Tropical Rain Forests: Past, Present and Future, University of Chicago Press, Chicago.

Teaching experience

Graduate teaching fellow at Harvard for *Organismic and Evolutionary Biology* (1992) and *Botany* (1993), *Evolution* (1998), and *Tropical Ecology* (including the field course to Venezuela; 1992 and 1994). As a graduate student (1994-1998) I led nine expeditions along the Amazon River and Rio Negro as a biological guide. In 2002 I taught a microsat development workshop at the Smithsonian Tropical Research Institute. I will be teaching two classes at the University of Michigan: (1) Molecular Ecology (EEB 401; winter term) and (2) Woody Plants (SNRE 435; fall term).

Peer Review Activities

American Journal of Botany, *American Naturalist*, *Annals of Botany*, *Biological Conservation*, *Biological Journal of the Linnean Society*, *Biotropica*, *Canadian Journal of Botany*, *Conservation Genetics*, *Forest Ecology and Management*, *Heredity*, *Journal of Ecology*, *Journal of Heredity*, *Molecular Ecology*, *Molecular Phylogenetics and Evolution*, *Philosophical Transactions of the Royal Society*, *Silvae Genetica*, *Tree Genetics and Genomes*, National Geographic Society, National Science Foundation

Neotropical field experience

Ecuador (2000, 2002) Plant collecting expeditions to Esmeraldas province (Pacific coast) and Yasuní and Jatun Sacha (Amazonas).

French Guiana (2000) Botanical collections at the Kourou field station.

Brazil (1992, 1994-1997, 1999) Botanical internship in 1992 (6 months) in the Biological Dynamics of Forest Fragments Project (BDFFP) under the supervision of Mike Nee of the New York Botanical Garden. Field research for PhD dissertation (1994-1997). Botanical collections for post-doctoral research (1999).

Venezuela (1993, 1995) Organized Harvard Tropical Ecology field courses (1 month each) covering Andean and lowland habitats.

Costa Rica (1987) Volunteer for D. H. Janzen on the Guanacaste Park project (3 months) with support from the Explorer's Club.

Panama (1986; 1999-2005) Worked on a dairy farm in the Chiriquí mountains. Post-doctoral research at the Smithsonian Tropical Research Institute (1999-2005).

Professional meetings

- 2005** Phylogeny and biogeography of orchid bees (Apidae: Euglossini) and the origin of euglossine pollination among orchids. Association for Tropical Biology and Conservation. Uberlandia, Brazil.
- 2005** The role of immigrants in the assembly of the South American rainforest tree flora. Center for Tropical Forest Sciences, 25th year symposium. Panama City, Panama.
- 2005** Historia evolutiva de *Symphonia globulifera*, una especie arbórea pantropical del bosque húmedo. Invited speaker. VI Reunión del Red de Herbarios de Mesoamerica y el Caribe. Panama City, Panama.
- 2004** Perspectiva genética sobre la evolución de la alta diversidad de arboles tropicales. Invited speaker. Colombian National Botanical Congress, Popayán, Colombia.
- 2004** The role of immigrants in the assembly of the South American rainforest tree flora. Association for Tropical Biology and Conservation, Miami, Florida.
- 2004** Tertiary-age divergence of tropical tree populations. Poster, Society for the Study of Evolution, Ft. Collins, Colorado.
- 2003** The assembly of Neotropical plant communities: a historical perspective. Invited talk, Association for Tropical Biology and Conservation, Aberdeen, Scotland.
- 2003** Historical biogeography of tree communities in the Panama canal watershed. International Symposium: "Rio Chagres: profile of a tropical watershed", Gamboa, Panama.
- 2002** How old are tropical tree species? Invited talk, Association for Tropical Biology and Conservation, Panama City, Panama.
- 2002** African dispersal and New World differentiation of a tropical rainforest tree. Invited talk, Association for Tropical Biology and Conservation, Panama City, Panama.
- 2001** Efecto del surgimiento de los Andes sobre la evolución de los árboles neotropicales. Invited keynote address, Congreso Nacional de Ciencia y Tecnología, Panama City, Panama.
- 2001** Phylogeography of Neotropical trees. Society for the Study of Evolution, Knoxville, Tennessee.
- 2000** Gene flow dynamics in fragmented Neotropical landscapes. International Symposium: "Modeling and experimental research on genetic processes in tropical and temperate forests" Kourou, French Guiana.
- 1999** Genetic rescue of remnant tropical trees by an alien pollinator. Invited speaker, International Botanical Congress, St. Louis, Missouri.
- 1999** Institute for Amazon Studies (INPA), "Seminario da Amazônia", Manaus, Brazil.
- 1998** Effects of habitat fragmentation on gene flow in Amazonian trees. Ecological Society of America, Baltimore, Maryland. Symposium organizer.

Symposium organizer

- 2003** Association for Tropical Biology, Aberdeen Scotland, "Why are there so many kinds of tropical trees? A historical perspective", with Elizabeth Stacy
- 1998** Ecological Society of America, Baltimore, "Population genetics of tropical trees", with M. Hamilton.

Symposium chair

- 2004** "Plant phylogeny and the origin of major biomes", Royal Society of London

Languages

Portuguese, Spanish and basic French