David Honsberger
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Education

University of Hawai‘i, 2021—2024
Ph.D. in Entomology

Dissertation title: Parasitoids of invasive Scolytinae in Hawai‘i, their biology, and potential for biological control

Dissertation summary: Survey for parasitoids of Scolytinae in Hawai‘i, studies of the biology, biodiversity, behavior, and descriptions of new parasitoid species; conditioning of parasitoids to attack nonpreferred hosts; studies of searching behavior of parasitoids attacking beetles associated with ROD, and exploration of these parasitoids for augmentative or conservation biocontrol of these beetles.

University of Hawai‘i, 2017—2023
Master of Science, Entomology

Brown University, 2006—2010
Bachelor of Science, Mathematics
Also completed the requirements for the Bachelor of Arts degree in physics

Experience

Entomology

Biocontrol Exploration, LLC. Founder and lead researcher. (April 2025–Present)

Contractor assisting organizations with the first steps of a classical biological control effort: exploration for natural enemies, preliminary observations of their potential as biocontrol agents, and development of rearing methods to allow studies of host specificity in quarantine. Website: www.biocontrolexploration.com

Current Projects: Exploration for natural enemies of hala scale and lobate lac scale in Southeast Asia, South Asia, and Tropical Africa; *Salpingogaster nigra* (Syrphidae) as a potential biocontrol agent of twolined spittlebug; and development of captive rearing methods for *Neoheterospilus coffeicola* in Uganda to allow for its consideration as a biocontrol agent for the coffee berry borer.

Earth Interwoven, in collaboration with Oyera Rural Inclusion and Well-being Initiative. Partner. (May 2024–Present)

Design and implementation of studies relating indigenous-based agroecological farming practices to farmers' ability to reliably produce food under a changing climate in Greater Nebbi District, Uganda. In particular, studies of biodiversity targeting arthropods that contribute to natural pest control and pollination. Instruction of classes on collection methods and taxonomy, and collaboration with farmers to implement these studies long term. Consultation with farmers on agricultural practices to mitigate insect pests and crop pathogens. Development of methods for production of charcoal blocks for cooking using agricultural waste products. Development of methods for water purification for rural communities. Assistance with efficient and healthy cook stoves, solar electrification, and mosquito control. Production of soldier fly colony for chicken feed.

University of Hawai‘i. Postdoctoral Researcher, stationed at Hawai‘i Department of Agriculture (August 2024–April 2025)

Biological control of invasive arthropods and weeds in Hawai‘i. Collection, rearing, and provision of ivy gourd stem borer for collaborator biocontrol research in other countries. Maintenance of colonies of prospective biological control agents in quarantine. Development of rearing methods for coffee berry borer parasitoids in quarantine. Studies of potential for augmentative biocontrol of tropical nut borer using an extant parasitoid. Natural enemy rearing and release for augmentative biocontrol of stinging nettle caterpillar. Spreading a biocontrol agent for strawberry guava to forest locations. Taxonomic requests from public, entomologists, and other Hawai‘i agencies. Surveys for invasive ants. Studies of natural enemies in other world regions as possible biocontrol agents in Hawai‘i, and development of rearing procedures to permit their study in quarantine.

University of Hawai‘i. Teaching Assistant (August 2023–July 2024).

Taught General Entomology Laboratory (PEPS 363L). Lectures and laboratory activities relating to insect identification, morphology, and taxa; native Hawaiian insects; insect collection techniques and specimen preservation.

University of Hawai‘i. Graduate Research Assistant, under Dr. Mark Wright. (August 2017—July 2023)

Exploration for parasitoids of nonnative bark beetles in Hawai‘i and study of their biology, ecology, host associations, and potential for biological control. Attempts at biological control of the coffee berry borer using extant natural enemies in Hawai‘i. Phenology, associations, and diversity of nonnative bark beetles in Hawai‘i. Diversity and biology of parasitoids associated with wood-associated insects in Hawai‘i. Conditioning of parasitoids extant in Hawai‘i to encourage their attack on the coffee berry borer in coffee fields. Exploration for Hawaiian endemic bark beetles and their host plant associations. Coffee berry borer control in coffee fields using verbenone. Collection and provision of beetles for host specificity testing of *Phymastichus coffea*, a prospective classical biological control agent for the coffee berry borer in Hawai‘i, and preparation for its mass rearing and release. Attempts at a novel approach for biological control of scolytid vectors of Rapid ‘Ōhi‘a Death in forests, with applications to biocontrol of other arthropod pests in forest systems.

University of Hawai‘i. Student Research Assistant, under Dr. Leyla Kaufman. (September 2018–July 2024)

Design and construction of mosquito traps, and mosquito rearing and collection systems. Pathway analyses of potential invasive species introductions to Hawai‘i and between islands. Potential invasive species prevention lists for Hawai‘i biosecurity. Traps for EDRR of Japanese beetle near ports of entry.

Publications

Honsberger DN, Pérez-Lachaud G, Magnacca KN, Lorenzo-Elarco JH, Kelly S, Wright MG, Gariepy TD. (accepted). Unraveling a complex of cryptic species near *Cephalonomia hyalinipennis* (Hymenoptera: Bethylidae) and their association with the coffee berry borer and other hosts. Arthropod Systematics and Phylogeny.

Honsberger D, Honsberger M, Wright MG. (accepted). Annotated list of parasitoids of bark and ambrosia beetles (Coleoptera: Scolytinae) known in Hawai‘i. Proceedings of the Hawaiian Entomological Society.

Honsberger D, Lorenzo-Elarco JH, Lopes-Andrade C, Wright MG. (accepted). Two new species of *Astichus* (Hymenoptera: Eulophidae: Entiinae) and their ciid hosts (Coleoptera: Ciidae) in bracket fungi on O‘ahu Island, Hawai‘i. Proceedings of the Hawaiian Entomological Society.

Ho JR, Melzer MJ, **Honsberger D**, Chun S, Fleming J. 2025. Red palm mite: a new pest of palms in Hawai‘i. University of Hawai‘i College of Tropical Agriculture and Human Resilience Extension Publications IP-60.

Honsberger DN, Magnacca K, Lorenzo-Elarco JH, Wright MG. 2024. Life history of two new species of

Prorops (Hymenoptera, Bethylidae) ectoparasitic on adult *Hypothenemus eruditus* (Curculionidae, Scolytinae) in Hawai‘i. Journal of Hymenoptera Research. 97:1221–1256.

Honsberger D, Honsberger M, Lorenzo-Elarco JH, Wright MG. 2024. The genus *Acerocephala* and observations of the life history of *Acerocephala hanuuanamu* sp. nov. (Hymenoptera, Cerocephalidae) and its bark beetle host on the island of O‘ahu, Hawai‘i. Journal of Hymenoptera Research. 97:545–589.

Cognato AI, Smith SM, **Honsberger D**. Occurrence of the ambrosia beetle *Xyleborinus exiguus* (Walker) (Curculionidae: Scolytinae: Xyleborini) on the island of O‘ahu, Hawai‘i, USA. Proceedings of the Hawaiian Entomological Society. 55:45–49.

Honsberger DN, Wright MG. 2022. A new species of *Phymastichus* (Hymenoptera: Eulophidae: Tetrastichinae) parasitic on *Xyleborus* beetles (Coleoptera: Curculionidae: Scolytinae) in Hawai‘i, and aspects of its biology, life history, and behavior. Zootaxa. 5116(1):107–122.

Honsberger DN, Huber JT, Wright MG. 2022. A new *Mymaromma* sp. (Mymarommatoidea, Mymarommatidae) in Hawai‘i and first host record for the superfamily. Journal of Hymenoptera Research. 89:73–87.

Honsberger D, Matsunaga JN, Wang KH, Shikano I. 2022. *Oomyzus sokolowskii* (Hymenoptera: Eulophidae) joins the small complex of parasitoids known to attack the diamondback moth on Kaua‘i. Proceedings of the Hawaiian Entomological Society. 54:21–25. http://hdl.handle.net/10125/81469

Johnson AJ, **Honsberger D**, Beaver RA. 2021. New records and taxonomic notes on *Cryphalus* Erichson, 1836 in Hawai‘i (Coleoptera: Curculionidae: Scolytinae). Zootaxa. 4999(1):41-57.

Yousuf F, Follett PA, Gillett CPDT, **Honsberger D**, Chamorro L, Johnson MT, Giraldo Jaramillo M, Benavides Machado P, Wright MG. 2021. Limited host range in the idiobiont parasitoid *Phymastichus coffea*, a prospective biological control agent of the coffee pest *Hypothenemus hampei* in Hawaii. *Journal of Pest Science*. https://doi.org/10.1007/s10340-021-01353-8

Gillett CPDT, **Honsberger D**, Rubinoff D. 2020. A remarkable addition to the native scolytine fauna of the ecologically devastated Hawaiian island of Lāna‘i with records of five new exotic bark and ambrosia beetles (Coleoptera: Curculionidae: Scolytinae). Transactions of the American Entomological Society. 146:577-589.

Honsberger D, Gillett CPDT. 2020. A damage-limiting method for extracting bark and ambrosia beetles (Coleoptera: Curculionidae: Scolytinae) from their tunnels in host plants of conservation concern. Proceedings of the Hawaiian Entomological Society. 52:67-68.

Gillett CPDT, **Honsberger D**, Bogner KK, Sprague RS, Matsunaga JN, Rubinoff D. 2020. First record of the coffee berry borer, *Hypothenemus hampei* (Ferrari, 1867), on the Hawaiian Island of Lanai (Coleoptera: Curculionidae: Scolytinae). Proceedings of the Hawaiian Entomological Society. 52:59-66.

Rugman-Jones PF, Au M, Ebrahimi V, Eskalen A, Gillett CPDT, **Honsberger D**, Husein D, Wright MG, Yousuf F, Stouthamer R. 2020. One becomes two: second species of the *Euwallacea fornicatus* (Coleoptera: Curculionidae: Scolytinae) species complex is established on two Hawaiian Islands. PeerJ. 8:e9987.

Gillett CPDT, **Honsberger D**, Elliott C, Rubinoff D. 2020. Two endemic species of Hawaiian bark beetles newly recorded from the island of Moloka‘i (Coleoptera: Curculionidae: Scolytinae). Transactions of the American Entomological Society. 146(1):251-257.

Gillett CPDT., **Honsberger D**, Rubinoff D. 2019. Rediscovery of the Hawaiian endemic bark beetle *Xyleborus pleiades* Samuleson, 1981 on Moloka‘i, with records of three new exotic bark beetles for the island (Coleoptera: Curculionidae: Scolytinae: Xyleborini). Journal of Natural History. 53(23-24):1481-1490.

Submitted to PHES **Honsberger D**, Wright MG. New records for parasitoids of longhorn beetles (Coleoptera: Cerambycidae) in Hawai‘i.

In prep **Honsberger D**, Wright MG. Studies of the phenology and associations of bark beetles, parasitoid

wasps, and other inhabitants of decaying wood in Hawai'i.

In prep **Honsberger D**, Wright MG. An attempt at conditioning an *Acerocephala hanuuanamu* (Hymenoptera: Cerocephalidae) to enhance its attraction to the coffee berry borer in coffee berries.

In prep **Honsberger D**, Wright MG. Exploration of the searching cues of *Phymastichus holoholo* (Hymenoptera: Eulophidae), and application to biological control.

Other publications

MyIPM Hawai‘i: Coffee berry borer (*Hypothenemus hampei*) and avocado lace bug (*Pseudacysta perseae*) information pages

Presentations (*Presenter)

Lorenzo-Elarco JH, ***Honsberger D**. 2024. ‘Āwihi ka lihihune (*Mymaromma menehune*): collaborative naming practices through a Hawaiian language lens. Entomological Society of America Pacific Branch Meeting; Waikōloa, Hawai‘i.

***Honsberger D**, Wright MG. 2024. Parasitoids of Cerambycidae in Hawai‘i [Symposium invitation]. Entomological Society of America Pacific Branch Meeting; Waikōloa, Hawai‘i.

***Honsberger D**, Wright MG. 2023. Life Histories of new parasitoids of bark beetles in Hawai‘i. International Entomophagous Insects Conference 7; Buenos Aires, Argentina.

*Wright MG, Au M, **Honsberger D**. 2022. New invasive insect species in Hawai‘i, classical biological control and resident biotic resistance. Entomological Society of America/Entomological Society of Canada joint meeting.

***Honsberger D**, Wright MG. 2022. Parasitoids of invasive bark beetles in Hawai‘i. International Congress of Entomology; Helsinki, Finland.

***Honsberger D,** Huber JT, Wright MG. 2022. A new *Mymaromma* sp. (Mymaromma: Mymarommatidae) in Hawai‘i and first host record for the superfamily. International Congress of Entomology; Helsinki, Finland.

***Honsberger D**, Huber JT, Wright MG. 2022. A new *Mymaromma* sp. (Mymaromma: Mymarommatidae) in Hawai‘i and first host record for the superfamily. Hymathon 2022.

***Honsberger D,** Wright MG. 2022. Parasitoids of invasive bark beetles in Hawai‘i. Invasive Pest Mini-Conference, January 2022.

*Wright MG, **Honsberger D**. 2021. Recent updates on Scolytinae biocontrol in Hawai‘i. Entomological Society of America Pacific Branch meeting.

***Honsberger D**, Wright MG. 2020. New parasitoids of bark beetles (Curculionidae: Scolytinae) in Hawai‘i and their behavior. Entomology 2020: Entomological Society of America Virtual Annual Meeting.

*Wright MG, **Honsberger D**, Gillett CPDT, Yousuf F, Follett P. 2020. Pest status and classical biological control of Scolytinae pests of coffee in Hawai‘i. Entomology 2020: Entomological Society of America Virtual Annual Meeting.

***Honsberger D**, Wright MG. 2019. Attempts at biological control of the coffee berry borer *Hypothenemus hampei* (Coleoptera: Curculionidae) using extant natural enemies in Hawai‘i. International Entomophagous Insects Conference 6; Perugia, Italy.

Yousuf F, Follett P, **Honsberger D**, Gillett CPDT, Rubinoff D, *Wright MG. 2018. Non-target screening for a prospective coffee berry borer biocontrol agent. Biological Control W-4185 Annual Meeting.

***Honsberger D**, Wright MG. Observations of the behavior of a new hymenopteran parasitoid and its bark beetle host. 2018. ESA, ESC and ESBC Joint Annual Meeting.

Awards

ARCS Foundation Helen Jones Farrar Award in Tropical Agriculture, 2021. $5000 award, and runner-up for Scholar of the Year in the Honolulu branch.

Media

Relating to the discovery of the first host association for a member of the superfamily Mymarommatoidea:
-Planet Ficus: https://planetficus.substack.com/p/mysterious-little-beings-really-do
-Sekkai Fushigi Hakken (Discovery of the World's Mysteries), a nature television show in Japan, aired 30 July, 2022.
-CTAHR news: https://cms.ctahr.hawaii.edu/NewsLetter/ArtMID/52574/ArticleID/2344/A-New-Wasp-and-Solution-of-an-Old-Mystery
-UH news: https://www.hawaii.edu/news/2022/03/14/menehune-wasp/
-KITV: https://www.kitv.com/news/local/new-species-of-wasp-no-bigger-than-a-grain-of-dust-discovered-at-uh-manoa/article_6067cb58-a3dc-11ec-9f01-fb4ac0885066.html
-Civil Beat: https://www.civilbeat.org/2022/04/uh-researchers-discover-new-wasp-species/
-KHON: https://www.khon2.com/local-news/new-menehune-wasp-discovered-by-uh-manoa/

Relating to the discovery of the coffee berry borer *Hypothenemus hampei* on the island of Lānaʻi: State of Hawaiʻi Department of Agriculture, Press Release by Governor David Y. Ige, 15 September 2020 (NR20-14): "Coffee berry borer confirmed on Lānaʻi" http://hdoa.hawaii.gov/blog/main/nr20-14cbblanai/ also reported on various other news outlets.

Relating to research on natural enemies of the coffee berry borer: Western IPM: "IPM keeps Hawaiʻi's coffee industry brewing" http://westernipm.org/index.cfm/ipm-in-the-west/agriculture/ipm-keeps-hawaiis-coffee-industry-brewing/

Relating to host specificity and approval for release of *Phymastichus coffea*:
-CTAHR news: https://cms.ctahr.hawaii.edu/NewsLetter/ArtMID/52574/ArticleID/2729/P-Coffea-vs-CBB
-UH news: https://www.hawaii.edu/news/article.php?aId=12616
-KITV
Hawaiʻi News Now: https://www.hawaiinewsnow.com/2023/05/25/tiny-wasps-released-save-hawaii-coffee-farms-invasive-beetle/

Compressed Earth Blocks and general construction

Earth Block International, Earth Block Texas, Earth Block Inc. (Colorado; New Mexico; Central Texas; Santiago, Chile; Saltillo, México; Guanajuato, México. Periodically from 2011—2017)

Compressed earth block construction. Soil selection and laboratory work, block fabrication, foundations, walls, roofs, vaults and domes, earthen and lime plasters and floors; research on passive heating and cooling and alternatives to steel reinforced concrete; workshops; consultant for earth block buildings in the USA and México.

Matsudaya Landscaping Company (Shizuoka, Japan; September 2014—January 2015; landscaping and gardening). Santa Barbara Museum of Art (Santa Barbara, California; 2011—2015 sporadically; exhibit construction, construction of changing exhibits). Construction Specialists Inc., Custom Originators (San Diego, California; January 2011—September 2011; general construction). Versatile (Fredericksburg, Texas; 2012, sporadically; tiles, floors, and showers). House remodel, and many other small construction jobs for various people at various times.

Teaching

Insect Ecology class guest lecture (University of Hawai‘i at Mānoa, PEPS 671). Topic: Wood-associated cryptoparasitoids.

Biological Control class guest lectures (University of Hawai‘i at Mānoa, PEPS 675). Topic: Non-target screening and centrifugal phylogeny; metabolomic methods in prediction of host use.

Dorcus (California; August 2016; assisted in guiding tours for Japanese elementary and high school students in a science and adventure after school program). High Tide Tutoring (San Diego, California; January 2011—September 2011; tutored high school students in math and physics). Santa Barbara Museum of Natural History (Santa Barbara, California; June 2002—August 2006; presented planetarium shows to the public in the Gladwin Planetarium, various other duties).

Other

-Regeneration of mountain agricultural land with agroforestry (Shizuoka, Japan; 2026—present)
-Occasional avocado farm maintenance and irrigation (Carpinteria, California; 2014—2016 sporadically).
-Built and installed barn owl boxes for avocado farmers (Carpinteria, California; 2015 sporadically).
-Various mechanical projects including: Hand press to efficiently produce charcoal blocks from agricultural waste for cooking fuel; fall resistant walker for my grandfather; wind powered flapping bird to deter unwanted birds from gardens; wind powered intermittent water pump for a bird bath.

Additional Skills

Mechanical and electrical knowledge; use and repair of vehicles, machines, and small engines; some level of proficiency in English, Spanish, Japanese, Chinese, and Alur; outdoor skills.

References To Contact

Dr. Mark G Wright, University of Hawai‘i at Mānoa; markwrig@hawaii.edu
Michael Neumann, Earth Interwoven; mneumann@earthinterwoven.org
Dr. Conrad PDT Gillett, Finnish Museum of Natural History; conrad.gillett@helsinki.fi
Dr. Leyla Kaufman, University of Hawai‘i at Mānoa; leyla.v.kaufman@hawaii.gov
Tobias Lehmann, Hawai‘i Department of Agriculture and Biosecurity; tobias.lehmann@hawaii.gov