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Supporting Information

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Thinking in continua: beyond the "adaptive radiation" metaphor

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Supplementary Table 1. With the growth of quantitative tools for studying speciation rate, diversity, disparity, and adaptedness, scientists increasingly find it necessary to qualify 'adaptive radiation' to be able to express the details of their clade of interest, as these phrases from the recent literature illustrate.

Category of descriptor	Descriptive phrase	References
Speciation rate	Explosive adaptive radiation	**Feduccia, A.,** Explosive evolution in tertiary birds and mammals. *Science* 1995. **267**: 637-638.
		Bell, M. A., and Travis, M. P., Hybridization, transgressive segregation, genetic covariation, and adaptive radiation. *Trends Ecol Evol* 2005. **20**: 358-361.
	Fast adaptive radiation	**Sachet, J.-M., Roques, A. and Despres, L.,** Linking patterns and processes of species diversification in the cone flies strobilomyia (Diptera: Anthomyiidae). *Mol Phylogenet Evol* 2006. **41**: 606-6216.
	Rapid adaptive radiation	**Townsend, J. P.,** Profiling phylogenetic informativeness. *Syst Biol* 2007. **56**: 222-231.
		Vidal-Russell, R. and Nickrent, D L., The biogeographic history of Loranthaceae. *Darwiniana* 2007. **45 (suplemento)**: 34-45.
		Kapralov, M. V. and Filatov, D. A., Molecular adaptation during adaptive radiation in the Hawaiian endemic genus *Schiedea*. *PLoS ONE* 2006. **1**: e8.
		Bromham, L. and Woolfit, M., Explosive radiations and the reliability of molecular clocks: island endemic radiations as a test case. *Syst Biol* 2004. **53**: 758-766.
Diversity or disparity	Diverse adaptive radiation	**Cox, C. B. and Moore, P. D.,** Biogeography: An Ecological and Evolutionary Approach. Oxford, Blackwell, 2000.
		MacFadden, B. Fossil horses-evidence for evolution. *Science* 2005. **307**: 1728-1730.
Adaptiveness	Adaptive radiation driven by ecology	**Wysocka, A., Kostoski, G., Kilikowska, A., Wróbel, B. and Sell, J.,** The *Proasellus* (Crustacea, Isopoda) species group, endemic to the Balkan Lake Ohrid: a case of ecological diversification? *Fund Appl*

		Limnol 2008. **172**: 301–313.
	Truly adaptive radiation	**Glaubrecht, M. and Strong, E. E.**, Ancestry to an endemic radiation in Lake Tanganyika? Evolution of the viviparous gastropod *Potadomoides* Leloup, 1953 in the Congo river system (Cerithioidea, Paludomidae). *Biol J Linn Soc* 2007. **92**: 367–401. **von Rintelen, T., Bouchet, P. and Glaubrecht, M.**, Ancient lakes as hotspots of diversity: a morphological review of an endemic species flock of *Tylomelania* (Gastropoda: Cerithiodea: Pachychilidae) in the Malili lake system on Sulawesi, Indonesia. *Hydrobiologia* 2007. **592**: 11-94.
Degree: large	Extensive adaptive radiation	**Jones, G. and Teeling, E. C.** 2006. The evolution of echolocation in bats. *Trends Ecol Evol* 2006. **21**: 149-156. **Lovette, L. J., Bermingham, E. and Ricklefs, R. E.,** Clade-specific morphological diversification and adaptive radiation in Hawaiian songbirds. *Proc Royal Soc B* 2002. **269**: 37-42.
	Clear adaptive radiation	**Brenchley, P. J., and Harper, D. A. T.,** *Paleoecology*. Abingdon, Oxfordshire: Routledge, 1998.
	Considerable adaptive radiation	**Coulter, G. W., Allanson, B. R., Bruton, M. N., Greenwood, P. H., Hart, R. C., Jackson, P. B. N. and Ribbink, A. J.,** Unique qualities and special problems of the African Great Lakes. *Environ Biol Fishes* 1986. **17**: 161-183. **Maynard Smith, J.,** *The Theory of Evolution*. Cambridge, Cambridge University Press, 1993.
	Extraordinary amount	**Fjeldså, J., Irestedt, M., Jønsson, K. A., Ohlson, J. I. and Ericson, P. G. P.,** Phylogeny of the ovenbird genus *Upucerthia*: a case of independent adaptations for terrestrial life. *Zool Scripta* 2007. **36**: 133-141.
	Extreme adaptive radiation	**Jiggins, C. D. and McMillan, W. O.,** The genetic basis of an adaptive radiation: warning color in two *Heliconius* species. *Proc R Soc Lond B* 1997. **264**: 1167-1175.
	Great adaptive radiation	**Cox, C. B. and Moore, P. D.,** Biogeography: An Ecological and

		Evolutionary Approach. Oxford: Blackwell, 2000.
		Turner, G. F., Adaptive radiation of cichlid fish. *Curr Biol* 2007. **17**: R827-R831.
	Huge adaptive radiation	**Tobin, A. J. and Dusheck, J.,** Asking About Life, 3rd edn. Bellmont, California, Thomson Brooks/ Cole, 2005.
	Large adaptive radiation	**Pahari, S., Bickford, D., Fry, B. G. and Kini, R. M.,** Expression pattern of three-finger toxin and phospholipase a2 genes in the venom glands of two sea snakes, *Lapemis curtus* and *Acalyptophis peronii*: comparison of evolution of these toxins in land snakes, sea kraits and sea snakes. *BMC Evol Biol* 2007. **7**: 175.
	Large-scale adaptive radiation	**Claßen-Bockhoff, S., Speck, T., Tweraser, E., Wester, P., Thimm, S. and Reith M.,** The staminal lever mechanism in *Salvia* L. (Lamiaceae): a key innovation for adaptive radiation? *Org Divers Evol* 2004. **4**: 189–205.
	Major adaptive radiation	**Pellmyr, O. and Krenn H. W.,** Origin of a complex key innovation in an obligate insect–plant mutualism. *PNAS* 2002. **99**: 5498–5502.
	Massive adaptive radiation	**Vidal-Russell, R. and Nickrent, D. L.,** The biogeographic history of Loranthaceae. *Darwiniana* 2007. **45 (suplemento)**: 34-45.
	Substantial adaptive radiation	**Butler, M. A., Sawyer, S. A. and Losos, J. B.,** Sexual dimorphism and adaptive radiation in *Anolis* lizards. *Nature* 2007. **447**: 202-205.
		Fleming, T. H. and Muchhala, N., Nectar-feeding bird and bat niches in two worlds: pantropical comparisons of vertebrate pollination systems. *J Biogeogr* 2008. **35**: 764–780.
	Successful adaptive radiation	**Salzburger, W.,** To be or not to be a hamlet pair in sympatry. *Mol Ecol* 2008. **17**: 1397–1399.
	Widest adaptive radiation	**Robertson, R.,** The edible West Indian “whelk” *Cittarium pica* (Gastropoda: Trochidae): natural history with new observations. *Proc Acad Nat Sci Phila* 2003. **153**: 27-47.
Degree: small	Limited adaptive radiation	**Clark, D. A., Mitra, P. P. and Wang, S. S.,** Scalable architecture in mammalian brains. *Nature* 2001. **411**: 189–191.

		Baldwin, B. G., Adaptive radiation of shrubby tarweeds (*Deinandra*) in the California Islands parallels diversification of the Hawaiian silversword alliance (Compositae–Madiinae). *Amer J Bot* 2007. **94**: 237-248.
	Little adaptive radiation	**Whitehouse, M. E. A. and Lubin, Y.,** The functions of societies and the evolution of group living: spider societies as a test case. *Biol Rev* 2005. **80**: 347-361.
	"Mini" adaptive radiation	**Holloway, R. L.,** Human paleontological evidence relevant to language behavior. *Hum Neurobiol* 1983. **2**: 105-114.
	Minor adaptive radiation	**Coyle, F. A., and Icenogle, W. R.,** Natural history of the Californian trapdoor spider genus *Aliatypus* (Araneae, Antrodiaetidae). *J Arachnol* 1994. **22**: 225–255.
	Modest adaptive radiation	**Ballard, H. and Sytsma, K.,** Evolution and biogeography of the woody Hawaiian violets (*Viola*, Violaceae): Arctic origins, herbaceous ancestry and bird dispersal. *Evolution* 2000. **54**: 1521-1532.
		Van Bocxlaer, B., Van Damme, D. and Feibel, C. S., Gradual versus punctuated equilibrium evolution in the Turkana Basin molluscs: evolutionary events or biological invasions? *Evolution* 2008. **62**: 511-520.
Clades that do not meet all the criteria of a favored definition	Incipient adaptive radiation	**Vijverberg, K., Kuperus, P., Breeuwer, J. A. J. and Bachmann, K.,** Incipient adaptive radiation of New Zealand and Australian *Microseris* (Asteraceae): an amplified fragment length polymorphism (AFLP) study*. J Evol Biol* 2001. **13**: 997-1008.
	Initial phase of an adaptive radiation	**O. Puebla, Bermingham, E. and Guichard, F.,** Population genetic analyses of hypoplectrus coral reef fishes provide evidence that local processes are operating during the early stages of marine adaptive radiations. *Mol Ecol* 2008. **17**: 1405-1415.
	Not yet an adaptive radiation	**Schmitz, B., Harper, D. A. T., Peucker-Ehrenbrink, B., Stouge, S., Alwmark, C., Cronholm, A., Bergström, S. M., Tassinari, M. and Xiaofeng, W.,** Asteroid breakup linked to the great ordovician biodiversification event. *Nat Geosci*

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Young adaptive radiation

Parchman, T. L., Benkman, C. W. and Mezquida, E. T., Coevolution between Hispaniolan crossbills and pine: does more time allow for greater phenotypic escalation at lower latitude? *Evolution* 2007. **61**: 2142–2153.

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