
Karl Nicholas Magnacca

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Education

- 1998 – 2005 Cornell University, Ithaca, New York, Ph.D., Entomology (concentration: Insect Systematics). Dissertation title: Evolution of *Hylaeus* (*Nesoprosopis*) Bees in Hawai‘i.
- 1990 – 1994 Wesleyan University, Middletown, Connecticut, B.A., Biology

Research Positions

- 2013 – present **Entomological Specialist**, Research Corporation of the University of Hawai‘i/O‘ahu Army Natural Resources Program.
- 2013 – present **Entomology Associate**, Bernice Pauahi Bishop Museum, Honolulu (unpaid).
- 2011 – 2013 **Research Entomologist**, RCUH/State of Hawai‘i Division of Forestry and Wildlife.
- 2009 – 2011 **Postdoctoral Researcher**, Department of Biology, University of Hawai‘i–Hilo.
- 2007 – 2009 **Postdoctoral Researcher**, Department of Zoology, Trinity College, Dublin.
- 2006 – 2007 **Postdoctoral Researcher**, Department of Environmental Science, Policy and Management, University of California, Berkeley.
- 2004 – 2006 **Invertebrate Inventory Specialist**, RCUH/U.S. Geological Survey, Kīlauea Field Station
- 2003 – 2004 **Invertebrate Workgroup Facilitator**, RCUH/National Park Service Inventory & Monitoring program, Pacific Islands Network
- 2002 – 2003 **Entomological Project Specialist**, RCUH/USGS, Kīlauea Field Station (part time)
- 1994 – 1998 **Entomological Technician**, RCUH/USGS, Kīlauea Field Station

Fellowships and Awards

- 1999 – 2003 NSF Graduate Research Fellowship

Grants

- 2002 – 2003 NSF Doctoral Dissertation Improvement Grant (\$7,000)
- 2002 Mellon Foundation Grant (\$1,400)
- 1999 Edna Bailey Sussman Environmental Internship (\$3,640)
- 1999 Rawlins Travel Award (\$2,000)

Publications

Books

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- Daly, H.V., and **K.N. Magnacca**. 2003. Insects of Hawaii vol. 17. Hawaiian *Hylaeus* (*Nesoprosopis*) Bees (Hymenoptera: Apoidea). University of Hawai‘i Press, Honolulu. 234 pp.

Journal Articles

- Magnacca, K.N.**, and D.K. Price. 2015. Rapid adaptive radiation and host plant conservation in the Hawaiian picture wing *Drosophila* (Diptera: Drosophilidae). *Molecular Phylogenetics and Evolution* 92:226–242.
- Magnacca, K.N.** 2015. Notes on native and alien Hymenoptera and Diptera (Insecta) from the Hawaiian Islands. *Bishop Museum Occasional Papers* 116:19–22.
- Miller, A.E., B.J. Brosi, **K.N. Magnacca**, G.C. Daily, and L. Pejchar. 2015. Pollen carried by native and non-native bees in the large-scale reforestation of pastureland in Hawaii: implications for pollination. *Pacific Science* 69(5):67–79.
- O’Grady, P.M., and **K.N. Magnacca**. 2014. Studies in Hawaiian Diptera I: new distributional records for endemic *Asteia* (Asteiidae). *Biodiversity Data Journal* 2: e1010. doi: 10.3897/BDJ.2.e1010.
- Medeiros, M.J., J.A. Eiben, W.P. Haines, R.L. Kaholoaa, C.B.A. King, P.D. Krushelnycky, **K.N. Magnacca**, D. Rubinoff, F. Starr, and K. Starr. 2013. The importance of insect monitoring to conservation actions in Hawaii. *Proceedings of the Hawaiian Entomological Society* 45:149–165.
- Magnacca, K.N.** 2013. On the locality of “Kaumuohona”. *Proceedings of the Hawaiian Entomological Society* 45:65–67.
- Magnacca, K.N.** 2013. *Hylaeus (Nesoprosopis) mamo* (Hymenoptera: Colletidae), a new endemic bee from Oahu, Hawaii. *Proceedings of the Hawaiian Entomological Society* 45:59–63.
- Magnacca, K.N.**, J. Gibbs, and S. Droege. 2013. Notes on alien and native bees (Hymenoptera: Apoidea) from the Hawaiian Islands. *Bishop Museum Occasional Papers* 114:61–65.
- Eldon, J., J.P. Price, **K. Magnacca**, and D.K. Price. 2013. Patterns and processes in complex landscapes: testing alternative biogeographical hypotheses through integrated analysis of phylogeography and community ecology in Hawai‘i. *Molecular Ecology* 22(13):3613–3628.
- Magnacca, K.N.**, and D.K. Price. 2012. New species of Hawaiian picture wing *Drosophila* (Diptera: Drosophilidae), with a key to species. *Zootaxa* 3188:1–30.
- Magnacca, K.N.** and M.J.F. Brown. 2012. DNA barcoding a regional fauna: Irish solitary bees. *Molecular Ecology Resources* 12(6):990–998.
- Magnacca, K.N.** 2011. Two new species of *Hylaeus (Nesoprosopis)* (Hymenoptera: Colletidae) from O‘ahu, Hawai‘i. *Zootaxa* 3065:60–65.
- Magnacca, K.N.**, W.T. Nagamine, and H.H. Dathe. 2011. *Hylaeus strenuus* (Hymenoptera: Colletidae), a new alien bee on O‘ahu. *Bishop Museum Occasional Papers* 109:23–24.
- Magnacca, K.N.**, and M.J.F. Brown. 2010. Mitochondrial heteroplasmy and DNA barcoding in Hawaiian *Hylaeus (Nesoprosopis)* bees (Hymenoptera: Colletidae). *BMC Evolutionary Biology* 10:174.
- Magnacca, K.N.**, and M.J.F. Brown. 2010. Tissue segregation of mitochondrial haplotypes: a potential problem for DNA barcoding. *Molecular Ecology Resources* 10(1):60–68.
- O’Grady, P.M., **K.N. Magnacca**, and R.T. Lapoint. 2010. Taxonomic relationships within the endemic Hawaiian Drosophilidae. *Bishop Museum Occasional Papers* 108:1–34.
- Magnacca, K.N.**, and P.M. O’Grady. 2009. Revision of the *modified mouthparts* species group of Hawaiian *Drosophila* (Diptera: Drosophilidae): The *ceratostoma*, *freycinetiae*,

semifuscata, and *setiger* subgroups, and unplaced species. University of California Publications in Entomology vol. 130.

- Lapoint, R.T., **K.N. Magnacca**, and P.M. O’Grady. 2009. A review of the spoon tarsus subgroup of Hawaiian *Drosophila* (Drosophilidae: Diptera), with a description of one new species. *Zootaxa* 2003:53-68.
- Magnacca, K.N.**, D. Foote, and P.M. O’Grady. 2008. A review of the endemic Hawaiian Drosophilidae and their host plants. *Zootaxa* 1728:1–58.
- Magnacca, K.N.**, and P.M. O’Grady. 2008. Revision of the ‘nudidrosophila’ and ‘ateledrosophila’ species groups of Hawaiian *Drosophila* (Diptera: Drosophilidae), with descriptions of twenty-two new species. *Systematic Entomology* 33(2):395–428.
- Magnacca, K.N.**, and P.M. O’Grady. 2008. New combinations in Hawaiian *Drosophila* and *Scaptomyza* (Diptera: Drosophilidae). *Zootaxa* 1926:53–60.
- Magnacca, K.N.**, and P.M. O’Grady. 2007. A subgroup structure for the modified mouthparts species group of Hawaiian *Drosophila*. *Proceedings of the Hawaiian Entomological Society* 38:87–101.
- Magnacca, K.N.** 2007. New records of *Hylaeus* (*Nesoprosopis*) and *Ceratina* bees in Hawai‘i. *Bishop Museum Occasional Papers* 96:44–45.
- Magnacca, K.N.**, and B.N. Danforth. 2007. Low nuclear DNA variation supports a recent origin of Hawaiian *Hylaeus* bees (Hymenoptera: Colletidae). *Molecular Phylogenetics and Evolution* 43(3):908–915.
- Magnacca, K.N.** 2007. Conservation status of the endemic bees of Hawai‘i, *Hylaeus* (*Nesoprosopis*) (Hymenoptera: Colletidae). *Pacific Science* 61(2):173–190.
- Magnacca, K.N.**, and B.N. Danforth. 2006. Evolution and biogeography of native Hawaiian *Hylaeus* bees (Hymenoptera: Colletidae). *Cladistics* 22(5):393–411.

Reports

- Magnacca, K.N.**, and C.B.A. King. 2013. Assessing the presence and distribution of 23 Hawaiian yellow-faced bee species on lands adjacent to military installations on O‘ahu and Hawai‘i Island. Technical Report no. 185. Pacific Cooperative Studies Unit, University of Hawai‘i, Honolulu. 39 pp.
- Scheffler, P.Y., L.W. Pratt, D. Foote, and **K.N. Magnacca**. 2012. A preliminary study of effects of feral pig density on native Hawaiian montane rainforest vegetation. Technical Report no. 182. Pacific Cooperative Studies Unit, University of Hawai‘i, Honolulu. 43 pp.
- Tango, L.K., D. Foote, **K.N. Magnacca**, S.J. Foltz, K. Cutler. 2012. Biological inventory of anchialine pool invertebrates at Pu‘uhonua o Hōnaunau National Historical Park and Pu‘ukoholā Heiau National Historic Site, Hawai‘i Island. Technical Report no. 181. Pacific Cooperative Studies Unit, University of Hawai‘i, Honolulu. 24 pp.

Manuscripts in review/preparation

- Magnacca, K.N.**, K.Y. Kaneshiro, S.L. Montgomery, D. Kapan, and D.K. Price. Conservation status of the Hawaiian picture-wing *Drosophila*. (in prep., expected 2016)

Conference Presentations

* poster

- August 2015 Restoring native insects to their historic range: a case study using *Hylaeus* bees. Hawai‘i Conservation Conference, Hilo, Hawai‘i.
- July 2015 Hyperdiverse insect radiations of Hawai‘i: why do they exist & why do they matter? Association for Tropical Biology and Conservation, Honolulu, Hawai‘i.

- July 2014 Balancing conservation needs of different taxa sharing the same space. Island Biology, Honolulu, Hawai'i.
- November 2013 K. Magnacca and D. Price. Rapid radiation and host plant conservation in the Hawaiian picture wing *Drosophila*. Entomological Society of America, Austin, Texas.
- July 2013 K. Magnacca and C.B.A. King. Changes in distribution and abundance of *Hylaeus* bees on O'ahu and Hawai'i. Hawai'i Conservation Conference, Honolulu, Hawai'i.
- July 2012 K. Magnacca. Lessons from listing insects under the Endangered Species Act. Hawai'i Conservation Conference, Honolulu, Hawai'i.
- February 2012 K. Magnacca. So now what do we do? Moving from prioritization to management of endangered insects. Pacific Entomology Conference, Honolulu, Hawai'i.
- June 2011 K. Magnacca and D. Price. Rapid radiation in the Hawaiian picture wing *Drosophila*. Society for the Study of Evolution, Norman, Oklahoma.
- August 2010 K. Magnacca, K. Kaneshiro, S. Montgomery, and D. Kapan. Conservation status of the Hawaiian picture-wing *Drosophila*. Hawai'i Conservation Conference, Honolulu, Hawai'i.
- July 2010 K. Magnacca and D. Price. Biogeography of the bristle tarsus Hawaiian *Drosophila*. Society for the Study of Evolution, Portland, Oregon
- July 2009* K. Magnacca and M. Brown. DNA barcoding in a diverse Hawaiian insect group: both heteroplasmy and high identification success in *Hylaeus* bees. Hawai'i Conservation Conference, Honolulu, Hawai'i.
- June 2008* K. Magnacca and M. Brown. Mitochondrial heteroplasmy in DNA barcoding. Society for Molecular Biology and Evolution, Barcelona, Spain.
- July 2007 K. Magnacca and P. O'Grady. Phylogenetics and ecology in conservation of *Hylaeus* and *Drosophila*. Hawai'i Conservation Conference, Honolulu, Hawai'i.
- February 2007 K. Magnacca. Conservation of Hawaiian *Hylaeus* bees and implications for the flora. Pacific Entomology Conference, Honolulu, Hawai'i.
- March 2006 K. Magnacca, D. Foote, and P. O'Grady. Unreported chironomid diversity in Hawai'i and implications for ecological monitoring. Pacific Branch of the Entomological Society of America, Kīhei, Hawai'i.
- July 2005* K. Magnacca, D. Foote, and P. O'Grady. Revealing the diversity of Chironomidae in Hawaii. Hawai'i Conservation Conference, Honolulu, Hawai'i.
- July 2005* L. Tango, D. Foote, M. Aclý, and K. Magnacca. Restoration of Hawaiian anchialine pools needs to target more than just shrimp: inventory results for Big Island pool invertebrates. Hawai'i Conservation Conference, Honolulu, Hawai'i.
- July 2005 G. Schuurman, K. Magnacca, D. Foote, and P. Vitousek. Soil and litter fauna and N-fertilization across a soil age gradient in Hawaiian montane forest. Hawai'i Ecosystems Project Meeting, Kea'au, Hawai'i.
- February 2005 K. Magnacca. Evolution of *Hylaeus* (*Nesoprosopis*) bees in Hawai'i. Pacific Entomology Conference, Honolulu, Hawai'i.
- July 2002 K. Magnacca. Pollen usage by native Hawaiian *Hylaeus* bees. Hawai'i Conservation Conference, Honolulu, Hawai'i.
- April 2002 J. Ascher and K. Magnacca. Bee diversity in the Fingerlakes region of New York: 1872-2002. Northeast Natural History Conference, Albany, New York.
- December 2000 K. Magnacca. Evolution of *Hylaeus* (*Nesoprosopis*) in Hawai'i. Entomological Society of America, Montreal, Quebec.

- July 2000* K. Magnacca. Evidence for cryptic species among Hawaiian *Hylaeus* (*Nesoprosopis*) bees. Hawai'i Conservation Conference, Honolulu, Hawai'i.
- August 1996 Foote, D. and K. Magnacca. Patterns of diversity in Collembola from montane wet forests of Hawai'i. International Congress of Entomology, Firenze, Italy.

Teaching Experience

- University of Hawai'i CBES 694, Insect Morphology (Spring 2011)
- Cornell University Courses taught as graduate teaching assistant:
 ENTOM 260, Introductory Beekeeping (Fall 2000)
 ENTOM 322, Comparative Insect Morphology (Spring 2001, 2003)
- Wesleyan University Courses taught as undergraduate teaching assistant:
 BIOL 192, Principles of Biology III lab (Fall 1993)
 BIOL 214, Evolution (Spring 1994)

Professional Societies

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| Entomological Society of America | North American Dipterists Society |
| Hawaiian Entomological Society | Society of Systematic Biologists |

Service

- 2005 – 2006 U.S. Fish and Wildlife Service, Science Panel member and reviewer, Hawaiian *Drosophila* endangered species listing proposal

References

- H. Kapua Kawelo**, Senior Biologist, Oahu Army Natural Resources Program, 947 Wright Ave., Schofield Barracks, HI 96857, 808-655-9189, hilary.k.kawelo.civ@mail.mil (supervisor)
- Dr. Patrick M. O'Grady**, Assistant Professor, Department of Environmental Science, Policy, and Management, University of California–Berkeley, 137 Mulford Hall #3114, Berkeley, CA 94720, 510-642-0662, ogrady@drosophilaevolution.com (postdoctoral supervisor)
- Dr. Donald K. Price**, Professor, Department of Biology, University of Hawai'i–Hilo, 200 W. Kawili St., Hilo HI 96720, 808-932-7178, donaldp@hawaii.edu (postdoctoral supervisor)

Additional references:

- Dr. Bryan N. Danforth**, Professor, Department of Entomology, Cornell University, Ithaca, NY 14853, 607-255-3563, bnd1@cornell.edu (Ph.D. advisor)
- Dr. David Foote**, Project Leader, USGS Pacific Island Ecosystems Research Center, PO Box 44, Hawaii National Park, HI 96718, 808-985-6427, dfoote@usgs.gov (supervisor)
- Cynthia B. A. King**, Entomologist, Hawai'i Division of Forestry and Wildlife, 1151 Punchbowl Street Rm. 325, Honolulu, HI 96813, 808-587-0019, Cynthia.B.King@hawaii.gov (supervisor)