

ANGELA MEDINA-GARCÍA

Department of Ecology and Evolutionary Biology, University of Colorado Boulder
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EDUCATION

- Ph.D.** Biology, New Mexico State University (2017)
Advisor: Dr. Timothy F. Wright
- M.S.** Biology, Bowling Green State University (2011)
Advisor: Dr. Moira van Staaden and Dr. Robert Huber (co-advisor)
- B.S.** Biology, Universidad Central de Venezuela (2005)
Advisor: Dr. Zaida Tárano and Dr. Luis Levin (co-advisor)

POSITIONS

Postdoctoral Fellow. Department of Ecology & Evolutionary Biology
University of Colorado, Boulder (2018 –)
Mentor: Dr. Rebecca Safran

PUBLICATIONS

Peer reviewed

- Tobin, C., **Medina-García, A.**, Khon, G., and Timothy F. Wright. *In press*. Does audience affect the structure of warble song in budgerigars (*Melopsittacus undulatus*)?
- Medina-García, A.**, Jawor, J., and Wright T.F. 2017. Cognition, personality, and stress in budgerigars, *Melopsittacus undulatus*. *Behavioral Ecology*, **28** (6): 1504-15156
- Medina-García, A.***, Araya-Salas*, M. and Wright, T.F. Does vocal learning accelerate acoustic diversification? Evolution of contact calls in Neotropical parrots. *Journal of Evolutionary Biology*, **28** (10): 1782-1792.
- Sanz, V., L. Oviol, **A. Medina** and R. Moncada. 2010. Avifauna of Nueva Esparta state (Venezuela): Historical inventory and current list with new records of species and reproduction. *Interciencia*, **35**(05): 329-339. (Spanish)

* Contributed equally

In process

Medina-García, A. & Wright T.F. *In prep*. Male budgerigars with higher cognitive abilities sire and raise more offspring.

Other publications (selected)

- Medina García, A.** 2011. Exploring female mate preference for male melanic pigmentation patterns in the Malawian cichlid *Metriaclima zebra*. Master's Thesis in Biology, Bowling Green State University, Bowling Green, Ohio.
- Medina, A.**, Z. Tárano y L. Levin. 2008. Characterization of the threat displays of birds that compete for food. *Memorias del instituto de Biología Experimental*, **5**: 30-34. (Spanish)
- Medina, A.** 2008. Location of leks of *Manacus candei* (Aves, Pipridae) according to food availability. Pp. 177-178 in: *Ecología Tropical y Conservación 2008-02*. Coursebook. OTS (Spanish)
- Medina, A. et al.** 2008. Seasonality, phenology and evolution of defenses in plants. Pp. 195-198 in: *Ecología Tropical y Conservación 2008-02*. Coursebook. OTS (Spanish)
- Medina, A.** 2008. Does water availability affect predation upon *Guazuma ulmifolia* (Sterculiaceae) fruits?. Pp. 223-224 in: *Ecología Tropical y Conservación 2008-02*. Coursebook. OTS (Spanish)
- Medina García, A.** 2005. Coadaptation of aggressive displays in urban birds that visit an artificial feeder. Bachelor's Thesis in Biology, Universidad Central de Venezuela, Caracas, Venezuela. (Spanish)

RESEARCH EXPERIENCE

- Research Assistant**, New Mexico State University. Projects: Glucocorticoids, neural plasticity and adult vocal learning. Role of FoxP2 in neural plasticity subserving adult vocal learning and social integration (2016 – 2017)
- Field Technician**, Virginia Tech. Project: *Effects of coal combustion wastes on reproduction in Tree Swallows* (2012)
- Field Assistant**, Texas Christian University. Project: *Impacts of wind energy development on birds and bats in north-central Texas* (2009)
- Research Assistant**, Instituto de Biología Experimental (Universidad Central de Venezuela). Project: *Analysis of the temporal dynamic and interactions among birds that use artificial feeders in the surroundings of a secondary forest* (2008 – 2009)
- Field Assistant**, Cornell University/UCLA. Project: *Vocal-learning, communication and breeding ecology of the green-rumped Parrotlet (*F. passerinus*)* (2007, 2008)
- Field Assistant / Bander**, University of Montana. Project: *Geographic variation in avian life history traits and parental care behaviors* (2006, 2008)
- Field Assistant**, University of Groningen. Project: *Migration behavior in the ruff (*Philomachus pugnax*)* (2007)

Additional training

- Multi-model Inference* (graduate workshop). New Mexico State University. Instructor: David R. Anderson (Dept. of Fish, Wildlife, and Conservation Biology at Colorado State University) (2015)
- Tropical Ecology and Conservation* (graduate course). University of Costa Rica and Organization for Tropical Studies (2008)

TEACHING EXPERIENCE

- Teaching Assistant**, New Mexico State University. Courses: *Natural History of Life (BIOL 111L)*, *Zoology (BIOL 322L)*, *Physiology of Humans (BIOL 354L)* (2012– 2015)
- Teaching Assistant**, Bowling Green State University. Course: *Concepts in Biology I (BIOL 2040L)* (2009 – 2011)
- Teaching Assistant**, Universidad Central de Venezuela. Courses: *Evolution*, and *Biodiversity Conservation* (2003 – 2005)

Additional experience

- Guest lecture:** *Avian vocalizations*. Course: *Advanced Avian Ecology (FWCE 536)* (2013)

AWARDS, FELLOWSHIPS, GRANTS, AND SCHOLARSHIPS

- National Science Foundation Postdoctoral Fellowship – \$138,000 (2018 – 2020)
- Animal Behavior Society Diversity Travel Award – \$150 (2016, 2017)
- NMSU Biology Graduate Award for Research Excellence – \$1,500 (2017)
- Broadening Participation Travel Award, Society for Integrative and Comparative Biology – \$500 (2017)
- NMSU Biology Graduate Student Travel Award – \$1,500 (2014– 2016)
- NMSU College of Arts and Sciences Graduate Student Travel Award – \$380 (2015)
- Mesilla Valley Audubon Society Richard Bischoff Memorial scholarship – \$1,000 (2013)
- Nason Scholarship, Nason Foundation & NMSU Center for Latin American and Border Studies – \$1,100 (2013)
- Sigma Xi Grants in Aid of Research, Sigma Xi Scientific Research Society – \$400 (2013)
- Stuart Pimm Graduate Student Award for Field Work in Ecology, Biology Dept. NMSU – \$1,400 (2013)
- Post-course fellowship, Organization for Tropical Studies – \$859 (2008)
- Leiden Institute of Biology Scholarship – €8,500 (2008. *Declined*)
- Partial course fellowship, Organization for Tropical Studies – \$3,500 (2007)
- Field equipment (binoculars), American Birding Association (2006)

PRESENTATIONS AND MEETING ABSTRACTS

- Reyes Gallegos, E. †, **Medina-García, A.**, Safran, R. J. Is Boldness a Predictor of Anti-predatory Behavior in the Barn Swallow? The National Diversity in STEM Conference, San Antonio, Texas. October 11 – 13, 2018.
- Hansen, C. †, **Medina-García, A.**, Khon, G., and Timothy F. Wright. Social Networks and Call Sharing in Budgerigar Flocks. American Ornithology Meeting, Tucson, Arizona. April 9 – 14, 2018.
- Medina-García, A.** and Timothy F. Wright. Do female budgerigars choose males based on their cognitive abilities? Oral presentation at the Animal Behavior Society Conference, Toronto, Canada. July 12 – 16, 2017.
- Medina-García, A.** Do females prefer smarter males? An experimental test of female choice for male cognitive abilities in budgerigars. Biology seminar, New Mexico State University. March 16, 2017.
- Medina-García, A.** and Timothy F. Wright. Exploring Female Mate Choice for Cognitive Abilities in Budgerigars. Oral presentation at the Society for Integrative and Comparative Biology, New Orleans, Louisiana. January 04 – 08, 2017.
- Medina-García, A.**, Jawor, J. M. and Timothy F. Wright. Bright or Bold? Personality but not Stress, Affects Responsiveness in Cognitive Tasks in Budgerigars. Oral presentation at the Animal Behavior Society Conference, Columbia, Missouri. July 30 – August 3, 2016. Also presented at the 1st Southwest Brain, Cognition & Vocal Behavior Meeting, Tucson, Arizona. August 13th 2016.
- Apodaca, J. †, Jawor, J. M., Wright, T. F. and **Medina-García, A.** Effects of Corticosterone-Induced Stress on Vocal Learning in the Budgerigar. NMSU Undergraduate Research and Creative Arts Symposium, Las Cruces, New Mexico. April 29th, 2016.
- Boyd, E. †, Sullenger Z. †, **Medina-García, A.**, and Timothy F. Wright. Neophobic Tendencies and their Effect on Social Position within Social Networks of Male Budgerigars. NMSU Biology 30th Biosymposium, Las Cruces, New Mexico. October 1st, 2016.
- Sullenger Z. †, Boyd, E. †, **Medina-García, A.**, and Timothy F. Wright. An exploration of temporal social networks stabilization in the budgerigar (*Melopsittacus undulatus*). NMSU Biology 30th Biosymposium, Las Cruces, New Mexico. October 1st, 2016.
- Hansen, C. †, **Medina-García, A.**, and Timothy F. Wright. Call similarity and strength of social behaviors in Budgerigars (*Melopsittacus undulatus*). NMSU Biology 30th Biosymposium, Las Cruces, New Mexico. October 1st, 2016.
- Medina-García, A.** and Timothy F. Wright. Neophobia Predicts Problem-solving Ability in Budgerigars (*Melopsittacus undulatus*). Poster presented at the Animal Behavior Society Conference, Anchorage, Alaska. June 10 – 15, 2015. Also presented at the NMSU Biology 28th Biosymposium, Las Cruces, New Mexico. October 31st, 2015.
- Tobin, C. †, **Medina-García, A.**, and Timothy F. Wright. Does the Audience Affect the Structure of Warble Song in Budgerigars? Animal Behavior Society Conference, Anchorage, Alaska. June 10 – 15, 2015.
- Medina-García, A.** Testing the relationship among vocal repertoire, general cognitive skills, and reproductive success in parrots. Poster presented at the NMSU Biology 27th Biosymposium, Las Cruces, New Mexico. March 15th, 2014.
- Medina, A.**, M. Araya-Salas, and T. F. Wright. Ecological and anatomical conservatism and the evolution of learned contact calls in Neotropical parrots. Meeting of the Association of Tropical Ecology and Conservation, “New Frontiers in Tropical Biology: The Next 50 Years”, San José, Costa Rica. June 23 – 27, 2013.
- Medina Garcia, A.** and M. van Staaden. Assessing mate preferences via operant conditioning in cichlid fishes. Poster presented at the Joint meeting of the Animal Behavior Society and the International Ethological Conference, Bloomington, Indiana. July 25 – 30, 2011.
- Sanz, V. and **A. Medina.** Update of the avifauna of Coche and Cubagua Islands (Nueva Esparta State). I Ornithological Venezuelan Congress, Barquisimeto, Venezuela. July 23 – 24, 2009. (Spanish)
- Medina G., A.**, L. Levin and Z. Táranó. Threat displays among birds: are they dependent on competitor’s identity? Oral presentation at the VIII Neotropical Ornithological Congress, Maturín, Venezuela. May 13 – 19, 2007.

† Undergraduate student

MENTORING

Undergraduate students:

- Elena DeAndrea (2018 –), Biological Sciences Initiative (BSI) Scholar
- Elizabeth Reyes Gallegos, Summer Multicultural Access to Research Training (SMART) Program (2018)
- Elise Boyd (2015 – 2017)
- Zoe Sullenger (2015 – 2017)
- Clara Hansen, HHMI Research Scholar (2015–2016)
- Arthur Anaya, Natural Resource Career Tracks Program (2014)
- Cole Tobin, HHMI Research Scholar (2013–2015)

PROFESSIONAL AND OUTREACH ACTIVITIES

- Reviewer: *Behavioural Processes*, *Scientific Reports*, *The American Naturalist*, *IBIS*, and *The Wilson Journal of Ornithology*.
- Sierra Middle School, Volunteer assistant for the Science Magnet Program lab exercise, *Sound analysis of parrot calls* (2013, 2015, 2016)
- Translator: *The Wilderness Medicine Handbook*, published by the Wilderness Medicine Training Center (English to Spanish) (2015)
- Mesilla Valley Audubon Society public seminar, *Studying parrot intelligence among anacondas, mosquitoes, and bulls in the Venezuelan Llanos* (2014)
- 3-Minute Thesis Presentation, College of Arts and Sciences, New Mexico State University (2014)
- Southwestern New Mexico Regional Science and Engineering Fair, Science Fair Judge (2013)
- Demonstrations on nest monitoring of the green-rumped parrotlets for elementary school students, Guárico, Venezuela (2007, 2008).
- Consultant: National Institute for Fishing and Aquaculture (INAPESCA). Project: *Inventory of hydrobiological resources of the Bolivarian Republic of Venezuela for aquaculture* (2006)

PROFESSIONAL AFFILIATIONS

- Animal Behavior Society
- Comparative Cognition Society
- The Society for Integrative and Comparative Biology

MAIN SKILLS

Animal behavior: Design of experimental setups and testing, behavioral observations of birds, bird capture, banding, bleeding, morphometric measuring, nest searching and monitoring, recording of vocalizations in the field and the lab, acoustic analyses (using R, Raven, SAP, etc.), parentage analyses, other behavioral analyses (e.g. social networks)

Statistical analyses and programming: Proficiency in R programming (data manipulation, graphing, statistical analyses, model testing, etc.), strong knowledge of statistics, comparative analyses

Lab techniques: ELISA, DNA extractions (blood & tissue), PCR, PCR purification

Lab management: Management and supervision of undergraduate students, coordination of multiple research projects, management of avian captive colonies, writing of IACUC protocols, purchasing, maintenance of experimental equipment

Other: Microsatellite design

Languages: Spanish (native), English (fluent), French (intermediate)