BioEssays

Supporting Information

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Thinking in continua: beyond the "adaptive radiation" metaphor

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Supplementary Table 2. Because the thresholds in definitions of adaptive radiation are arbitrary they can and are placed anywhere; for example, no biological cutoff dictates how many species are necessary for a taxon to be considered an adaptive radiation, and everything from a single species to all of life have been discussed in the context of adaptive radiation.

Taxon	# species	Reference
A highly sexually dimorphic woodpecker species	1	**Selander, R. K.,** Sexual selection and dimorphism in birds. In Campbell, B. G., editor. Sexual selection and the descent of man. Chicago, Aldine Transaction, 2006. p. 180-230.
Trophic specialists within Cocos island finch	1	**West-Eberhard, M.J.,** Developmental Plasticity and Evolution. Oxford, Oxford University Press, 2003.
Cocos island *Wendilgarda* spider with numerous web building behaviors	1	**West-Eberhard, M.J.,** Developmental Plasticity and Evolution. Oxford, Oxford University Press, 2003.
Polygonum arvense, an herb with various forms	1	**Meerts, P., Briane, J.-P. and Lefèbvre, C.,** A numerical taxonomic study of *the Polygonum aviculare* complex (Polygonaceae) in Belgium*. Plant Syst Evol* 1990. **173**: 71-89.
Glacial lake whitefish	2	**Bernatchez, L., Chouinard, A. and Lu, G.,** Integrating molecular genetics and ecology in studies of adaptive radiation: whitefish, *Coregonus* sp., as a case study. *Biol J Linn Soc* 1999. **68**: 173-194.
Sticklebacks	2	**Harmon, L. J., Matthews, B., Des Roches, S., Chase, J. M., Shurin, J. B. and Schluter, D.** Evolutionary diversification in stickleback affects ecosystem functioning. *Nature* 2009. **458**: 1167-1170.
Guadalupe Island *Deinandra* shrubs	3	**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.
African tree groundsels	11	**Knox, E. B. and Palmer, J. D.,** Chloroplast DNA variation and the recent radiation of the giant senecios (Asteraceae) on the tall mountains of eastern Africa. *PNAS* 1995. **92**: 10349-10354.
Darwin's finches	14	**Grant, P. R. and Grant, B. R.** Adaptive radiation of Darwin's finches. *Am Sci* 2002. **90**: 130-139.
Ichthyomyine rodents	14	**Voss, R. S.,** Systematics and ecology of ichthyomyine rodents (Muroidea) : patterns of morphological evolution in a small adaptive radiation. *Bull Amer Nat Hist Mus* 1988. **188**: 259-493.
Hawaiian silverswords	28	**Carlquist, S., Baldwin, B. G. and Carr G. D.,** editors. Tarweeds & Silverswords: Evolution of the Madiinae (Asteraceae). Saint Louis, Missouri Botanical Garden Press, 2003.
Pygopodid lizards	35	**Jennings, W. B., Pianka, E. R. and Donnellan, S.,** Systematics of the lizard family Pygopodidae with implications for the diversification of Australian temperate biotas. *Systematic Biology* 2003. **52**: 757-780.
Yucca moths	30-40	**Pellmyr, O. and Krenn H. W.,** Origin of a complex key innovation in an obligate insect–plant mutualism. *PNAS* 2002. **99**: 5498–5502.
Cats	37	**Jennings, W. B., Pianka, E. R. and Donnellan, S.,** Systematics of the lizard family Pygopodidae with

		implications for the diversification of Australian temperate biotas. *Syst Biol* 2003. **52**: 757-780.
Columbines	60-70	**Whittall, J. B. and Hodges, S. A.,** Pollinator shifts drive increasingly long nectar spurs in columbine flowers. *Nature* 2007. **447**: 706-709.
Marsupials	330	**Meredith, R. W., Westerman, M., Case, J. A. and Springer, M. S.,** A Phylogeny and timescale for marsupial evolution based on sequences for five nuclear genes. *J Mammal Evol* 2008. **15**: 1-36.
Elasmobranchs	~ 900	**Carrier, J. C., Musick, J. A. and Heithaus M. R.,** editors. Biology of Sharks and Their Relatives. Boca Raton, CRC Press, 2004.
African cichlids	~1000	**Turner, G.F, Seehausen, O., Knight, M. E., Allender, C.J. and Robinson, R. L.,** How many species of cichlid fishes are there in African lakes? *Mol Ecol* 2001. **10**: 793-806
Mammals	~4000	**Givnish, T. J.,** Adaptive radiation and molecular systematics: issues and approaches. In: Givnish, T. J., Sytsma, K. J., editors. Molecular Evolution and Adaptive Radiation. Cambridge, Cambridge University Press, 1997. p 1-54. **Wilson, D. E. and Reeder, D. M.,** editors. Mammal Species of the World. A Taxonomic and Geographic Reference 3rd ed. Baltimore, Johns Hopkins University Press, 2005.
Flowering plants	~350,000	**Kay, K. M., Whittall, J. B. and Hodges, S. A.,** A survey of nuclear ribosomal internal transcribed spacer substitution rates across angiosperms: an approximate molecular clock with life history effects. *BMC Evol Biol* 2006. **6**: 36.
Neopteran insects	~850,000	**Mayhew, P. J.,** Shifts in hexapod diversification and what Haldane could have said. *Proc R Soc Lond B* 2002. **269**: 969-974.
Metazoa	10+ million	**Conway Morris, S., Müller, G. and Newman, S. A.,** The Cambrian "explosion" of metazoans. In: Müller, G. B. and Newman, S. A., editors. Origination of Organismal Form: Beyond the Gene in Developmental and Evolutionary Biology. Cambridge, MIT Press, 2003. p. 13-32.
All of life	3-30 million	**May, R. M.** How many species are there on earth? *Science* 1988. **241**: 1441-1449. **Ridley, M.,** Evolution. Malden, Massachusetts, Blackwell, 2004.