

Choe, Dong-Hwan

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Research Interests

Urban entomology, insect behavior, and chemical ecology. Especially interested in exploring and developing novel urban pest management strategies by exploiting innate / learned behaviors of pestiferous insect species. Current research projects include developing novel bait system against Argentine ants, identifying necrophoric cue of the Argentine ant, and feeding-deterrent resin use of *Apiomerus* sp. bee assassin bugs. Experienced in teaching, insect-collection, specimen identification, and other types of fieldwork.

Education

- ▶ Bachelor of Agriculture, Korea University, Seoul, Korea, 2002
 - Department of Agricultural Biology
 - Major : Agricultural Biology
 - Awarded the department prize for high scholarship (2000)
- ▶ Master of Science in Entomology, University of California, Riverside, USA, 2005

Academic and Teaching Experience

- ▶ Worked as a research assistant in the Population Ecology Laboratory (Korea University, Seoul, Korea), supervised by Professor Moon Il Ryoo (Research theme : Competition of the Rice Weevil and Indian Meal Moth on Brown Rice, and the Effect of their respective Parasitoids on their Coexistence) (July 27th 2001 ~ July 31st 2002)
- ▶ Worked as a research assistant in the Laboratory of Behavioral Ecology (Seoul National University, Seoul, Korea), supervised by Professor Jae C. Choe and Doctor Kil Won Kim (Research theme : Nest-based recruitment to Food by Odor cues in the yellowjacket, *Vespula flaviceps*) (August 6th 2002 ~ 2003)
- ▶ Worked as a part-time student researcher at 'Turfgrass and Environment Research Institute', Golf Culture Division, Samsung Everland Inc. (Research theme : Differences in insect biodiversity between grass fields in organic and conventional golf course) (April 20th 2001 ~ November 30th 2001)
- ▶ Active as a co-president in university entomology club 'KiRap-JaBi (Korean common name of Family Cicindelidae)' (1996~ 2000)
- ▶ Successfully directed four entomological exhibitions of the student entomology club (1997~ 2001)

Academic and Teaching Experience

- ▶ Worked as an insect and plant camp leader in an alternative school ('Damool Natural School', Seoul, Korea ; Website <http://damool.or.kr>) (1997~ 2003)
- ▶ Designed the information structure of the database for the entomology website <http://agrobio.korea.ac.kr/~insectleader> (Website containing an Insect of Korea database (photography, ecology, phylogeny, etc.)) (2000)
- ▶ Dynamically participated in several conferences on entomology (Annual Meeting of the Korean Society of Applied Entomology and the Entomological Society of Korea) (2000~ Present)
- ▶ Actively participated in the 8th International Congress of Ecology (INTECOL), Seoul, Korea (2002)
- ▶ Active as graduate researcher in the Michael K. Rust lab (urban entomology lab, University of California, Riverside, USA) (2004 summer ~ Present)
- ▶ Teaching assistant in ENTM 10 (Natural History of Insects: 2005 Spring, 2006 Fall, 2007 Winter); ENTM 162 (Insect Behavior: 2007 Fall); ENTM 133 (Urban Entomology: 2008 Spring) in UC Riverside

Other Experience

- ▶ Active as an amateur nature photographer (microphotography) (1997 ~ Present)
- ▶ Active as on-line counselor for entomological and biological question (<http://www.insectleader.changhun.com>) (2000 ~ Present)
- ▶ Active as a leader of the group of Amateur Natural Photographers in the Association of Amateur Naturalist (Jayeonsa), supported by Korea Science Foundation (March 1st 2002 ~ 2003)
- ▶ Active as academic coordinator for a nature documentary program '*The amazing world of carnivorous plants*' in Borneo (Malaysia), produced by Koryo Insect Institute, Korea (2003)
- ▶ Active as a bagpiper in UCR pipe band (2005 ~ Present)
- ▶ Development of the website of Entomology Research Museum in University of California, Riverside (2005)
- ▶ Active as academic coordinator for a nature documentary program '*The amazing world of desert insects*' in Southwestern North America (California, Arizona, and New Mexico), produced by Koryo Insect Institute, Korea (2005)

Awards

- ▶ Awarded the Excellence Prize in the student free subject research category (Metamorphosis of a Cicada, *Cryptotympana atrata* - Given Priority to the Emergence) (1986)
- ▶ Awarded the department prize for high scholarship (Department of Agricultural Biology, University of Korea, Seoul, Korea) (2000)

Awards

- ▶ Dean's Fellowship Award (University of California, 2003 ~ 2005)
- ▶ Awarded as one of the winners in annual photography competition of National Wildlife Federation (2004)
- ▶ Carl Strom / Western Exterminator Company Scholarship (2004 ~ 2008)
- ▶ Awarded as the best winner in Best Pest Photo contest of Pest Control Technique (PCT) Magazine (December 2005)
- ▶ Anza-Borrego Institute Student Entomology Award (2006)
- ▶ UCR Pipe Band Scholarship (2006)
- ▶ Temecula Valley Wine Society Scholarship (Nancy Johnston Memorial Scholarship) (2006)
- ▶ Pi Chi Omega Scholarship (2007)
- ▶ Awarded as Best PhD Poster in annual entomology student seminar day (2007)
- ▶ Selected as one of the "40 Under 40" future leaders of the pest management industry by Pest Management Professional Magazine (2008)

Publications

- ▶ Offered sixteen photos of insects for the Coleoptera Field Guide Book 'The Coleoptera of Korea' by Jung-Hwan Kim, Published by Kyo-Hak Publishing Co., Ltd., Seoul, Korea (2001)
- ▶ Graduation thesis for bachelor's degree 'The Pattern of the Population Density of Two Competitors (Rice weevil and Indian meal moth) on Brown Rice and the Influence of the Parasitoids (*Anisopteromalus calandrae* and *Bracon hebetor*)' (2002)
- ▶ Photo Essay 'The Ant & The Rock-Poppy', Published by Segyero Media, Seoul, Korea (2002)
- ▶ Research Thesis for Master's degree 'Behavioral Responses of Argentine Ants (Hymenoptera: Formicidae) to Scale and Scale Parasitoid, Department of Entomology, University of California, Riverside, USA (June 2005)
- ▶ Choe, D.-H., M. K. Rust. 2006. Homopteran chemical signatures reduce aggression of tending ants. *Chemoecology*. 16: 175-178.
- ▶ Choe, D.-H., M. K. Rust. 2006. Agonistic behavior of Argentine ants to scales and scale parasitoids and their cuticular extracts. *Sociobiology*. 48: 799-818.
- ▶ Rust, M. K., D.-H. Choe. 2006. Behavioral interactions between ants, pests and parasitoids – implications for biological control, pp. 107-111. *In* M. Hoddle and M. Johnson (eds.), *Proceedings, 5th California Conference on Biological Control, 25-27 July 2006, Riverside, CA.*

Publications

- ▶ Choe, D.-H., M. K. Rust. 2007. Use of plant resin by a bee assassin bug, *Apiomerus flaviventris* (Hemiptera: Reduviidae). *Ann. Entomol. Soc. Am.* 100: 320-326.
- ▶ Choe, D.-H., M. K. Rust. 2008. Horizontal transfer of insecticides in the laboratory colonies of the Argentine ant (Hymenoptera: Formicidae). *J. Econ. Entomol.* (in press).

Presentation

- ▶ 'Competition, Parasitoids and Coexistence of the Rice Weevil and Indian Meal Moth on Brown Rice', the Annual Meeting of the Korean Society of Applied Entomology and the Entomological Society of Korea, Chuncheon, Korea (2002)
- ▶ 'Local enhancement by visual, chemical and acoustic cues from conspecifics in the Yellowjacket *Vespula flaviceps*', Poster session announcement, the 57th Annual Meeting of the Korean Association of Biological Science, Seoul, Korea (October 25th 2002)
- ▶ 'The influence of Honeydew Quantity and Sugar Composition of Argentine Ant Feeding Preference', Poster session, the 13th Annual Urban Entomology Conference, University of California, Riverside, CA, USA (2004)
- ▶ 'Behavioral Responses of Argentine Ant Workers to Surface Chemistry of Their Prey', Oral Presentation, Student Seminar Day, University of California, Riverside, CA, USA (September 14th, 2004)
- ▶ 'Chemically Mediated Associative Learning of Argentine Ant towards Brown Soft Scales', Poster Presentation, Student Seminar Day, University of California, Riverside, CA, USA (September 22nd, 2005)
- ▶ 'Recognition of Pests and Parasitoids by Argentine Ants', Oral Presentation, 15th Annual Urban Pest Management Conference, University of California, Riverside, CA, USA (March 30th, 2006)
- ▶ 'Utilization of Plant Resin by a Bee Assassin Bug *Apiomerus flaviventris*', Oral Presentation, Student Seminar Day, University of California, Riverside, CA, USA (September 21st, 2006)
- ▶ 'Homopteran chemical signatures reduce aggression of tending ants', Ten-Minute Paper Oral Presentation, The 2006 ESA Annual Meeting, Indianapolis, IN, USA (December 12th, 2006)
- ▶ 'Photography: Good tool for entomology', Symposium – Korean Young Entomologists (KYE), Oral Presentation, The 2006 ESA Annual Meeting, Indianapolis, IN, USA (December 12th, 2006)

Presentation

- ▶ 'Potential of Horizontal Transfer of Insecticides in Ant Control', Symposium – Pest Management of Ants of Urban Importance, Oral Presentation, The Pacific Branch ESA 91st Annual Meeting, Portland, OR, USA (March 28th, 2007)
- ▶ 'Virtual Baiting to Control Ants in Sensitive Urban Environments', Student Seminar Day, University of California, Riverside, CA, USA (September 19th, 2007)
- ▶ 'Virtual Baits – The Role of Horizontal Transfer of Insecticides', Symposium – Challenges of Ant Control in Agricultural Settings, Oral Presentation, The Pacific Branch ESA 92nd Annual Meeting, Napa, CA, USA (April 1st, 2008)

Photo Credits

- ▶ Un ature monde parmi nous Insectes. N° 140-1er Trimestre 2006. Office Pour Les Insectes et Leur Environnement. Page 33.
- ▶ Cerambycidae Sul-Americanos (Coleoptera), Taxonomia Vol. 8, organized by Ubirajara R. Martins, São Paulo, Janeiro, 2006. Page 12.

Licenses & Skills

Licenses

Korea / California driver's license
1st Dan Certificate in Taekwondo

Skills

Photoshop, MS Excel, MS Word
Photographic skill : Micro-photography