

Curriculum Vitae

B. Rosemary Grant

Education: B.Sc.(Honors) 1960 Edinburgh University, Scotland
 Ph.D. 1985 Uppsala University, Sweden

RESEARCH POSITIONS

Research Associate, University of British Columbia, Canada, 1960-1964.
Research Associate, Yale University, 1964-1965.
Research Associate, McGill University, 1973-1977.
Research Associate, University of Michigan, 1977-1985.
Research Scholar and Lecturer, Princeton University, 1985-1996.
Senior Research Scholar with rank of Professor, Princeton University, 1997-present
University of Zürich, Switzerland, Visiting Professor, Spring-Summer 2002, Summer 2003

HONORS AND AWARDS

The Wildlife Society's 1991 Wildlife Publication Award for the book "Evolutionary Dynamics of a Natural Population: the large cactus finch of the Galápagos" (with P. R. Grant)
Leidy Medal, Academy of Natural Sciences of Philadelphia (with P. R. Grant), 1994
American Academy of Arts and Sciences (elected member), 1997
E.O. Wilson Prize, American Society of Naturalists (with P. R. Grant), 1998
Honorary D.Sc. Degree, McGill University, 2000
Darwin Medal, the Royal Society of London (with P. R. Grant), 2002
Loye and Alden Miller Award of the Cooper Ornithological Society (with P. R. Grant), 2003
Grinnell Medal, University of California, Berkeley (with P. R. Grant), 2003
Honorary Fellow, Deutsche Ornithologen-Gesellschaft, 2003
Foreign Fellow, Royal Society of Canada, 2004
Honorary D.Sc. Degree, Universidad San Francisco, Quito, 2005
A.I.B.S. Outstanding Scientist Award for 2005 (with P. R. Grant)
Balzan Prize in Population Biology for 2005 (with P. R. Grant)
Fellow of the Royal Society of London, 2007.

PLENARY ADDRESSES

Convocation Address, McGill University, 2000
Plenary Address, Western Society of Naturalists, Portland OR, 2000
Plenary Address, American Institute of Biological Sciences, Washington DC, 2002
Plenary Address, International Ornithology Conference, Beijing, China, August 2002
Plenary Speaker, INTECOL, Seoul, South Korea, August 2002
Keynote Address, The Rocky Mountain 75th Anniversary Symposium, 2003
Key Address at Biodiversity Symposium, Kyoto University, Biodiversity Meeting, March 2003
Keynote Address at Diebold Symposium, Kalamazoo College, Michigan, May 2003
Keynote Address, German Zoological Society Symposium, Berlin, June 2003

Chris Reed Lecture, Dartmouth College, 2003
 Arthur G. Rempel Lecture, Whitman College, Washington, April 2003
 Capitol Series Lecture, Carnegie Institution, Washington, DC, April 2003
 Nobel Conference XXXIX, Gustavus Adolphus College, October 2003
 Missouri Botanical Garden 50th Anniversary Conference, October 2003
 The Verweij Lecture, Texel, Netherlands, Keynote Address, January 2004
 Ernst Mayr Address, Wissenschaftskolleg, Berlin-Brandenburgische Akademie, Berlin, Germany, 2004
 World Summit on Evolution, San Cristóbal Island, Ecuador, June 2005
 Sewall Wright Lecture, University of Chicago, 2006.
 Plenary Speaker, Ontario Ecology and Ethology Conference, 2006
 Distinguished Speaker Lecture, University of Michigan, Ann Arbor, 2006
 LET'S Lecture, Swedish Museum of Natural History, Stockholm, Sweden, 2006
 The Balzan Lecture, University of Zurich, Switzerland, June 2006
 The Birkenmeier Lecture, Bar Harbor, Maine, 2006.

INTERNATIONAL ORGANIZATION, MEMBERSHIP:

Charles Darwin Foundation, General Assembly, elected 2002

PUBLICATIONS IN JOURNALS:

- Grant, P. R., Smith, J. N. M., Grant, B. R., Abbott, I. J. and Abbott, L. K. (1975) Finch numbers, owl predation and plant dispersal on Isla Daphne Major, Galápagos. *Oecologia (Berlin)* **19**: 239-257.
- Grant, P. R., Grant, B. R., Smith, J. N. M., Abbott, I. J. and Abbott, L. K. (1976) Darwin's Finches: population variation and natural selection. *Proceedings of the National Academy of Sciences (USA)* **73**: 257-261.
- Smith, J. N. M., Grant, P. R., Grant, B. R., Abbott, I. J. and Abbott, L. K. (1978) Seasonal variation in feeding habits of Darwin's Ground Finches. *Ecology* **59**: 1137-1150.
- Grant, B. R. and Grant, P. R. (1979) Darwin's Finches: population variation and sympatric speciation. *Proceedings of the National Academy of Sciences (USA)* **76**: 2359-2363.
- Grant, P. R., and Grant, B. R. (1979). The feeding ecology of Darwin's Ground Finches. *Noticias de Galápagos* **30**: 14-18.
- Grant, P. R. and Grant, B. R. (1980) Annual variation in finch numbers, foraging and food supply on Isla Daphne Major, Galápagos. *Oecologia (Berlin)* **46**: 55-62.
- Grant, P. R. and Grant, B. R. (1980) The breeding and feeding of Darwin's Finches on Isla Genovesa, Galápagos. *Ecological Monographs* **50**: 381-410.

- Grant, B. R. and Grant, P. R. (1981) Exploitation of *Opuntia* cactus by birds on the Galápagos. *Oecologia (Berlin)* **49**: 179-187.
- Grant, B. R. and Grant, P. R. (1982) Niche shifts and competition in Darwin's Finches: *Geospiza conirostris* and congeners. *Evolution* **36**: 637-657.
- Grant, B. R. and Grant, P. R. (1983) Fission and fusion in a population of Darwin's Finches: an example of the value of studying individuals in ecology. *Oikos* **41**: 530-547.
- Grant, B. R. (1984) The significance of song variation in a population of Darwin's Finches. *Behaviour* **89**: 90-116.
- Grant, B. R., and Grant P. R. (1984). Plant and finch responses on Isla Genovesa to the El Niño event of 1982-1983. *Noticias de Galápagos* **39**: 12-14.
- Grant, B. R. (1985) Selection on bill characters in a population of Darwin's Finches: *Geospiza conirostris* on Isla Genovesa, Galápagos. *Evolution* **39**: 523-532.
- Grant, P. R., and Grant, B. R. (1985) Responses of Darwin's Finches to unusual rainfall. Pp. 417-447. In *El Niño in the Galápagos Islands: the 1982-1983 event*. G. Robinson and E. del Pino, eds. ISALPRO, Quito.
- Grant, P. R. and Grant, B. R. (1987) The extraordinary El Niño event of 1982-83: effects on Darwin's Finches on Isla Genovesa, Galápagos. *Oikos* **49**: 55-66.
- Grant, B. R. and Grant, P. R. (1987) Mate choice in Darwin's Finches. *Biological Journal of the Linnean Society* **32**: 247-270.
- Grant, P. R., and Grant, B. R. (1989). Sympatric speciation and Darwin's Finches. Pp. 433-457. In *Speciation and its Consequences*, D. Otte and J. Endler, eds. Sinauer, Sunderland, Mass.
- Grant, P. R. and Grant, B. R. (1989) The slow recovery of *Opuntia megasperma* on Española. *Noticias de Galápagos* No. **48**: 13-15.
- Grant, B. R., and Grant, P. R. (1989) Natural selection in a population of Darwin's Finches. *American Naturalist* **133**: 377-393.
- Grant P. R., and Grant, B. R. (1990) Plant-animal interactions: consumption of seeds by Darwin's Finches. In: *Monographs in Systematic Botany of the Missouri Botanical Gardens* **32**: 179-187.
- Grant, B. R. (1990) The significance of subadult plumage in Darwin's finches, *Geospiza fortis*. *Behavioral Ecology* **1**: 161-170.
- Grant P. R., Grant, K. T., and Grant, B. R. (1991) *Erythrina velutina* and the colonization of remote islands. *Noticias de Galápagos* No. **50**: 3-5.

- Grant, P. R. and B. R. Grant. (1992) Demography and the genetically effective sizes of two populations of Darwin's Finches. *Ecology* **73**: 766-784.
- Grant, P. R., and Grant, B. R. (1992) Global Warming and the Galápagos. *Noticias de Galápagos* No. **51**: 14-16.
- Grant, P. R., and Grant, B. R. (1992) Hybridization of bird species. *Science* **256**: 193-197.
- Grant, B. R., and Grant, P. R. (1993) Evolution of Darwin's finches caused by a rare climatic event. *Proceedings of the Royal Society London B* **251**: 111-117. [Featured in BBC Wildlife Magazine, and News and Views in *Nature*.]
- Grant, P. R., and Grant, B. R. (1994) Phenotypic and genetic consequences of hybridization in Darwin's Finches. *Evolution* **48**: 297-316 .
- Grant, P. R., and Grant, B. R. (1995). The founding of a new population of Darwin's Finches. *Evolution* **49**: 229-240.
- Grant, P. R., and Grant, B. R. (1995) Predicting microevolutionary responses to directional selection on heritable variation. *Evolution* **49**: 241-251.
- Grant, P. R. and Grant, B. R. (1995) Hybridisierung von *Darwins* Finken. *Praxis der Naturwissenschaften - Biologie* **44**: 24-26.
- Grant, B. R. (1996) Pollen Digestion by Darwin's Finches and its importance for early breeding. *Ecology* **77**: 489-499.
- Grant, P. R., and Grant, B. R. (1996) Finch communities in a fluctuating environment. Pp. 343-390. In: *Long-term studies of vertebrate communities*. M. L. Cody and J. A. Smallwood, eds. Academic Press, N.Y.
- Grant, B. R., and Grant, P. R. (1996) High survival of Darwin's Finch hybrids: effects of beak morphology and diets. *Ecology* **77**: 500-509.
- Grant, P. R., and Grant, B. R. (1996) Speciation and hybridization in island birds. *Philosophical Transactions of the Royal Society of London B* **350**: 765-772.
- Vincek, V., O'Huigin, C., Satta, Y., Takahata, N., Boag, P. T., Grant, P. R., Grant, B. R., and Klein, J. (1996). How large was the founding population of Darwin's finches? *Proceedings of the Royal Society London B* **264**: 111-118.
- Grant, B. R., and Grant, P. R. (1996) Cultural inheritance of song and its role in the evolution of Darwin's Finches. *Evolution* **50**: 2471-2487.
- Grant, P. R., and Grant, B. R. (1997) The rarest of Darwin's Finches. *Conservation Biology* **11**: 119-126.

- Grant, P. R., and Grant, B. R. (1997) Hybridization, sexual imprinting and mate choice. *American Naturalist* **149**: 1-28.
- Grant, P. R., and Grant, B. R. (1997) Mating patterns of Darwin's Finch hybrids determined by song and morphology. *Biological Journal of the Linnean Society* **60**: 317-343.
- Grant, P. R. and Grant, B. R. (1997) Genetics and the origin of bird species. *Proceedings of the National Academy of Sciences, USA*. **94**: 7768-7775.
- Grant, B. R., and Grant, P. R. (1998) Hybridization and speciation in Darwin's Finches: the role of sexual imprinting on a culturally transmitted trait. Pp. 404-422 in D. J. Howard and S. Berlocher, eds. *Endless forms: species and speciation*. Oxford University Press.
- Grant, P. R., and Grant, B. R. (1998). Speciation and hybridization of birds on islands. Pp. 142-162 in *Evolution on Islands*, P. R. Grant, ed. Oxford University Press, Oxford.
- Petren, K., Grant, B. R. and Grant, P. R. (1999). Low extrapair paternity in the cactus finch (*Geospiza scandens*). *Auk* **116**: 252-256.
- Petren K., Grant, B. R., and Grant, P. R. (1999). A phylogeny of Darwin's finches based on microsatellite DNA length variation. *Proceedings of the Royal Society of London B* **266**: 321-329.
- Grant, P. R., and Grant, B. R. (1999). Quantitative genetic variation in populations of Darwin's Finches. Pp. 3-40 in *Adaptive Variation in the Wild*, T. A. Mousseau, B. Sinervo and J. A. Endler, eds. Oxford University Press, New York.
- Sato, A., O'Huigin, C., Figueroa, F., Grant, P. R., Grant, B. R., Tichy, H., and Klein, J. (1999). Phylogeny of Darwin's Finches as revealed by mitochondrial DNA sequences. *Proceedings of the National Academy of Sciences USA* **96**: 5101-5106.
- Grant, P. R. and Grant, B. R. (1999). Effects of the 1998 El Niño event on Darwin's Finches on Daphne. *Noticias de Galápagos* **60**: 29-30.
- Grant, P. R., Grant, B. R., and Petren, K. (2000). The allopatric phase of speciation: the Sharp-beaked Ground Finch (*Geospiza difficilis*) on the Galápagos islands. *Biological Journal of the Linnean Society* **69**: 287-317.
- Grant, P. R., Curry, R. L., and Grant, B. R. (2000). A remnant population of the Floreana mockingbird on Champion island, Galápagos. *Biological Conservation* **92**: 285-290.
- Grant, P. R., Grant, B. R., and Petren, K. (2000). Vocalizations of Darwin's Finch relatives. *Ibis* **142**: 680-682.
- Grant, P. R., Grant, B. R., Keller, L. F. and Petren, K. (2000). Effects of El Niño events on Darwin's Finch productivity. *Ecology* **81**: 2442-2457.

- Grant, P. R. and Grant, B. R. (2000). Non-random fitness variation in two populations of Darwin's finches. *Proc. R. Soc. Lond. B* **267**: 131-138.
- Sato, A., Figueroa, F., Mayer, W. E., Grant, P. R., Grant, B. R., and Klein, J. (2000). *Mhc* class II genes of Darwin's Finches: divergence by point mutations and reciprocal recombination. Pp. 518-541 in *The Major Histocompatibility Complex: Evolution, Structure, and Function*, M. Kasahara, ed. Springer-Verlag, Tokyo.
- Sato, A., O'Huigin, C., Tichy, H., Grant, P. R., Grant, B. R., and Klein, J. (2001). On the origin of Darwin's Finches. *Molecular Biology and Evolution* , **18**: 299-311.
- Keller, L. F., Grant, P. R., Grant, B. R., Petren, K. (2001). Heritability of morphological traits in Darwin's Finches: misidentified paternity and maternal effects. *Heredity* **87**: 325-336.
- Grant, P. R., Grant, B. R. and Petren, K. (2001). Evolution of a population founded by a single pair of individuals. *Genetica*, **113**: 359-382.
- Sato, A., Mayer W. E., Tichy, H., Grant, P. R., Grant, B. R. and Klein, J. (2001). Evolution of *Mhc* Class II *B* Genes in Darwin's Finches and Their Closest Relatives: Birth of a New Gene. *Immunogenetics* **53**: 792-801.
- Keller, L. F., Grant, P. R., Grant, B. R. and Petren, K. (2002). Environmental conditions affect the magnitude of inbreeding depression in survival of Darwin's finches. *Evolution* **56**: 1229-1239.
- Grant, B. R. and Grant, P. R. (2002). Lack of premating isolation at the base of a phylogenetic tree. *American Naturalist* **160**: 1-19.
- Grant, P. R. and Grant, B. R. (2002). Darwin's Finches. In *Encyclopedia of Evolution*, M. Pagel, ed. Oxford University Press, New York.
- Grant, P. R. and Grant, B. R. (2002). Galápagos Islands. In *Encyclopedia of Evolution*, M. Pagel, ed. Oxford University Press, New York.
- Grant, P. R. and Grant, B.R. (2002). Adaptive radiation of Darwin's Finches. *American Scientist* **90**: 130-139.
- Grant, P. R. and Grant, B. R. (2002). Unpredictable evolution in a 30-year study of Darwin's finches. *Science* **296**: 707-711.
- Grant, B. R. and Grant, P. R. (2002). Simulating secondary contact in allopatric speciation: an empirical test of premating isolation. *Biological Journal of the Linnean Society* **76**: 542-556.
- Grant, P. R. and Grant, B. R. (2003). Reversed sexual dimorphism in the beak of warbler finches. *Ibis*: **145**: 341-343.
- Grant, P. R., Grant, B. R., Keller, L. F. Markert, J. A. and Petren, K. (2003). Inbreeding and interbreeding in Darwin's Finches. *Evolution* **57**: 2911-2916.

- Grant, P. R. and Grant, B. R. (2003). What Darwin's Finches can teach us about the evolutionary origin and regulation of biodiversity. *BioScience* **53**: 965-975.
- Grant, B. R. (2003). Evolution in Darwin's Finches. *Zoology* **106**: 255-259.
- Markert, J. A., Grant, P. R., Grant, B. R., Keller, L. F., Coombs, J. L., and Petren, K. (2004). Neutral locus heterozygosity, inbreeding, and survival in Darwin's ground finches (*Geospiza fortis* and *G. scandens*). *Heredity* **92**: 306-315.
- Grant, P. R., Grant, B. R., Markert, J. A., Keller, L. F. and Petren, K. (2004) Convergent evolution of Darwin's Finches caused by introgressive hybridization and selection. *Evolution* **58**: 1588-1599.
- Abzhanov, A, Protas, M., Grant, B. R., Grant, P. R. and Tabin, C. J. (2004). *Bmp4* and morphological variation of beaks in Darwin's Finches. *Science* **305**: 1462-1465.
- Grant, B. R. (2004). Evolutionary dynamics of sympatric Darwin's Finch populations in the Galápagos Archipelago. *Acta Zoologica Sinica* **50**(6): 936-941.
- Grant, P. R., Grant, B. R., Petren, K. and Keller, L. F. (2005). Extinction behind our backs: the possible fate of one of the Darwin's finch species on Isla Floreana, Galápagos. *Biological Conservation*: **122**: 499-503.
- Tonnis, B., Grant, P. R., Grant, B. R., and Petren, K. (2005). Habitat selection and ecological speciation in Galápagos warbler finches (*Certhidea olivacea* and *C. fusca*). *Proc. Royal Soc. Lond. B* **272**: 819-826.
- Grant, P. R., Grant, B. R. and Petren, K. (2005). Hybridization in the recent past. *American Naturalist* **166**: 56-67
- Grant, P.R. and Grant, B. R. (2005) Darwin's Finches. *Current Biology* **15**: R614-R615.
- Petren, K., Grant, P. R., Grant, B. R. and Keller, L. F. (2005) Comparative landscape genetics and the adaptive radiation of Darwin's finches: the role of peripheral isolation. *Mol. Ecol.* **14**: 2943-2957.
- Grant, P. R., Grant, B. R. and Abzhanov, A. (2006). A developing paradigm for the development of bird beaks. *Biological Journal of the Linnean Society* **86**: 17-22.
- Grant, P.R. and Grant, B.R. (2006). Species before speciation is complete. *Annals of the Missouri Botanical Gardens* **93**: 94-102.
- Arbogast, B.S., Drovetski, S.V., Curry, R.L., Boag, P.T., Seutin, G., Grant, P.R., Grant, B.R., and Anderson, D.J. (2006). The origin and diversification of Galápagos mockingbirds. *Evolution* **60**: 370-382.
- Grant, P.R. and Grant, B.R. (2006). Evolution of character displacement in Darwin's Finches. *Science* **313**: 224-226.

Abzhanov, A., Kuo, W.P., Hartmann, C., Grant, B.R., Grant, P.R., and Tabin, C.J. (2006). The calmodulin pathway and the evolution of elongated beak morphology in Darwin's finches. *Nature* **442**: 563-567.

Grant, B. R. and Grant P. R. (2006). Evolution of Darwin's finches. In Berlin-Brandenburg Academy of Sciences and Humanities (Ed.), *Berichte und Abhandlungen*, Vol. 11, Akademie Verlag, Berlin, Germany, pp. 415-430.

BOOK

Grant, B. R., and Grant, P. R. (1989) *Evolutionary Dynamics of a Natural Population: The Large Cactus Finch of the Galápagos*. University of Chicago Press, Chicago, IL., xix + 350 pp. Winner of the 1991 Wildlife Society Award.

Grant, P.R., and Grant, B. R. (In press). *How and Why Species Multiply. The radiation of Darwin's Finches*. Princeton University Press, Princeton, New Jersey.

MEDIA

Personal profile in *Evolution* (3rd ed., 2000, Jones and Bartlett, publishers) by M. W. Strickberger.

Personal profile in *Biology* (6th ed., 2001, Addison Wesley Longman, publishers) by N. A. Campbell, J. B. Reece and L. G. Mitchell.

Collaboration with author and producer on works based on our research with Darwin's Finches:

Weiner, J. (1994). *The Beak of the Finch*. Alfred Knopf, New York (Winner of the Pulitzer Prize for Non-Fiction, 1995).

Larson, E. J. (2001). *Evolution's Workshop*. Basic Books, New York.

Kurtis Productions Ltd. (1995). *What Darwin Never Saw*. TV program shown on PBS.

BBC / Open University (1998). *Galápagos*. Educational program on evolution.

National Geographic / BBC / ABC (1999). *Islands of the Vampire Finch*. TV program for general distribution.

Advised the California Science Center in constructing an Evolution Exhibit featuring Darwin's Finches and our research, the same with an NSF-sponsored 6-Museum exhibit entitled *Explore Evolution*, and the same with the American Museum of Natural History's *Darwin* exhibit.