

CURRICULUM VITA

PHYLLIS DEWING COLEY Distinguished Professor of Biology, University of Utah

Contact information:

257 South 1400 East; Salt Lake City, UT 84112, USA
coley@biology.utah.edu, (801) 581-7088

Education:

Hampshire College, Amherst, MA	B.A. 1974 Biology
University of Chicago, Chicago, IL	Ph.D. 1981 Biology

Professional Experience:

1982-1983	NSF Postdoctoral Fellow
1982-1983	Smithsonian Tropical Research Institute Postdoctoral Fellow
1982-1987	Assistant Professor, Dept. of Biology, University of Utah, Salt Lake City, UT
1987-1993	Associate Professor, Dept. of Biology, University of Utah, Salt Lake City, UT
1993-2009	Professor, Dept. of Biology, University of Utah, Salt Lake City, UT
1994	Visiting Scholar, Scripps Oceanographic Institute, La Jolla, CA
1995-present	Research Associate, Smithsonian Tropical Research Institute
2009-present	Distinguished Professor, University of Utah

Selected Honors and Awards:

1984	George R. Mercer Award, Ecological Society of America
1989-1990	Guggenheim Fellowship
1994-1995	Career Advancement Award, NSF
1995	Biology Excellence in Teaching Award, University of Utah
1995	Most Cited Papers (Wrote 2 of the 3 most cited papers in plant/herbivore interactions, 1981-1993), Science Citation Index, ISI
1996	University of Utah Distinguished Scholarly and Creative Research Award
2001	Eminent Biologist Lecture Series, Pittsburgh
2002	Highly cited researcher in Ecology/Environment, ISI
2003-present	Fellow of the World Innovation Foundation
2006	Jean Andrews Centennial Visiting Professorship in Tropical and Economic Botany, University of Texas
2006-present	Fellow of the American Academy of Arts and Sciences
2007	William Skinner Cooper Award, Ecological Society of America
2008	Graduate Student and Postdoctoral Distinguished Mentor Award, University of Utah
2013	Myriad Award of Research Excellence, Myriad Genetics
2015	Utah Governor's Medal for Science

Major Research Support:

1984-present 15 major N.I.H. and N.S.F. grants (continuous funding)

Research Interests:

Herbivory and plant defenses in tropical rainforests

Mechanisms affecting diversity of tropical rainforests

Bioprospecting and conservation of tropical rainforests

Selected Publications:

- Coley, P.D. 1980. Effects of leaf age and plant life history patterns on herbivory. *Nature* 284:545-546.
- Coley, P.D. 1982. Rates of herbivory on different tropical trees. Pages 123-132. In: *The Ecology of a Tropical Forest: Seasonal Rhythms and Long-term Changes*, E.G. Leigh, A.S. Rand and D.M. Windsor (eds), Smithsonian Press.
- Coley, P.D. 1983. Herbivory and defensive characteristics of tree species in a lowland tropical forest. *Ecological Monographs* 53:209-233.
- Coley, P.D. 1983. Intra-specific variation in herbivory on two tropical tree species. *Ecology* 64:426-433.
- Putz, F.E., P.D. Coley, K. Lu, A. Montalvo and A. Aillelo. 1983. Uprooting and snapping of trees: Structural determinants and ecological consequences. *Canadian Journal of Forest Research* 13:1011-1020.
- Angehr, G., P.D. Coley, and A. Worthington. 1984. *Guía de los Árboles Comunes del Parque Nacional Soberanía, Panamá*. Smithsonian Institution Press.
- Coley, P.D., J.P. Bryant, F.S. Chapin, III. 1985. Resource availability and plant anti-herbivore defense. *Science* 230:895-899.
- Coley, P.D. 1986. Costs and benefits of defense by tannins in a neo-tropical tree. *Oecologia* 70:238-241.
- Salo, J., R. Kalliola, I. Hakkinen, Y. Makinen, P. Niemela, M. Puhakka, and P.D. Coley. 1986. River dynamics and diversity of Amazon lowland forest. *Nature* 322:254-258.
- Coley, P.D. 1987. Patrones en las defensas de las plantas: ¿Porque los herbivoros prefieren ciertas especies?. *Revista de Biología Tropical* 35 (suppl):251-263.
- Bazzaz, F.A., N. Chiariello, P.D. Coley and L.F. Pitelka. 1987. The allocation of resources to reproduction and defense. *Bioscience* 37:58-67.
- Coley, P.D. 1987. Species differences in leaf defenses of tropical trees. Pages 30-35. In: *Fourth Annual Wildland Shrub Symposium on Plant-Herbivore Interactions*. F.D. Provenza and J. Flinders (eds).
- Dirzo, R. F.S. Chapin, P.D. Coley, D.H. Janzen, R. Marquis, L. McHargue, J Nunez-Farfan and K Oyama. 1987. Problemas importantes en el estudio de interacciones planta-herbivoro en los bosques tropicales. *Revista de Biología Tropical* 35 (suppl):207-211.
- Coley, P.D. 1987. Interspecific variation in plant anti-herbivore properties: The role of habitat quality and rate of disturbance. *New Phytologist* 106 (suppl):251-263.
- Coley, P.D. 1988. Effects of plant growth rate and leaf lifetime on the amount and type of anti-herbivore defense. *Oecologia* 74:531-536.
- Coley, P.D. and T.M. Aide. 1989. Red coloration of tropical young leaves: A possible antifungal defense. *Journal of Tropical Ecology* 5:293-300.

- Jing, S.W. and P.D. Coley. 1990. Dioecy and herbivory: the effect of growth rate on plant defense in *Acer negundo*. *Oikos* 58:369-377.
- Coley, P.D. and T.M. Aide. 1991. Comparison of herbivory and plant defenses in temperate and tropical broad-leaved forests. Pages 25-49. In: *Plant-Animal Interactions: Evolutionary Ecology in Tropical and Temperate Regions*, edited by PW Price, TM Lewinsohn, GW Fernandes and WW Benson, Wiley & Sons, NY.
- Kursar, T. A. and P. D. Coley. 1991. Nitrogen content and expansion rate of young leaves of rainforest species: Implications for herbivory. *Biotropica* 23:141-150.
- Kursar, T. A. and P. D. Coley. 1992. Delayed development of the photosynthetic apparatus in tropical rainforest species. *Functional Ecology* 6:411-422.
- Kursar, T. A. and P. D. Coley. 1992. The consequences of delayed greening during leaf development for light absorption and light use efficiency. *Plant, Cell, and Environment* 15: 901-909.
- Kursar, T.A. and P.D. Coley. 1992. Delayed greening in tropical leaves: An anti-herbivore defense? *Biotropica* 24: 256-262.
- Coley, P.D., T.A. Kursar and J.L. Machado. 1993. Colonization of tropical rainforest leaves by epiphylls: effects of site and host plant leaf lifetime. *Ecology* 74:619-623.
- Coley, P.D. 1993. Gap size and plant defenses. *Trends in Ecology and Evolution* 8:1-2.
- Kursar, T.A. and P.D. Coley. 1993. Photosynthetic induction times in shade-tolerant neotropical species with long and short-lived leaves. *Oecologia* 93:165-170.
- Sagers, C.L. and P.D. Coley. 1995. Benefits and costs of plant defense in a neotropical shrub. *Ecology* 76:1835-1843.
- Lowman, M., F. Halle, B. Bouricius, P. Coley, N. Nadkarni, G. Parker, K. Saterson and J.S. Wright. 1995. What's up? Perspectives from the first international forest canopy conference at Sarasota, Fl. *Selbyana* 16:1-11.
- Coley, P.D. and T.A. Kursar. 1996. Anti-herbivore defenses of young tropical leaves: Physiological constraints and ecological tradeoffs. Pages 305-336 In: *Tropical Forest Plant Ecophysiology*, edited by SS Mulkey, R. Chazdon and AP Smith. Chapman and Hall, NY.
- Coley, P.D. and T.A. Kursar. 1996. Causes and consequences of epiphyll colonization. Pages 337-362. In: *Tropical Forest Plant Ecophysiology*, edited by SS Mulkey, R. Chazdon and AP Smith. Chapman and Hall, NY.
- Coley, P.D. and J.A. Barone. 1996. Herbivory and plant defenses in tropical forests. *Annual Review of Ecology and Systematics* 27:305-335.
- Capson, T.L., P.D. Coley and T.A. Kursar. 1996. A new paradigm for drug discovery in tropical forests. *Nature Biotechnology* 14:1200-1201.
- Torti, S.D., P.D. Coley and D.P. Janos. 1997. Vesicular-arbuscular mycorrhizae in two tropical monodominant species. *Journal of Tropical Ecology* 13:623-629.
- Coley, P.D. 1998. The effects of climate change on plant-herbivore interactions in moist tropical rainforests. *Climate Change* 39:455-472.
- Coley, P.D. 1998. The effects of climate change on plant-herbivore interactions in moist tropical rainforests. In: *Potential Impacts of Climate Change on Tropical Forest Ecosystems*. Kluwer Academic Publishers, Dordrecht, the Netherlands.
- Torti, S.D. and P.D. Coley. 1999. Tropical monodominance: a preliminary test of the ectomycorrhizal hypothesis. *Biotropica* 31:220-228.
- Coley, P.D. 1999. Hungry herbivores seek a warmer world. *Science* 284:2098-2099.

- Kursar, T.A. and P.D. Coley. 1999. Contrasting modes of light acclimation in two species of the rainforest understory. *Oecologia* 121:489-498.
- Kursar, T.A., T.L. Capson, P.D. Coley, D.G. Corley, M.B. Gupta, L.A. Harrison, E. Ortega-Barría and D.M. Windsor. 1999. Ecologically guided bioprospecting in Panama. *Journal of Pharmaceutical Biology* 37 (supplement): 114-126.
- Arnold, A.E., A. Maynard, G.S. Gilbert, P.D. Coley and T.A. Kursar. 2000. Are tropical fungal endophytes hyperdiverse? *Ecology Letters* 3:267-274.
- Gross, N.D., S.D. Torti, D.H. Feener, Jr. and P.D. Coley. 2000. Monodominance in an African rainforest: Is reduced herbivory important? *Biotropica* 32:430-439.
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- Coley, P.D. and T.A. Kursar. 2001. Herbivory, plant defenses and natural enemies in tropical forests. Pages 401-424. In: *Interacciones Químicas Entre Organismos: Aspectos Básicos y Perspectivas de Aplicación*, edited by AL Anaya, R Cruz-Ortega, and FJ Espinosa-García, Plaza y Valdés, Mexico.
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- Barone, J.A. and P.D. Coley. 2002. Herbivory and plant defenses. Pages 465-492. In: *Ecología y Conservación de Bosques Neotropicales*, edited by MR Guariguata and G Kattan, Libro Universitario Regional, Costa Rica.
- Dyer, L.A. and P.D. Coley. 2002. Tritrophic interactions in tropical and temperate communities. Pages 67-88. In: *Multitrophic Level Interactions*, edited by Teja Tscharntke and Bradford Hawkins. Cambridge University Press.
- Lerdau, M. and P.D. Coley. 2002. Benefits of the carbon-nutrient balance hypothesis. *Oikos* 98:534-536.
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- Coley, P.D., M.V. Heller, R. Aizprua, B. Araúz, N. Flores, M. Correa, M. Gupta, P.N. Solis, E. Ortega-Barría, L.I. Romero, B. Gómez, M. Ramos, L. Cubilla-Rios, T.L. Capson and T.A. Kursar. 2003. Using ecological criteria to design plant collection strategies for drug discovery. *Frontiers in Ecology and the Environment* 1(8):421-428.
- Hussein, A.A., B. Bozzi, M. Correa, T.L. Capson, T.A. Kursar, P.D. Coley, P.N. Solis and M.P. Gupta 2003. Bioactive constituents from three *Vismia* Species. *J. Natural Products* 66:858-860.
- Hussein, A.A., B. Gomez, M. Ramos, M. Heller, P.D. Coley, P.N. Solis and M.P. Gupta 2003. Constituents of *Hirea reclinata* and their anti-HIV activity. *Revista Latinoamericana de Quimica* 31:5-8.

- Rodriguez, N., Y. Vasquez, A.A. Hussein, P.D. Coley, P.N. Solis and M.P. Gupta. 2003. Cytotoxic curcubitacin constituents from *Sloanea zuliaensis*. *J. Natural Products* 66:1515-1516.
- Coley, P.D. and T.A. Kursar. 2003. Reading the tree leaves. *Natural History* 112:12.
- Lokvam, J., P.D. Coley and T.A. Kursar. 2004. Cinnamoyl glucosides of catechin and dimeric procyanidins from young leaves of *Inga umbellifera* (Fabaceae). *Phytochemistry* 65:351-358.
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- Hussein, A.A., I. Barberena, M. Correa, P.D. Coley, P.N. Solis and M.P. Gupta. 2005. Cytotoxic flavonol glycosides from *Triplaris cumingiana*. *J. Natural Products* 68:231-233.
- Brenes-Arguedas, T. and P.D. Coley. 2005. Phenotypic variation and spatial structure of secondary chemistry in a natural population of a tropical tree species. *Oikos* 108:210-420.
- Coley, P.D., J. Lokvam, K. Rudolph, K. Bromberg, T.E. Sackett, L. Wright, T. Brenes-Arguedas, D. Dvoretz, S. Ring, A. Clark, C. Baptiste, R.T. Pennington and T.A. Kursar. 2005. Divergent defensive strategies of young leaves in two Neotropical species of *Inga*. *Ecology* 86:2633-2643.
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- Correa, J.E. C.H. Rios, A.R. Castillo, L.I. Romero, E. Ortega-Barría, P.D. Coley, T.A. Kursar, M.V. Heller, W.H. Gerwick and L. Cubilla-Rios. 2006. Minor alkaloids from *Guatteria dumentorum* with antileishmanial activity. *Planta Medica* 72:270-272.
- Hussein, A.A., D.A. Olmedo, Y. Vasquez, P.D. Coley, P.N. Solis and M.P. Gupta. 2006. New cytotoxic cinnamic acid derivatives from leaves of *Bonamia trichantha*. *Revista Latinamerica de Quimica* 33:90-95.
- Molinar-Toribio, E., J. Gonzalez, E. Ortega-Barria, T.L. Capson, P.D. Coley, T.A. Kursar and L. Cubilla-Rios. 2006. Antiprotozoal activity against *Plasmodium falciparum* and *Trypanosoma cruzi* of xanthenes isolated from *Chrysochlamys tenuis*. *Pharmaceutical Biology* 44:550-553.
- Fine, P.V.A., J.Z. Miller, I. Mesones, S. Irazuzta, H.M. Appel, I. Saaksjarvi, M.H.H. Stevens, J.C. Schultz and P.D. Coley. 2006. The growth defense tradeoff and habitat specialization by plants in Amazonian forests. *Ecology* 87:S150-S162.

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- Coley, P.D., M.L. Bateman and T.A. Kursar. 2006. The effects of plant quality on caterpillar growth and defense against natural enemies. *Oikos* 115:219-228.
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