BIOGRAPHICAL DATA - NEWCOMBE

Field and date of investigator's highest degree:

Degree	Institution	Department	Year
B.Sc. (Ag.)	McGill University	Plant Science	1983
Ph.D.	University of Guelph	Botany	1988

Date of initial appointment as a tenure-track faculty member at UI:
August 1999.
Present academic rank:
Professor
Telephone: (208) 885 5289. Office: **Room 204B, CNR. Email:** georgen@uidaho.edu

Refereed Publications at the UI [1999-2012]:

1. XIAO, S., CALLAWAY, R. M., NEWCOMBE, G., and E.T. ASCHEHOUG. 2012. Models of experimental competitive intensities predict home and away differences in invasive impact and the effects of an endophytic mutualist. ***American Naturalist***: in press.
2. NEWCOMBE, G. 2012. Rust diseases of *Rhododendron* and *Azalea*. In revised edition of the *Compendium of* Rhododendron *and* Azalea *Diseases*. D.M. Benson & R. Linderman, eds. APS Press.
3. BAYNES, M., NEWCOMBE, G., CARTA, L., and ROSSMAN, A. 2012. A fungivorous nematode and its fungal cultivar alter the endophyte community of *Bromus tectorum*. ***Fungal Ecology*** 5: 610-623**.**
4. BUSBY, P.E., AIME, M.C., and NEWCOMBE, G. 2012. Foliar pathogens of *Populus angustifolia* are consistent with a hypothesis of Beringian migration into North America. ***Fungal Biology*** 116: 792-801.
5. BAYNES, M., NEWCOMBE, G., DIXON, L., CASTLEBURY, L., & O'DONNELL, K. 2012. A novel plant-fungal mutualism associated with fire. ***Fungal Biology*** 116: 133-144.
6. ASCHEHOUG, E.T., METLEN, K.L., CALLAWAY, R.M., & NEWCOMBE, G. 2012. Fungal endophytes directly increase the competitive effects of an invasive forb. ***Ecology*** 93: 3-8.
7. BENNETT, C., AIME, M.C., and G. NEWCOMBE. 2011. Molecular and pathogenic variation within *Melampsora* on *Salix* in western North America reveals numerous cryptic species. ***Mycologia*** 103: 1004-1018.
8. NEWCOMBE, G. 2011. Endophytes in Forest Management: Four Challenges. Pages 251-262 in: AM Pirttila, A.C. Frank (eds.). Endophytes of Forest Trees: Biology and Applications. Springer Berlin, Heidelberg, New York.
9. NEWCOMBE, G. and DUGAN, F.M. 2010. Fungal pathogens of plants in the Homogocene. Chapter 1 in: Y. Gherbawy, K. Voigt (eds.). Molecular Identification of Fungi. Springer-Verlag, Berlin, Heidelberg, New York: pages 3-35.
10. NEWCOMBE, G., MARTIN, F., and A. KOHLER. 2010. Defense and nutrient mutualisms in *Populus*. Chapter 12 in: S. Jansson *et al.* (eds.). Genetics and Genomics of *Populus*. Springer- Verlag, Berlin, Heidelberg, New York: pages 247-279.

11. WORAPONG, J., SUN, J., and G. NEWCOMBE. 2009. First report of *Myrothecium roridum* from a gymnosperm. ***North American Fungi*** 4(6): 1-6.
12. NEWCOMBE, G., GAYLORD, R., YENISH, J.P., MASTROGIUSEPPE, J., and F.M. DUGAN. 2009. New records for pathogenic fungi on weedy or non-indigenous plants. ***North American Fungi*** 4(8): 1-12.
13. SHIPUNOV, A., A.K. RAGHAVENDRA, R.J. GANLEY, G. and G. NEWCOMBE. 2009. *Ulocladium populi* E.G. Simmons, G. Newcombe and A. Shipunov, *sp. nov*. ***Persoonia*** 23: 180-181.
14. NEWCOMBE, G. 2009. Forest Genetics – A Tree is Just a Forest's Way of Making Another Forest. ***BioScience*** 59: 351-352.
15. NEWCOMBE, G., A. SHIPUNOV, S. D. EIGENBRODE, A. RAGHAVENDRA, H. DING, C. L. ANDERSON, R. MENJIVAR, M. CRAWFORD, AND M. SCHWARZLÄNDER. 2009. Endophytes influence protection and growth of an invasive plant. ***Communicative and Integrative Biology*** 2:1-3.
16. HOFFMANN K, TELLE S, WALTHER G, ECKART M, KIRCHMAIR M, PRILLINGER HJ, PRAZENICA A, NEWCOMBE G, DÖLZ F, PAPP T, VÁGVÖLGYI C, DEHOOG S, OLSSON L & VOIGT K. 2008. Diversity, genotypic identification, ultrastructural and phylogenetic characterization of zygomycetes from different ecological habitats and climatic regions: Limitations and utility of nuclear ribosomal DNA barcode markers***. In: Y. Gherbawy (ed.) Current Advances in Molecular Mycology***. Nova Science Publishers, Inc. (USA). Invited contribution.
17. SHIPUNOV, A., NEWCOMBE, G., RAGHAVENDRA, A., and C. ANDERSON. 2008. Hidden diversity of endophytic fungi from invasive spotted knapweed (*Centaurea stoebe* L., Asteraceae). ***American Journal of Botany*** 95: 1096-1108.
18. GANLEY, R.J., SNIEZKO, R.A., and G. NEWCOMBE. 2008. Endophyte-mediated resistance against white pine blister rust in *Pinus monticola*. ***Forest Ecology and Management*** 255: 2751-2760.
19. ROSSMAN, AMY, FARR, DAVE, PLATAS, GONZALO, and G. NEWCOMBE. 2008. *Hydropisphaera fungicola* sp. nov. ***Fungal Planet***, no. 22.
20. DUGAN, FRANK, and G. NEWCOMBE. 2007. New records for powdery mildews and *Taphrina* species in Idaho and Washington. ***North American Fungi*** 2(8): 1-5.
21. GANLEY RJ, and NEWCOMBE G. 2006. Fungal endophytes in seeds and needles of *Pinus monticola*. ***Mycological Research*** 110: 318-327.
22. NEWCOMBE, G. 2005. Genes for parasite-specific, nonhost resistance in *Populus*. ***Phytopathology*** 95: 779-783.
23. NISCHWITZ, C, NEWCOMBE, G, and ANDERSON, CL. 2005. Host specialization of the hyperparasite *Eudarluca caricis* and its evolutionary relationship to *Ampelomyces*. ***Mycological Research*** 108: 421-428.
24. SMITH, JA, BLANCHETTE, RA, and NEWCOMBE, G. 2004. Molecular and morphological characterization of the willow rust fungus, *Melampsora epitea*, from arctic and temperate hosts in North America. ***Mycologia*** 96: 1354-1362.
25. GANLEY RJ, BRUNSFELD SJ, and NEWCOMBE G. 2004. A community of unknown, endophytic fungi in western white pine. ***Proceedings of the National Academy of Sciences*** 101: 10107-10112.
26. NEWCOMBE, G. 2004. Forest Pathology Rust Diseases. Chapter 5 in "Encyclopedia of Forest Sciences". Burley, J., Evans, J., and Youngquist, J., editors. Elsevier Science.

27. MARTIN, F., TUSKAN, G.A., DiFAZIO, S.P., LAMMERS, P., NEWCOMBE, G. and PODILA, G.K. 2004. Symbiotic sequencing for the *Populus* mesocosm. ***New Phytologist*** 161:330-335.
28. NEWCOMBE, G. and NISCHWITZ, C. 2004. First report of powdery mildew (*Erysiphe cichoracearum*) on creeping thistle (*Cirsium arvense*) in North America. ***Plant Disease*** 88: 312.
29. NEWCOMBE, G. 2003. *Puccinia tanaceti*: specialist or generalist? ***Mycological Research*** 107: 797-802.
30. NISCHWITZ, C. and NEWCOMBE, G. 2003. First report of powdery mildew (*Sawadaea bicornis*) on Norway maple (*Acer platanoides*) in North America. ***Plant Disease*** 87: 451.
31. NISCHWITZ, C. and NEWCOMBE, G. 2003. First report of powdery mildew (*Microsphaera palczewskii*) on Siberian pea tree (*Caragana arborescens*) in North America. ***Plant Disease*** 87: 451.
32. NEWCOMBE, G. 2003. Native *Venturia inopina* sp. nov., specific to *Populus trichocarpa* and its hybrids. ***Mycological Research*** 107: 108-116.
33. WOO, K.-S. and NEWCOMBE, G. 2003. Absence of residual effects of a defeated resistance gene in poplar. ***Forest Pathology*** 33: 81-89.
34. NEWCOMBE, G., and OSTRY, M. 2001. Recessive resistance to Septoria stem canker of hybrid poplar. ***Phytopathology*** 91:1081-1084.
35. NEWCOMBE, G., OSTRY, M., HUBBES, M., PERINET, P. and MOTTET, M.-J. 2001. Poplar Diseases. In Poplar Culture in North America. Part A, Chapter 8. Edited by D.I. Dickmann, J.G. Isebrands, J.E. Eckenwalder, and J. Richardson. NRC Research Press, National Research Council of Canada, Ottawa, ON K1A 0R6, Canada. pp. 249-276.
36. NEWCOMBE, G., STIRLING, B., and BRADSHAW, H.D., Jr. 2001. Abundant pathogenic variation in the new hybrid rust population of *Melampsora xcolumbiana* on hybrid poplar. ***Phytopathology*** 91:981-985.
37. STIRLING, B. , NEWCOMBE, G., VREBALOV, J., BOSDET, I., and H.D. BRADSHAW, JR. 2001. Suppressed recombination around the *MXC3* locus, a major gene for resistance to poplar leaf rust. ***Theoretical and Applied Genetics*** 103: 1129-1137.
38. JAMES, R.R., and NEWCOMBE, G. 2000. Defoliation patterns and genetics of insect resistance in cottonwoods. ***Canadian Journal of Forest Research*** 30: 85-90.
39. NEWCOMBE, G. 2000. First report of *Pestalotiopsis populi-nigrae* on poplar in North America. ***Plant Disease*** 84(5):595.
40. NEWCOMBE, G. 2000. Inheritance of resistance to *Glomerella cingulata* in *Populus*. ***Canadian Journal of Forest Research*** 30: 639-644.
41. NEWCOMBE, G., STIRLING, B., McDONALD, S.K., and BRADSHAW, H.D., Jr. 2000. *Melampsora x columbiana*, a natural hybrid of *M. medusae* and *M. occidentalis*. ***Mycological Research*** 104: 261-274.
42. NEWCOMBE, G., and THOMAS, P.L. 2000. Inheritance of carboxin resistance in a European field isolate of *Ustilago nuda*. ***Phytopathology*** 90:179-182.
43. FRITZ, R.S., MOULIA, C., and NEWCOMBE, G. 1999. Resistance of hybrid plants and animals to herbivores, pathogens, and parasites. Annual Review of Ecology and Systematics, Vol. 30: 565-591.

Refereed Publications [prior to 1999]:

1. NEWCOMBE, G. 1998. A review of exapted resistance to diseases of *Populus*. European J. Forest Pathology **28**: 209-216.

2. NEWCOMBE, G. 1998. Southerly extension of poplar leaf blight (*Linospora tetraspora*) in the Pacific Northwest. Plant Disease **82**:590.
3. NEWCOMBE, G. 1998. Association of *Mmd1*, major gene for resistance to *Melampsora medusae* f.sp. *deltoidae*, with quantitative traits in poplar rust. Phytopathology **88**: 114-121.
4. NEWCOMBE, G. and CALLAN, B.E. 1997. First report of *Marssonina brunnea* f.sp. *brunnea* on hybrid poplar in the Pacific Northwest. Plant Disease **81**:231.
5. NEWCOMBE, G. and VAN OOSTEN, C. 1997. Variation in resistance to *Venturia populina*, the cause of poplar leaf and shoot blight in the Pacific Northwest. Canadian Journal of Forest Research **27**:883-889.
6. NEWCOMBE, G. 1996. The specificity of fungal pathogens of *Populus*. *In* Biology of *Populus* and its Implications for Management and Conservation. Part I, Chapter 10. *Edited by* R.F. Stettler, H.D. Bradshaw, Jr., P.E. Heilman, and T.M. Hinckley. NRC Research Press, National Research Council of Canada, Ottawa, ON. pp. 223-246.
7. NEWCOMBE, G. and BRADSHAW, H.D. 1996. Quantitative trait loci conferring resistance in hybrid poplar to *Septoria populicola*, the cause of leaf spot. Canadian Journal of Forest Research **26**:1943-1950.
8. NEWCOMBE, G., H.D. BRADSHAW, JR., G.A CHASTAGNER, and R.F. STETTLER. 1996. A major gene for resistance to *Melampsora medusae* f.sp. *deltoidae* in a hybrid poplar pedigree. Phytopathology **86**:87-94.
9. NEWCOMBE, G., CHASTAGNER, G.A, CALLAN, B., and OSTRY, M.E. 1995. An epidemic of Septoria leaf spot on *Populus trichocarpa* in the Pacific Northwest in 1993. Plant Disease **79**:212.
10. NEWCOMBE, G., G.A CHASTAGNER, and S.K. McDONALD. 1994. Additional coniferous aecial hosts of the poplar leaf rusts, *Melampsora larici-populina* and *M. medusae* f.sp. *deltoidae*. Plant Disease **78**: 1218.
11. NEWCOMBE, G., G.A CHASTAGNER, W. SCHUETTE, and B.J. STANTON. 1994. Mortality among hybrid poplar clones in a stool bed following leaf rust caused by *Melampsora medusae* f.sp. *deltoidae*. Canadian Journal of Forest Research **24**: 1984-1987.
12. PINON, J., NEWCOMBE, G. and CHASTAGNER, G. 1994. Identification of races of *Melampsora larici-populina*, the Eurasian poplar leaf rust fungus, in California and Washington. Plant Disease **78**:101.
13. NEWCOMBE, G. and G.A CHASTAGNER. 1993. A leaf rust epidemic of hybrid poplar along the Lower Columbia River caused by *Melampsora medusae*. Plant Disease **77**: 528-531.
14. NEWCOMBE, G. and G.A CHASTAGNER. 1993. First report of the Eurasian poplar leaf rust fungus, *Melampsora larici-populina*, in North America. Plant Disease **77**: 532-535.
15. NEWCOMBE, G. and THOMAS, P.L. 1991. The incidence of carboxin resistance in *Ustilago nuda*. Phytopathology **81**: 247-250.
16. NEWCOMBE, G., STALEY, J.M. and CHASTAGNER, G.A 1991. *Glomerella cingulata* associated with leaf and shoot blight of hybrid poplar. Plant Disease **75**: 1286.
17. NEWCOMBE, G., LEE, B., and ROBB, J. 1990. Early vascular sporulation: its role in the virulence of *Verticillium albo-atrum* in wilt of alfalfa. Physiological and Molecular Plant Pathology **36**: 441-449.
18. NEWCOMBE, G. and THOMAS, P.L. 1990. The use of polyacrylic acid to prevent mycelial aggregation of *Ustilago nuda* in agitated liquid culture. Mycological Research **94**: 1141-1144.

19. NEWCOMBE, G. and THOMAS, P.L. 1990. Fungicidal and fungistatic effects of carboxin on *Ustilago nuda*. Phytopathology **80**: 509-512.
20. NEWCOMBE, A.G., PAPADOPOULOS, Y.A., ROBB, J., and CHRISTIE, B.R. 1989. The colonization ratio: a measure of pathogen invasiveness and host resistance in Verticillium wilt of alfalfa. Canadian Journal of Botany **67**: 365-370.
21. NEWCOMBE, G., and ROBB, J. 1989. An improved method of determining the colonization ratio in *Verticillium*-infected alfalfa plants. Canadian Journal of Plant Pathology **11**: 60-64.
22. NEWCOMBE, G., and ROBB, J. 1989. The chronological development of a lipid-to-suberin response at spore trapping sites in Verticillium wilt of alfalfa. Physiological and Molecular Plant Pathology **34**: 55-73.
23. NEWCOMBE, G., and ROBB, J. 1988. The function and relative importance of the vascular coating response in highly resistant, moderately resistant and susceptible alfalfa infected by *Verticillium albo-atrum*. Physiological and Molecular Plant Pathology **33**: 47-58.
24. ELANGO, D., ROBB, J., NEWCOMBE, G., and BUSCH, L.V. 1986. Growth pouch technique for the observation of cellular interactions between alfalfa seedling roots and *Verticillium albo-atrum*. Canadian Journal of Plant Pathology **8**: 78-84.

Oral presentations in 2010:

1. Helped organize and chair a session of the International Poplar Symposium in Orvieto, Italy, September 2010. Presented a paper with Posy Busby of Stanford University.
2. Presentation at the meeting of the Ecological Society of America [with Busby].
3. Presentation at the meeting of the Northern Arizona University Cottonwood Symposium in Flagstaff [with Busby].
4. Presentation at the Mycological Society of America [with Melissa Baynes of the University of Idaho.
5. Presentation at the meeting of the NRIPC [Invasive Species in Natural Areas Conference] in Coeur d'Alene in October 2010.
6. Presentation of an invited seminar at Purdue University in October 2010.

Selected oral presentations and professional duties in previous years:

Invited speaker at the Invasive Species in Natural Areas Conference in Missoula, Montana in February of 2008.

Invited speaker at the International Workshop on Biological Control of Invasive Species of Forest in Beijing, China, in September of 2007.

Invited speaker in the Ecology, Evolution and Conservation Biology Colloquium series at the University of Nevada at Reno in Feb. 2007.

Invited External Examiner at a PhD defence in Quebec (Laval University) in May 2005.

Senior Editor of Plant Disease, December 2003 to December 2006.

Invited to teach a short course at the University of Talca, Chile, from Dec. 6-10, 2004.

Ad hoc reviewer for 12 journals, USDA NRI, NSF, British Columbia Ministry of Forestry, and the Consortium for Plant Biotechnology Research.

Selected recent or ongoing service to the UI:

Co-Director of the UI Center for Research on Invasive Species and Small Populations, or CRISSP, until Nov. of 2007.
Ongoing service as one of three faculty members on the UI Arboretum Executive Committee.