

Daniel G. Pesante

Professional Interests:

Tropical Apiculture. Honey bee population biology of tropical and temperate ecosystems, environment-colony-beekeeper interactions, honey production, management strategies for honey production and effective pollination, detection and control of diseases and parasites. Genetic selection for improved honey production. Genetic selection for improved disease and parasite resistance. Both selection programs are based on a sustainable, non-chemical platform. Special interest in the above as related to the biology and management of Africanized honey bees.

Present Position: Full Professor; Teaching / Research Tropical Apiculture / Entomology.

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Background: Ph.D. Entomology / Apiculture (1986)
Population Biology, Exp. Statistics, Department
Entomology, University of Louisiana, and
USDA, ARS, Honey Bee Breeding, Genetics and
Physiology Research, 1157 Ben Hur Road, Baton
Rouge, LA. USA. 70820-5502

M.S. Biological Oceanography (1978)
Population Biology
Department of Marine Sciences,
UPR Mayagüez, Puerto Rico

B.S. Biology (1974) Biology/Ecology
Department of Biology,
UPR Mayagüez, Puerto Rico

Research Experience:

Improved honey production through basal genetic selection.

Parasite and disease resistance through hygienic behavior selection.

Effect of the age of the honey bee queen in honey production in the Tropics.

Effect of stimulative feeding on honey production in a tropical environment.

Queen honey bee egg laying rates in the tropics.

Empty comb manipulation for increased honey production.

Fungi and yeast present in the honey colony in tropical environments.

Population biology of Africanized and European honey bees in the neotropics of north South America.

Foraging behavior of Africanized and European honey bees in the neotropics.

Management of Africanized apiaries for honey production.

Queen rearing and selection of genetic material in Africanized systems.

Morphometric analysis of Africanized and European honey bees.

Disease and parasite detection and control.

Positions:

Current: Conduct teaching on basic and advanced honey bee management practices directed towards honey production, disease and parasite resistance utilizing a sustainable and chemical free platform. Conduct research towards eliminating undesirable behaviors from an Africanized honey bee population to increase its desirability for the apiculture industry and to minimize its negative interactions with the general public. Conduct research on ways to increase honey production through: management of the volume of the brood and honey supers for increased colony population in synchrony with the nectar flow; pollination; empty comb surface area stimulation, increased queen egg-laying rates and stimulative feeding prior to the nectar flow. Teach undergraduate and graduate courses in tropical apiculture. Train graduate students in tropical apiculture. Assist the government in delineating a plan to control Africanized honey bees, American Foulbrood and *Varroa*. Consultant for local government and local beekeeping

associations on beekeeping matters. Consultant for international government on beekeeping matters.

- 1984-86: Doctoral Student at LSU, under a USDA-ARS program. Entomology/Apiculture/Ecology
- 1983: Coordinator and field director of the Africanized honey bee project in Venezuela. USDA, ARS, LSU.
- 1981: Senior Associate Scientist Determination of temporal and spatial variability of the zooplankton of the southeast coast of Puerto Rico. Center for Energy and Environment Research, University of Puerto Rico, Mayagüez Campus.
- 1978: Research Associate Scientist Population biology of planktonic communities of the south coast of Puerto Rico. Center for Energy and Environment Research, University of Puerto Rico, Mayagüez Campus.
- 1977: Physical Oceanography Technician Characterization of the thermal, salinity structure and water mass movement of Bahía Guayanilla. Center for Energy and Environment Research, University of Puerto Rico, Mayagüez Campus.

Professional Organizations I have been a member:

- Entomological Society of America
- American Association of Prof. Apiculturists
- Beekeepers Association of Puerto Rico
- Puerto Rico Association of Animal Production
- Bee Science
- Caribbean Apicultural Developmental Association

Invitations:

Apiculture industry evaluation. Colony management, disease detection and control in the Albanian Beekeeping. VOCA, ACIDI, USAID. 1996

Apiculture industry evaluation. Colony management, disease detection and control in the Egyptian Beekeeping. VOCA, ACIDI, USAID.

1995

Apiculture industry evaluation. Colony management, disease detection and control in the Egyptian Beekeeping. VOCA, ACIDI, USAID. 1994

Colony management for pollination of cantaloupe and watermelon in the Choluteca Valley, Honduras. FPX, AID, BID 1992

Honey bee pathology. Identification and management of parasites and pests of importance to apiculture. Dominican Republic. 1992

Honey bee pathology. Identification and management of parasites and pests of importance to apiculture. Saint Lucia. 1992

Colony Management in Tropical Environments. First Regional Workshop on Tropical Apiculture. Saint Lucia. 1992

Cucurbit pollination in tropical Africanized environments. Colony management and disease prevention and control. FPX, Choluteca, Honduras. 1992

Sequi-Crespo, Donato., O. Pérez Laguillo, C. Betancourt, D. Pesante y A. Berrios (1991). Catastro de hongos presentes en colmenas de la abeja melífera (*Apis mellifera* L.) en el área oeste de Puerto Rico. Carib. Jour. Scien. Vol 27, No. 1-2, 75-79.

Sequi-Crespo, Donato., O. Pérez Laguillo, C. Betancourt, A. Berrios y D. Pesante. (1991). Catastro de levadura presentes en colmenas de la abeja melífera (*Apis mellifera* L.) en el área oeste de Puerto Rico. Carib. Jour. Scien. Vol 27, No. 3-4, 198-200.

Cucurbit pollination in tropical Africanized environments. Colony management. Disease prevention and control. FPX, Choluteca, Honduras. 1991

Cucurbit pollination in tropical Africanized environments. Colony management. FPX, Choluteca, Honduras. 1990

Queen rearing in Africanized environments. FAO, OIRSA, BID, Amatitlán, Guatemala, CA. 1989

4th International Conference on Tropical Apiculture (Cairo, Egypt). 1988
Africanized Honey Bee Management and Honey Bee Diseases and
Parasites. FAO, OIRSA, BID. Choluteca, Honduras, CA. 1987
Recipient. Eastern Apicultural Society Award for best research program
in apiculture. 1986

Workshop on morphometrics of Africanized and European honey bees.
Joint program between USDA, ARS, APHIS and the Mexican
counterpart of USDA (SARH). 1985

Africanized beekeeping with management applications for Uganda, the
Republic of South Africa and Belize. Ohio State University,
Agricultural Technical Institute. 1984

Africanized honey bees and tropical apiculture. Association of Coffee
Growers, Bogota, Colombia. 1983

Diseases and pests of honey bees. Possible consequences of the mite,
Varroa jacobsoni in the Colombian apiculture. Barranquilla,
Colombia. 1983

Tropical vs. Temperate Beekeeping. Universidad de Maracay, Maracay,
Venezuela. Research Strategies to be implemented by USDA. ARS.
in the neotropics of Venezuela to study the biology, genetics, and
physiology of Africanized honey bees. Universidad Centro
Occidental Lizandro Alvarado, Barquisimeto, Venezuela.

Zooplankton eco-physiology. Friday Harbor Laboratories, University of
Washington.

Workshop on plankton sampling techniques. Laurence Berkeley, San

Francisco.

Workshop on plankton taxonomy. University of Miami (RSMAS).

Managerial concepts for scientists, University of Puerto Rico.

Publications:

- 1992 Pesante, D.G. Possible Impact of the Africanized Honey Bee in the Caribbean Apiculture. Proceedings of the Caribbean Apicultural Development Association
- 1992 Pesante, D.G. Beekeeping in Puerto Rico. Proceedings of the Caribbean Apicultural Development Association
- 1990 Seguí, D. and Pesante, D.G. Fungi and yeast present in honey bee colonies (*Apis mellifera*) in the tropics (West Coast, Puerto Rico). MS Thesis. Department of Biology, University of Puerto Rico Mayagüez Campus
- 1989 Anita M. Collins, Thomas E. Rinderer, Howell V. Daly, John R. Harbo, Daniel G. Pesante. Alarm Pheromone Production by Two Honeybee, *Apis mellifera*, Types. *Journal Chemical Ecology*, Vol. 15, No. 6
- 1989 Pesante, D.G.; Rinderer, T.E.; Collins, A.M. Comparison of worker-brood, pollen and honey comb surface areas between Africanized and European honey bees in the neotropics. *Journal of Apicultural Research*.
- 1989 Pesante, D.G.; Rinderer, T.E.; Collins, A.M. Honey production of Africanized and European honey bee in the neotropics. *Apidologie*.
- 1988 Pesante, D.G., Danka, R.G. Pollen Collection and Use by Africanized honey bees. 4th International Conference on Tropical Apiculture. Cairo, Egypt
- 1988 Molina, P.A.; Mantilla, C.C.; Pesante D.G.; Marcenaro, E.A.O.; Morales, G.S.; Sarmiento, J.P.P. Manejo y control de la Abeja Africanizada. OIRSA, BID, El Salvador. pp. 230

- 1987 Pesante, D.G.; Rinderer, T.E.; Collins, A.M. Differential nectar foraging of Africanized and European honey bees in the neotropics. *J. apic. Res.* 26(4) :210-216
- 1987 Pesante, D.G.; Rinderer, T.E.; Collins, A. M. Differential pollen collection by Africanized and European honey bees in the neotropics. *J. apic. Res.* 26(1) : 24-29
- 1987 A.M. Collins, T.E. Rinderer, K.W. Tucker, D.G. Pesante. Response to Alarm Pheromone by European and Africanized Honeybees. *J. apic. Res.* 26(4) :217-223
- 1986 Thomas E. Rinderer, H. Allen Sylvester, Michael A. Brown, José D. Villa, Daniel Pesante and Anita M. Collins. Field and Simplified Techniques for Identifying Africanized and European Honey Bees *Apidology* 17(1) :33-48
- 1985 Rinderer, T.E.; Collins, A.M.; Pesante, D.G. A comparison of Africanized and European drones: Weights, mucus glands and seminal vesicle weights, and counts of spermatozoa. *Apidologie* 16(4) :407-412
- 1985 Rinderer, T.E.; Brown, H.M.; Sylvester, A.H.; Villa, J.D.; Pesante, D.G. Field and simplified techniques for identifying Africanized and European honey bees. *Apidologie*.
- 1985 Rinderer, T.E.; Sylvester, A.H.; Collins, A.M.; Pesante, D.G. Effect of nurse bee genotype and comb size on the morphometrically based identification of Africanized and European honey bees. Submitted. *Bull. Entomol. Soc. Amer.*
- 1985 Yoshioka, P.; Owen, G.P.; Pesante, D. G. Spatial and temporal variations of the Caribbean zooplankton near Puerto Rico. Submitted. *Journal of Plankton Research*.
- 1983 Yoshioka, P.; Owen, G.P.; Pesante, D. G. Spatial and temporal variations of oceanic zooplankton near Puerto Rico. pp 1-74. CEER Ref. Num M-157-13. Center for Energy and Environment Research, University of Puerto Rico. DOE/OHER. Mayagüez, Puerto Rico.

1979 Goldman, G.; Pesante, D.G. Preliminary results of the program to study OTEC oceanic environmental parameters at Punta Tuna, Puerto Rico. 6th Ocean Thermal Energy Conversation, Washington, DC. 1., Sc-6/1, Sc-6/7.

1977 Pesante, D.G. The Laguna Joyuda Zooplankton ecology. V Symposium of Natural Resources, 20 Sept, San Juan, Puerto Rico.