

Curriculum Vitae

Daniel JC Kronauer, PhD

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EMPLOYMENT

Assistant Professor	The Rockefeller University Head of the <i>Laboratory of Social Evolution and Behavior</i>	<i>Jul 2011 -</i>
Junior Fellow	Harvard University Harvard Society of Fellows	<i>Jul 2008 - Jun 2011</i>
Postdoctoral Fellow	University of Lausanne Department of Ecology and Evolution (Prof L Keller)	<i>Apr 2008 - Jun 2008</i>
Postdoctoral Fellow	University of Copenhagen Center for Social Evolution (Prof JJ Boomsma)	<i>Feb 2007 - Mar 2008</i>
Research Assistant	University of Würzburg Biocenter (Profs B Hölldobler & J Gadau)	<i>May 2003 - Nov 2003</i>
Civil Service	University Hospital, Heidelberg	<i>Sep 1996 - Sep 1997</i>

EDUCATION

PhD	University of Copenhagen Center for Social Evolution (Prof JJ Boomsma)	<i>Dec 2003 - Jan 2007</i>
Biology Diploma	University of Würzburg Biocenter (Profs B Hölldobler & J Gadau) Overall grade: 1.0 (with distinction)	<i>Oct 1999 - Apr 2003</i>
Graduate Student	Duke University (non-degree) Biology Department	<i>Jul 2000 - Jul 2001</i>
Biology Prediploma Abitur	University of Heidelberg Hölderlin Gymnasium, Heidelberg	<i>Oct 1997 - Oct 1999</i> <i>1996</i>

LANGUAGES

German (native), Danish, English, French, Latin and Spanish

FELLOWSHIPS

- 2008 - 2011 Junior Fellowship (Harvard Society of Fellows)
2008 Human Frontier Science Program Long-Term Fellowship (declined)
2007 Marie Curie Intra-European Individual Fellowship (declined)
2003 - 2007 International PhD Fellowship (Danish Research Training Council)
2000 - 2001 Graduate Exchange Scholarship (German Academic Exchange Service & Duke University)

MAJOR AWARDS AND GRANTS (> US\$ 30,000)

- 2015 - 2019 Pew Scholar Award
2015 - 2017 Sinsheimer Scholar Award
2014 - 2017 Klingenstein-Simons Fellowship Award in the Neurosciences
2013 - 2017 Irma T Hirschl/Monique Weill-Caulier Trusts Research Award
2012 - 2017 NIH Director's New Innovator Award
2012 - 2015 Searle Scholar Award
2009 - 2011 Milton Fund Award (Harvard University)

SELECTED HONORS

- 2014 Invited Panelist (Gordon Research Conference on Genes & Behavior)
2013 - 2014 Kavli Fellow (National Academy of Sciences)
2007 Commencement speaker at the annual graduation ceremony
(Faculty of Natural Sciences, University of Copenhagen; invited by the faculty)
2003 Best student talk (Meeting of the International School of Biodiversity Sciences, Denmark)
1996 Karl-von-Frisch-Prize for outstanding Abitur in Biology (Association of German Biologists)

MEMBERSHIPS

European Society for Evolutionary Biology (ESEB), Society for the Study of Evolution (SSE), International Union for the Study of Social Insects (IUSSI)

EDITORIAL RESPONSIBILITIES

- 2011 - Subject Editor for *Myrmecological News*

PEER REVIEWING ACTIVITY

Journals *Am. Nat.*, *Anim. Behav.*, *Apidologie*, *Behav. Ecol.*, *Behav. Ecol. Sociobiol.*, *Behav. Processes*, *Biol. Cons.*, *Biol. Reviews*, *Biol. Letters*, *BMC Evol. Biol.*, *Current Biol.*, *Development*, *Ecol. Entomol.*, *Evolution*, *Evol. Biol.*, *Evol. Ecol.*, *Heredity*, *Ins. Cons. Div.*, *Ins. Soc.*, *Ins. Syst. Evol.*, *J. Evol. Biol.*, *J. Inv. Pathol.*, *J. Ornithol.*, *Mol. Ecol.* (Top Reviewer 2012), *Mol. Phyl. Evol.*, *Myrm. News*, *Nature*, *Nature Chem. Biol.*, *Nature Comm.*, *Naturwissenschaften*, *PLOS Biology*, *PLOS ONE*, *Pop. Ecol.*, *PNAS*, *Proc. R. Soc. London B*, *Science*, *Trends Ecol. Evol.*, *Zootaxa*. **Grants** *Israel Science Foundation*, *The John Templeton Foundation*, *The Leverhulme Trust*, *National Geographic*, *National Science Foundation USA* (individual grants & grant panels), *Sigma Delta Epsilon Graduate Women in Science*.

PUBLICATIONS

A complete list of publications from the *Laboratory of Social Evolution and Behavior* can be accessed at: <http://lab.rockefeller.edu/kronauer/publications>

Original Research Articles

1. Von Beeren, C., Stoeckle, M. Y., Xia, J., Burke, G., **Kronauer, D. J. C.** (2015): Interbreeding among deeply divergent mitochondrial lineages in the American cockroach (*Periplaneta americana*). *Scientific Reports* 5: 8297.
2. Butler, I. A., Siletti, K., Oxley, P. R., **Kronauer, D. J. C.** (2014): Conserved microsatellites in ants enable population genetic and colony pedigree studies across a wide range of species. *PLoS ONE* 9: e107334.
3. McKenzie, S. K., Oxley, P. R., **Kronauer, D. J. C.** (2014): Comparative genomics and transcriptomics in ants provide new insights into the evolution and function of odorant binding and chemosensory proteins. *BMC Genomics* 15: 718.
4. Teseo, S., Lecoutey, E., **Kronauer, D. J. C.**, Hefetz, A., Lenoir, A., Jaisson, P., Châline, N. (2014): Genetic distance and age affect the cuticular chemical profiles of the clonal ant *Cerapachys biroi*. *Journal of Chemical Ecology* 40: 429-438.
5. Teseo, S., Châline, N., Jaisson, P., **Kronauer, D. J. C.** (2014): Epistasis between adults and larvae underlies caste fate and fitness in a clonal ant. *Nature Communications* 5: 3363.
6. Oxley, P. R.#, Ji, L.#, Fetter-Pruneda, I., McKenzie, S. K., Li, C., Hu, H., Zhang, G.*, **Kronauer, D. J. C.*** (2014): The genome of the clonal raider ant *Cerapachys biroi*. *Current Biology* 24: 451-458. #/*Contributed equally.
7. Sanders, J. G., Powell, S., **Kronauer, D. J. C.**, Vasconcelos, H. L., Frederickson, M. E., Pierce, N. E. (2014): Stability and phylogenetic correlation in gut microbiota: lessons from ants and apes. *Molecular Ecology* 23: 1268-1283.
8. Price, S. L., Powell, S., **Kronauer, D. J. C.**, Tran, L. A. P., Pierce, N. E., Wayne, R. K. (2014): Renewed diversification is associated with new ecological opportunity in the Neotropical turtle ants. *Journal of Evolutionary Biology* 27: 242-258. **Cover story.**
9. Teseo, S., **Kronauer, D. J. C.**, Jaisson, P., Châline, N. (2013): Enforcement of reproductive synchrony via policing in a clonal ant. *Current Biology* 23: 328-332.
10. **Kronauer, D. J. C.**, Tsuji, K., Pierce, N. E., Keller, L. (2013): Non-nest mate discrimination and clonal colony structure in the parthenogenetic ant *Cerapachys biroi*. *Behavioral Ecology* 24: 617-622.
11. Russell, J. A., Funaro, C. F., Giraldo, Y. M., Goldman-Huertas, B., Suh, D., **Kronauer, D. J. C.**, Moreau, C. S., Pierce, N. E. (2012): A veritable menagerie of heritable bacteria from ants, butterflies, and beyond: broad molecular surveys and a systematic review. *PLoS ONE* 7: e51027.
12. **Kronauer, D. J. C.**, Pierce, N. E., Keller, L. (2012): Asexual reproduction in introduced and native populations of the ant *Cerapachys biroi*. *Molecular Ecology* 21: 5221-5235.
13. Ivens, A. B. F., **Kronauer, D. J. C.**, Pen, I., Weissing, F. J., Boomsma, J. J. (2012): Ants farm subterranean aphids mostly in single clone groups - an example of prudent husbandry for carbohydrates and proteins? *BMC Evolutionary Biology* 12: 106.
14. Ivens, A. B. F., **Kronauer, D. J. C.**, Pen, I., Weissing, F. J., Boomsma, J. J. (2012): Reproduction and dispersal in an ant-associated root aphid community. *Molecular Ecology* 21: 4257-4269.
15. Wetterer, J. K., **Kronauer, D. J. C.**, Borowiec, M. L. (2012): Worldwide spread of *Cerapachys biroi* (Hymenoptera: Formicidae: Cerapachyinae). *Myrmecological News* 17: 1-4.
16. **Kronauer, D. J. C.***, Peters, M. K.* , Schöning, C., Boomsma, J. J. (2011): Hybridization in East African swarm-raiding army ants. *Frontiers in Zoology* 8: 20. *Contributed equally.

PUBLICATIONS (CONTINUED)

17. Soare, T. W., Tully, S. I., Willson, S. K., **Kronauer, D. J. C.**, O'Donnell, S. O. (2011): Choice of nest site protects army ant colonies from environmental extremes in tropical montane forest. *Insectes Sociaux* 58: 299-308.
18. Funaro, C. F., **Kronauer, D. J. C.**, Moreau, C. S., Goldman-Huertas, B., Pierce, N. E., Russell, J. A. (2011): Army ants harbor a host-specific clade of *Entomoplasmatales* bacteria. *Applied and Environmental Microbiology* 77: 346-350. **Cover story.**
19. **Kronauer, D. J. C.**, O'Donnell, S., Boomsma, J. J., Pierce, N. E. (2011): Strict monandry in the ponerine army ant genus *Simopelta* suggests that colony size and complexity drive mating system evolution in social insects. *Molecular Ecology* 20: 420-428. **Cover story.**
20. Ivens, A. B. F., **Kronauer, D. J. C.**, Boomsma, J. J. (2010): Characterisation and cross-amplification of polymorphic microsatellite loci in ant-associated root-aphids. *Conservation Genetics Resources* 3: 73-77.
21. **Kronauer, D. J. C.**, Boomsma, J. J., Pierce, N. E. (2010): Nine novel microsatellite markers for the army ant *Simopelta pergandei* (subfamily Ponerinae). *Conservation Genetics Resources* 3: 61-63.
22. Ugelvig, L. V., **Kronauer, D. J. C.***, Schrempf, A.*, Heinze, J., Cremer, S. (2010): Rapid anti-pathogen response in ant societies relies on high genetic diversity. *Proceedings of the Royal Society of London Series B* 277: 2821-2828. *Contributed equally.
23. **Kronauer, D. J. C.**, Schöning, C., d'Etterre, P., Boomsma, J. J. (2010): Colony fusion and worker reproduction after queen loss in army ants. *Proceedings of the Royal Society of London Series B* 277: 755-763.
24. Baer, B., den Boer, S. P. A., **Kronauer D. J. C.**, Nash, D. R., Boomsma, J. J. (2009): Fungus gardens of the leafcutter ant *Atta colombica* function as egg nurseries for the snake *Leptodeira annulata*. *Insectes Sociaux* 56: 289-291.
25. **Kronauer, D. J. C.** (2008): Genomic imprinting and kinship in the social Hymenoptera: what are the predictions? *Journal of Theoretical Biology* 254: 737-740.
26. Berghoff, S. M.*, **Kronauer, D. J. C.***, Edwards, K. J., Franks, N. R. (2008): Dispersal and population structure of a New World predator, the army ant *Eciton burchellii*. *Journal of Evolutionary Biology* 21: 1125-1132. *Contributed equally. **Cover story.**
27. Schöning, C., Gotwald, W. H. Jr., **Kronauer, D. J. C.**, Vilhelmsen, L. (2008): Taxonomy of the African army ant *Dorylus gribodoi* Emery, 1892 (Hymenoptera, Formicidae) – new insights from DNA sequence data and morphology. *Zootaxa* 1749: 39-52.
28. Ugelvig, L. V., Drijfhout, F. P., **Kronauer, D. J. C.**, Boomsma, J. J., Pedersen, J. S., Cremer, S. (2008): The introduction history of invasive garden ants in Europe: integrating genetic, chemical and behavioural approaches. *BMC Biology* 6: 11.
29. **Kronauer, D. J. C.**, Boomsma, J. J. (2007): Multiple queens means fewer mates. *Current Biology* 17: R753-R755.
30. Jaffe, R.*, **Kronauer, D. J. C.***, Kraus, F. B., Boomsma, J. J., Moritz, R. F. (2007): A genetic component to worker caste determination in the army ant *Eciton burchellii*. *Biology Letters* 3: 513-516. *Contributed equally.
31. **Kronauer, D. J. C.**, Schöning, C., Vilhelmsen, L. B., Boomsma, J. J. (2007): A molecular phylogeny of *Dorylus* army ants provides evidence for multiple evolutionary transitions in foraging niche. *BMC Evolutionary Biology* 7: 56.
32. **Kronauer, D. J. C.**, Rodríguez Ponce, E. R., Lattke, J. E., Boomsma, J. J. (2007): Six weeks in the life of a reproducing army ant colony: male parentage and colony behaviour. *Insectes Sociaux* 54: 118-123.

PUBLICATIONS (CONTINUED)

33. **Kronauer, D. J. C.**, Johnson, R. A., Boomsma, J. J. (2007): The evolution of multiple mating in army ants. *Evolution* 61: 413-422. **Cover story.**
34. **Kronauer, D. J. C.**, Gadau, J., Boomsma, J. J. (2007): Characterization of 12 new microsatellite loci in *Aenictus* and *Neivamyrmex* army ants. *Molecular Ecology Notes* 7: 688-690.
35. **Kronauer, D. J. C.**, Boomsma, J. J. (2007): Do army ant queens re-mate later in life? *Insectes Sociaux* 54: 20-28.
36. **Kronauer, D. J. C.**, Berghoff, S. M., Powell, S., Denny, A. J., Edwards, K. J., Franks, N. R., Boomsma, J.J. (2006): A reassessment of the mating system characteristics of the army ant *Eciton burchellii*. *Naturwissenschaften* 93: 402-406.
37. **Kronauer, D. J. C.**, Schöning, C., Boomsma, J. J. (2006): Male parentage in army ants. *Molecular Ecology* 15: 1147-1151.
38. **Kronauer, D. J. C.**, Bergmann, P., Mercer, J., Russell, A. (2005): A phylogeographically distinct and deep divergence in the widespread Neotropical turnip-tailed gecko, *Thecadactylus rapicauda*. *Molecular Phylogenetics and Evolution* 34: 431-437.
39. **Kronauer, D. J. C.** (2004): Trophic parasitism of a wasp (Hymenoptera: Ampulicidae: *Ampulex* sp.) on the ant *Ectatomma ruidum* (Roger, 1860) (Hymenoptera: Formicidae). *Myrmecological News* 6: 77-78.
40. **Kronauer, D. J. C.**, Schöning, C., Pedersen, J. S., Boomsma, J. J., Gadau, J. (2004): Extreme queen-mating frequency and colony fission in African army ants. *Molecular Ecology* 13: 2381-2388.
41. **Kronauer, D. J. C.**, Hölldobler, B., Gadau, J. (2004): Phylogenetics of the new world honey ants (genus *Myrmecocystus*) estimated from mitochondrial DNA sequences. *Molecular Phylogenetics and Evolution* 32: 416-421.
42. **Kronauer, D. J. C.**, Boomsma, J. J., Gadau, J. (2004): Microsatellite markers for the driver ant *Dorylus (Anomma) molestus*. *Molecular Ecology Notes* 4: 289-290.
43. **Kronauer, D. J. C.**, Gadau, J., Hölldobler, B. (2003): Genetic evidence for intra- and interspecific slavery in honey ants (genus *Myrmecocystus*). *Proceedings of the Royal Society of London Series B* 270: 805-810.
44. **Kronauer, D. J. C.**, Gadau, J. (2002): Isolation of polymorphic microsatellite markers in the new world honey ant *Myrmecocystus mimicus*. *Molecular Ecology Notes* 2: 540-541.
45. **Kronauer, D.** (2000): Die Herpetofauna eines Gummibaumes (*Ficus maximus*) im Karibischen Tiefland Costa Ricas. *Herpetofauna* 22: 5-10.
46. **Kronauer, D.** (1999): Anmerkungen zur Herpetofauna Costa Ricas. *Elaphe* 7: 76-77.

Review Articles, Book Chapters & Commentaries

47. **Kronauer, D. J. C.**, Kronauer, U. (in press): Altruistische Ameisen – Vorbilder für die Menschen? Überlegungen aus dem Zeitalter der Aufklärung im Licht der modernen Biologie. In: Joost, U. (ed): *Lichtenberg-Jahrbuch 2014*. Universitätsverlag Winter.
48. Libbrecht, R., **Kronauer, D. J. C.** (2014): Convergent evolution: The genetics of queen number in ants. Dispatch. *Current Biology* 24: R1083-R1085.
49. **Kronauer, D. J. C.** (2014): Invasive species: Old foes meet again. Dispatch. *Current Biology* 24: R372-R374.
50. Libbrecht, R., Oxley, P. R., **Kronauer, D. J. C.**, Keller, L. (2013): Ant genomics sheds light on the molecular regulation of social organization. *Genome Biology* 14: 212.

PUBLICATIONS (CONTINUED)

51. Saragosti, J., **Kronauer, D. J. C.** (2013): Animal behavior: The Truman Show for ants. Dispatch. *Current Biology* 23: R568-R570.
52. Rabeling, C., **Kronauer, D. J. C.** (2013): Thelytokous parthenogenesis in eusocial Hymenoptera. *Annual Review of Entomology* 58: 273-292.
53. **Kronauer, D. J. C.**, Pierce, N. E. (2011): Myrmecophiles. Quick Guide. *Current Biology* 21: R208-R209.
54. Abbot, P. et al. (2011): Inclusive fitness theory and eusociality. Brief communications arising. *Nature* 471: E1-E4. 138 authors in alphabetical order.
55. **Kronauer, D. J. C.** (2009): Recent advances in army ant biology (Hymenoptera: Formicidae). *Myrmecological News* 12: 51-65.
56. Boomsma, J. J., **Kronauer, D. J. C.**, Pedersen, J. S. (2009): The evolution of social insect mating systems. In: Gadau, J., Fewell, J. (eds): *Organization of insect societies - from genome to sociocomplexity* (pp. 3-25). Harvard University Press, 617pp.
57. **Kronauer, D. J. C.** (2008): Mutualism: Wasp keeps watchdogs to protect young. Dispatch. *Current Biology* 18: R866-R868.
58. Hughes, D. P., **Kronauer, D. J. C.**, Boomsma, J. J. (2008): Extended phenotype: nematodes turn ants into bird-dispersed fruits. Dispatch. *Current Biology* 18: R294-R295.

Popular Science Articles

59. **Kronauer, D. J. C.** (2014): Honey ant. *World Book Student*. World Book.
60. **Kronauer, D. J. C.** (2009): Wanderameisen – räuberische Nomaden der Tropen. *Reptilia* 14(3): 63-70. This article has been translated and appeared in international editions in January 2010 (Spanish: *Reptilia* no. 80 (“Hormigas soldado - los depredadores nómadas de los trópicos”)); English: *Reptilia* no. 67 („Army ants – predacious nomads of the tropics”); Italian: *Reptilia* no. 29 (“Le formiche legionarie - predatori nomadi dei tropici”).
61. **Kronauer, D. J. C.** (2008): Featured insect: Trap-jaw ant, *Daceton armigerum* (Latreille). *American Entomologist* 54 (4): 201.
62. **Kronauer, D. J. C.** (2008): Hærmyrer – nomadiske røvere på jagt i troperne. *Naturens Verden*. 2008 (6): 34-40. **Cover story.**