

Rocío Ilíana Ruíz-Cooley

Department of Biological Oceanography, room #213
Center for Scientific Research and Higher Education at Ensenada
Carretera Ensenada-Tijuana 3918, Zona Playitas, CP 22860
A.P. 360, Ensenada, Baja California, México

ruizrc@cicese.mx

Phone: +52 646 175-0500 ext 24249

USA Address:
P.O Box 430222, San Diego, CA
92143-0222, USA

Moss Landing Marine Labs
8272 Moss Landing Rd
Moss Landing, CA 95039
iruizcooley@mlml.calstate.edu

EDUCATION

- **B. Sc. Biology, 1993-1998 (Honors),**
Simon Bolivar University, Mexico City
- **M. Sc. Marine Resources Management, 1999-2002 (Honors)**
Interdisciplinary Center of Marine Sciences - Instituto Politécnico Nacional, La Paz, B.C.S. México.
- **Ph. D. Biology, Evolutionary Ecology, 2004-2009 (Honors)**
New Mexico State University, Las Cruces, New Mexico, U.S.A
- **Postdoctoral Associate, National Research Council, National Academies, 2009-2012**
Protected Resources Division, SWFSC-NMFS-NOAA.
- **Postdoctoral Scientist, University of California Santa Cruz, 2013**
Ocean Sciences Department, University of California Santa Cruz, CA 95064

APPOINTMENTS

- **Assistant Professor**, Biological Oceanography, Ensenada Center for Scientific Research and Higher Education (CICESE), October- Present
- **Research Faculty**, Moss Landing Marine Laboratories, San Jose State University, June 2016-present
- **Adjunct Faculty**, CICESE, June 2016 to September 2019
- **Affiliated Researcher, Marine Mammal and Turtle Division, September, 2012-2016**
Southwest Fisheries Science Center-La Jolla-NMFS, NOAA
- **Project Scientist**. Earth and Planetary Sciences, University of California Santa Cruz, January 2014-January 2016

FELLOWSHIPS AND AWARDS

- National System of Scientists, Mexico, CONACyT, SNI Level 1, 2018-present
- National Research Council, The National Academies; *fellowship 2009*
- New Mexico State University Alumni Association; *Outstanding Senior Award for the College of Graduate School, PhD Program; 2009*
- International Council for Exploration of the Sea; *Travel Award; 2009*

- Minority Biomedical Research Support (MBRS)- Research Initiative for Scientific Enhancement Program; *Fellowship*; 2005-2009
- Advancing Hispanics & Native Americans in Science (SACNAS), Salt Lake City; *Best graduate oral presentation in Marine Biology*; 2008
- Advancing Hispanics & Native Americans in Science; *Travel Award*; 2008
- MBRS- Research Initiative for Scientific Enhancement; *Travel Award*; 2007-2005
- Affiliate to NM Alliance for Graduate Education and the Professoriate; *Fellowship*; 2005-2006
- Associated Students at New Mexico State University; *Travel Award*; 2006
- Biology Department –New Mexico State University; *Travel Award*; 2005, 2006
- Oregon State University- Sperm Whale Seismic Study & Marine Mammal Project; *Travel Award*; 2006
- New Mexico State University, Graduate Student Organization; *Travel Award*; 2006
- Commission on Higher Education Graduate *Fellowship*; 2005
- New Mexico Alliance for Graduate Education and the Professoriate; *Fellowship*; 2004-2005
- New Mexico-Alliance for Graduate Education; *Travel Award*; 2004, 2005
- Graduate Scholarship, Instituto Politecnico Nacional, Institutional Program for Researchers, Mexico; 1999-2002
- Consejo Nacional de Ciencia y Tecnologia, Mexico, *Graduate Scholarship*; 1999-2001
- Simon Bolivar University, Mexico City; *Academic Achievement Honor*; 1996, 1997
- Award Among Universities of Benito Juarez County, Mexico City; *Academic Achievement Award*; 1994
- Simon Bolivar University, Mexico City, *Undergrad Fellowship*, 1993-1997

RESEARCH FUNDING

- CONACyT, Mexico, “The impact of harmful algae blooms (HABs) over food webs: ¿Would the NW Baja California experience more toxic and persistent HABs?” **PI: Ruiz-Cooley**, Co-PI: A. Olivos, E. García Mendoza, \$ 3,116,087 MXP, Project begins in 2021
- Biological Oceanography, CICESE, “Evaluating fractionation in stable isotopes of amino acids to define food web structure”, **PI: Ruiz-Cooley**, ~\$5,000 USD, 2020
- Biological Oceanography, National Science Foundation (declined’ Feb, 2018). Tracking variability in food chain length from the Northeastern Tropical Pacific in response to warming and decline of apex predators. **PI: Ruiz-Cooley**; \$503,744.
- California Sea Grant. Proposal (2018). Domoic acid in marine food webs: a novel approach to trace nitrogen sources and transfer. **PI: Ruiz-Cooley**, Co-Pi: R. Kudela, C. Anderson. \$152,218
- IMS Packard OST Endowment Proposal. *Domoic acid in marine food webs: a novel approach to trace nitrogen sources and transfer*. PI: Clarissa Anderson, **Co-PI Ruiz-Cooley**; \$20,000; 2015
- Biological Oceanography, National Science Foundation. Co-written with PI: P. Koch. *A novel approach for evaluating temporal and spatial changes in trophic Structure of the mesopelagic eastern Pacific*. Note: I serve as co-PI; \$516,441; 2012
- Woods Hole Oceanographic Institution (PI: A. Mooney). *Can squid really hear? Behavior, directional responses and hearing diversity in cephalopods*; \$50,000; 2011
- U.S. Mineral Management Service–Department of Interior; *Trophic aspects of sperm whales in the northern Gulf of Mexico (PI)*; \$52,808; 2006
- MBRS- Research Initiative for Scientific Enhancement Program; \$10,000; 2005-2009
- New Mexico State University- Art & Science Mini-Grant. *Investigation of sperm whale foraging ecology by using stable isotope analyses (PI)*; \$2,000; 2006

PUBLICATIONS, students *

- Nuche-Pascual*, T., **Ruiz-Cooley, R. I.**, & S. Z. Herzka (in review). A meta-analysis of amino acid $\delta^{15}\text{N}$ trophic enrichment factors in fishes relative to nutritional and ecologic. *Ecosphere*.
- Ruiz-Cooley, R. I.**, Gerrodette, T., Chivers, S., & Danil, Kerri (Accepted). Cooperative feeding in common dolphins as suggested by ontogenetic patterns in $\delta^{15}\text{N}$ bulk and amino acids. *Journal of Animal Ecology*
- Matthews, C. J., Ruiz-Cooley, R. I., Pomerleau, C., & Ferguson, S. H. (2020). Amino acid $\delta^{15}\text{N}$ underestimation of cetacean trophic positions highlights limited understanding of isotopic fractionation in higher marine consumers. *Ecology and Evolution*, 10(7), 3450-3462.
- Gong, Yi, L., **R. I. Ruiz-Cooley**, M. E. Hunsicker, Yunkai Li, Xinjun Chen (2018) Sexual niche partitioning and trophic morphology of a pelagic cephalopod. *Marine Ecology Progress Series*. DOI: <https://doi.org/10.3354/meps12768>
- Jackson-Ricketts J.*, **Ruiz-Cooley R. I.**, Junchompoo C., Thongsukdee S, Intongkham A, Ninwat A, Kittiwattanawong K, Hines EM, D. P. Costa. (2018) Diet and Life History of Irrawaddy Dolphins (*Orcaella brevirostris*) in the Gulf of Thailand and the Andaman Sea. *Marine Mammal Science* <https://doi.org/10.1111/mms.12547>
- Nuche-Pascual, M. T.*, J.P. Lazo, **R. I. Ruiz-Cooley** & S. Z. Herzka. (2018) Amino acid-specific $\delta^{15}\text{N}$ trophic enrichment factor in fish fed with formulated diets varying in protein quantity and quality. *Ecology and Evolution*. DOI: 10.1002/ece3.4295
- Ruiz-Cooley R. I.**, Gerrodette T., Fiedler P., Chivers S., Danil, K., & L. T. Ballance. (2017). Temporal variation in pelagic food chain length in response to environmental change, *Science Advances*. 3(10), e1701140, DOI: 10.1126/sciadv.1701140
- Zupcic-Moore J.R.*, **Ruiz-Cooley RI**, Paliza O, Koch PL, McCarthy MD (2017) Using stable isotopes to investigate foraging variation and habitat use of sperm whales from northern Peru. *Mar Ecol Prog Ser* 579:201-212. <https://doi.org/10.3354/meps12281>
- Ruiz-Cooley R. I.**, P. L. Koch, P. Fiedler, M. D. McCarthy (2014). Carbon and nitrogen isotopes from top predator amino acids reveal rapidly shifting biogeochemical cycles in the California Current. *PLOS ONE* 9(10): e110355. doi:10.1371/journal.pone.0110355
- Brault, E.K., P. L. Koch, E. Gier, **R. I. Ruiz-Cooley**, J. Zupcic, K. N. Gilbert, and M. D. McCarthy (2014) Effect of decalcification on accuracy of bulk and compound-specific nitrogen and carbon isotope analyses of dentin. *Rapid communication*. 28 (24): 2744–2752
- Field, J., Litvin, S., Carlisle, A.B., Stewart, J., Gilly, W., & **Ruiz-Cooley, R.I.** (2014). Stable isotope analysis of Humboldt squid prey preferences should be interpreted with caution: Comment on Miller et al. (2013). *Marine Ecology Progress Series* 500: 281-285.
- Ruiz-Cooley R. I.**, L. T. Ballance & M. D. McCarthy (2013). Range expansion of the invasive jumbo squid in the NE Pacific: $\delta^{15}\text{N}$ decrypt multiple origins, migration and habitat use. *PLOS ONE* 8(3): e59651. doi:10.1371/journal.pone.0059651
- Field J. C., C. Elliger, K. Baltz, G. Gillespie, W. F. Gilly, **R. I. Ruiz-Cooley**, D. Pearse, J. Stewart, W. Matsubu & W. Walker (2012) Foraging ecology and movement patterns of the Humboldt squid in the California Current *Deep Sea Research II. Tropical Studies in Oceanography*. 95:37-51
- Ruiz-Cooley, R. I.**, D. T. Engelhaupt & J. G. Ortega-Ortiz (2012). Contrasting C and N isotope ratios from sperm whale skin and squid between the Gulf of Mexico and Gulf of California: effect of habitat. *Marine Biology* doi 10.1007/s00227-011-1795-3
- Ruiz-Cooley, R. I.** & T. Gerrodette (2012). Tracking large-scale latitudinal patterns of $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ along the Eastern Pacific using epi-mesopelagic squid as indicators *Ecosphere* 3(7):63 <http://dx.doi.org/10.1890/ES12-00094.1>

- Ruiz-Cooley, R. I.**, K. Y. Garcia * & E. D. Hetherington* (2011). Effects of lipid removal and preservatives on carbon and nitrogen stable isotope ratios of squid tissues: Implications for ecological studies. *Journal of Experimental Marine Biology and Ecology* 407: 101–107.
- Ruiz-Cooley, R. I.**, E. C. Villa* & W. R. Gould (2010). Ontogenetic variation of $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ recorded in the gladius of the jumbo squid *Dosidicus gigas*: geographic differences. *Marine Ecology Progress Series* 399: 187-198
- Staaf, D., **R. I. Ruiz-Cooley**, C. Elliger, Z Lebaric, B. Campos & W. Gilly (2010). Ommastrephid squids (*Dosidicus gigas* and *Sthenoteuthis oualaniensis*) in the Central and Eastern Pacific show a convergent biogeographic break. *Marine Ecology Progress Series* 418:165-178
- Ruiz-Cooley R. I.** & D. T. Engelhaupt (2010). Trophic Aspects of Sperm Whales (*Physeter macrocephalus*) in the Northern Gulf of Mexico Using Stable Isotopes of Carbon and Nitrogen. Report. U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, LA, OCS Study MMS 2008-000, 21 pp.
- Ruiz-Cooley, R. I.** & U. Markaida (2007). Use of stable isotopes to examine the foraging ecology of jumbo squid *Dosidicus gigas* The Role of Squid in Pelagic Marine Ecosystem, *GLOBEC Report* 24: 62-63 Honolulu, Hawaii, USA.
- Ruiz-Cooley, R. I.**, U. Markaida, D. Gendron & S. Aguiñiga (2006). Stable isotopes in jumbo squid (*Dosidicus gigas*) beaks to estimate its trophic position: comparison between stomach content and stable isotopes. *Journal of the Marine Biological Association of the United Kingdom* 86: 437-445
- Ruiz-Cooley, R. I.**, D. Gendron, S. Aguiñiga & S. Mesnik (2004). Trophic relationship between sperm whales and jumbo squid using stable isotopes of C and N. *Marine Ecology Progress Series* 277:275-283

Thesis and Dissertation

- Ruiz-Castro, R. I.** 1997. Effect of 1-25 dihidroxicolecalciferol on ν -myc expression on rodent uterus. *BS thesis*, Simon Bolivar University, Mexico City, Mexico
- Ruiz-Castro, R. I.** 2002. Trophic relationships between sperm whale and jumbo squid, *Dosidicus gigas*, in the Gulf of California using stable isotopes of C and N. *MS thesis*, Instituto Politécnico Nacional, La Paz, Mexico
- Ruiz-Cooley, R. I.** 2009. Insights into the trophic ecology of sperm whales (*Physeter macrocephalus*) and jumbo squid (*Dosidicus gigas*): geographic variation in stable isotopes. *PhD dissertation*, New Mexico State University, Las Cruces, New Mexico, USA

In Preparation

- M. Y. Rodríguez-Pérez, **R. I. Ruíz-Cooley**, D. Aurióles-Gamboa, L. Sánchez-Velásco, Miguel F. Lavín & J. P. Gallo-Reynoso. Deciphering the trophic niche of the near extinct vaquita (*Phocoena sinus*) and its variability through time. TBD
- Bernstein S., **R. I. Ruiz-Cooley**, R. Kudela, C. Anderson, R. Durkin, J. Field. Stable isotopes reveal variation in domoic acid transfer between habitats and species in a California hot spot of harmful algae blooms. *Harmful Algae*
- Ruiz-Cooley, R. I.** Differentiating population structure and stocks of cetaceans based on their feeding areas. *Ecology*
- Ruiz-Cooley R. I.** & Amanda Hrezo. A new method for age determination and dentin deposition for sperm whales using epifluorescence microscopy *Marine Mammal Science*

- Hochberg F. G., Field J, Van Sommeran S. R, Fritz-Cope C., Gilly W. F., Elliger C. A., Deshpande A. D., Stewart J. S., Zeidberg L. D., **Ruiz-Cooley R.I.**, Arkhipkin A. I., Shcherbich Z. *Architeuthis*: Records of giant squid in the northeastern Pacific Ocean. *PlosONE*
- Ruiz-Cooley, R. I.**, B. Milligan & M. Ballyck. Are sperm whales (*Physeter macrocephalus*) keystone predators? Changes in the population dynamics of cephalopods *Science*
- Garcia-Ruiz V., **R. I. Ruiz-Cooley**, J. P. Gallo. Interspecific competition among predators associated during feeding in the Gulf of California. *Marine Biology*.
- Herzka, S. I., M.T. Nuche-Pascual, **R. I. Ruiz-Cooley**. Variability in the C and N isotope turnover of amino acids as a function of dietary protein and protein to energy ratios in marine fishes

PROFESSIONAL EXPERIENCE

Principal and Co-Principal Investigator

- 'Ecology of the jumbo squid *Dosidicus gigas*' on board the *David Starr Jordan* and *McArthur*. National Oceanographic Atmospheric Administration-SWFSC; 2006
- "The ecology of the jumbo squid" and "The odontocete pelagic food web" on board the *McArthur II* National Oceanographic Atmospheric Administration in the California Current; 2008
- 'Distribution and Abundance of Sperm Whale in the Gulf of California', CICIMAR-IPN in collaboration with Otago University, New Zealand; PI: N. Jacket; 1999

Chair

- International Sperm whale Workshop. 17th Biennial Conference on the Biology of Marine Mammals, Cape Town, South Africa; 2007
- International Workshop on the use of stable isotope analysis of bulk tissue and amino acids to investigate the feeding ecology and population structure of marine mammals, and human impacts on their populations, 21st Biennial Conference on the Biology of Marine Mammals, San Francisco, 2015

Senior Laboratory Manager

- Pre-laboratory of stable isotope analysis at the Protected Resources Division at SWFSC-NOAA; 2009-2010
- Ecological Chemistry, New Mexico State University; 2007, 2008

Other Research and Field Experience

- Guest Scientist for the project: Determination of age to maturity for leatherbacks (*Dermochelys coriacea*) at St Croix, Virgin Islands, USA, (PIs: Peter Dutton and K. Stewart) 2011
- Vice-president; Biology Graduate Student Organization, NMSU, USA; 2007
- Guest Scientist, leader for Squid Research onboard R/V *Melville Cal-Echoes*, SCRIPPS-Exploring California's Ecological Changes and Historical Origins; 2010
- **Certification**; Isotope Ratio Mass Spectrometer (IRMS), Elemental analyzer and TC/EA. Certifications from ISOMASS Co Ottawa University; 2006
- Research Assistant, Biology Department, RISE PROGRAM, 2006-2009
- Marine Mammal Scientist in the northern Gulf of Mexico. Data collection on the research cruise Sperm Whale Seismic Study *Gyre*. Oregon State University; 2004, 2005
- Data and tissue sample collection of marine mammals aboard many different boats and field-works for the project: Distribution and Abundance of Blue Whale in the Gulf of California. Interdisciplinary Center of Marine Science, IPN; 1999-2001

- Stable isotope analysis Laboratory of Biochemical Oceanography, UABC, Ensenada, Mexico; 2000
- Volunteer. Data collection, telemetry and survey support for the project: Distribution and Abundance of Gray Whales in San Ignacio Lagoon, B. C. S. Mexico. University of Baja California Sur, Mexico; 1998
- Research in molecular endocrinology studies of vertebrates Department of Biochemistry and Molecular Biology, Instituto Nacional de Perinatología; 1997-1998
- Research support in cellular and molecular studies of animal physiology. Department of Biochemistry and Molecular Biology, National Institute of Perinatology, Mexico City; 1996-1997
 - Molecular analysis on Malaria (*Plasmodium*); Department of Genetics and Molecular Biology, Centro de Investigación y Estudios Avanzados del IPN, Mexico City, PI Dr. Fidel de la Cruz Hernandez; 1995

TEACHING EXPERIENCE AND ACADEMIC SERVICE

- **Teaching**, New Mexico State University, BIO 322- Zoology Lab, 2004
BIO 322 - Invertebrate Zoology Lab, 2004
BIO 465 - Invertebrate Zoology Lab, 2005
BIO 465 – Lecturer- Invertebrate Zoology, 2005
- **Naturalist**, Identification of marine mammal species and talks about Sea of Cortez Natural History aboard the "Sea lion" ship, Lindblad Expeditions; 2002, 2003
- **Lecturer**, Marine Mammals ecology. Intensive course aboard the sailboat 'California' in the Sea of Cortez, Mexico, Long Island University, N.Y; March 2002
- **Visiting Instructor**, The application of Stable Isotope Analyses to Ecology, Interdisciplinary Center of Marine Science (CICIMAR-IPN); April 2002

Postdoctoral researchers

Alfredo Ordiano, "Estimating mercury concentrations, and ontogenetic changes in diet and habitat in swordfish (*Xiphias gladius*) in the Eastern Pacific", collaborators: L. Lares, O. Sosa-Nishizaki

- **Advisor/co-Advisor**, Advising undergraduate and graduate students at NMSU, NOAA, SCRIPPS, UC-Santa Cruz, UC-Berkley in the USA, and at CICIMAR, UNAM and CICESE in Mexico as follows:

Undergraduate Students Advised

- Sean Pagnon, Environmental Sciences and Management Department, U.C. Berkeley, summer 2015
- Jessie Zupcic-Moore¹, University of California Santa Cruz, 07/2012-2013
- Amanda Hrezo²; San Diego State University; 2010-2012
- Elizabeth Hetherington³; University of San Diego; 2009-2010
- Erika Villa⁴; New Mexico State University; 2007-2009
- Karla Garcia; New Mexico State University; 2007-2009
- Xochitl Garcia; New Mexico State University; 2008-2009
- Valerie Dueñas, A. Ruby Garcia and José C. Campos- Upward Bound Program; New Mexico State University; summer 2008
- Yessenia Sanchez; New Mexico State University; 2007
- Sandy Cervantes; New Mexico State University; 2006

Graduate Students Advised

- Sophie Bernstein, Moss Landing Marine Laboratories, California State University, USA, 2019-

present

- Maria Teresa Nuche Pascual, PhD student, co-advising with S. Herzka and J. P. Lazo, CICESE, 2015-2018
- Antonella Preti, PhD student (co-advising with Graham Pierce), University of Aberdeen- 2013-2016
- Kwasi Gilbert, PhD student (co-Advising with P. L. Koch), UCSC, 2013-2014
- Justine Jackson Ricketts, PhD student (co-advising isotope chapters with Daniel Costa), UCSC, 2013-Present
- Jessie Zupcic-Moore, Master Student, (co-advising with Paul L. Koch), UCSC, 2013- 2016
- Victoria O. Garcia Ruiz, Master student (co-advising with Gallo Reynoso), Universidad Nacional de Mexico (UNAM), 2014-2016
- Tatiana Acosta Pachón, PhD student, Interdisciplinary Center of Marine Science (CICIMAR), Mexico; 2011-2015
- Summer Martin, PhD student-Scripps Institution of Oceanography; summer internship, 2009
- Kim Valentine, President of the San Diego Chapter of the American Cetacean Society; 011-06/2011
- Diana Rodriguez; CICIMAR; Mexico; 2010- 10/2011

Student Presentations

Justine Jackson-Ricketts, **R. I. Ruiz-Cooley**, Ch. Junchompoo, L. Sangsawang, E. M. Hines, and D. P. Costa. Individual variation and dietary overlap with fisheries in an endangered cetacean, the Irrawaddy dolphin (*Orcaella brevirostris*). (**Oral**), Biennial Conference on the Biology of Marine Mammals, Francisco California, December 2015.

Victoria Garcia-Ruiz, **R.I. Ruiz-Cooley**, F. Elloriaga, and J. P. Gallo. (**Oral**) Feeding associations between long-beaked common dolphins (*Delphinus capensis*) and other marine predators in the Gulf of California, Biennial Conference on the Biology of Marine Mammals, Francisco California, December 2015.

Jessie Zupcic-Moore, **R. I. Ruiz-Cooley**, P. Koch and M. McCarthy (**Oral**) Habitat use and diet variability among female sperm whales (*Physeter macrocephalus*) from the Eastern Tropical Pacific: Insights from bulk and compound specific isotope analysis. Biennial Conference on the Biology of Marine Mammals, Francisco California, December 2015.

Tatiana Acosta-Pachon, Dewar H. and **R. I. Ruiz-Cooley**. (**Oral**) Inferring ontogenetic changes in trophic position and migration of swordfish from Hawaii. 9th. ISOECOL. Applications of Stable Isotope Techniques to Ecological Studies, Perth, Australia, 2014.

Amanda L. Hrezo & **R. I. Ruiz-Cooley**. (**Poster**) A new method for age determination of sperm whales (*Physeter macrocephalus*) using epifluorescence microscopy and tooth morphometrics. Marine Mammal Conference, Tampa, FL November 2011

Karla Y. Garcia & **R. I. Ruiz-Cooley**. (**Poster**). *Preservation effects on stable isotope ratios of cephalopod tissues: Implications for trophic studies*. October 2008, SACNAS, Salt Lake City, Utah.

Erika Villa & **R. I. Ruiz-Cooley**. (**Poster**). *Use of gladius to investigate trophic variation of pelagic squids through isotope analysis*. October 2008, SACNAS, Salt Lake City, Utah (**Award for best undergrad poster presentation in Marine Biology**)

Yessenia Sanchez, **R. I Ruiz-Cooley** & W. J. Boecklen. (**Poster**) *Migratory and trophic patterns of the jumbo squid, Dosidicus gigas, in the Eastern Tropical Pacific using beaks*. December 2007, AMPS, Las Cruces, NM, USA

Karla Y. Garcia & **R. I. Ruiz-Cooley**. (**Poster**) *Preservation effects on stable isotope ratios of cephalopod tissues: Implications for trophic studies*. April 2007. Undergraduate Research and Creative Art Symposium, Las Cruces, USA.

Erika Villa & **R. I. Ruiz-Cooley. (Poster)**. *Use of gladius to investigate trophic variation of pelagic squids through isotope analysis*. April- 2007. Undergraduate Research and Creative Art Symposium, Las Cruces, USA.

Karla Y. Garcia & **R. I. Ruiz-Cooley. (Poster)** *Preservation effects on stable isotope ratios of cephalopod tissues: Implications for trophic studies*. March 2007. 19th Bio-Symposium, NMSU, Las Cruces

INVITED ORAL PRESENTATIONS

Seminario de Posgrado en Ecología Marina, CICESE, Mexico, January, 2019

Reconstructing changes in biogeochemical cycles, food webs, and animal migration in relation to climate variability.

Seminario de Posgrado en Ecología Marina, CICESE, Mexico, 2015

Cambios en los ciclos bioquímicos y estructura trófica marina utilizando isótopos estables de aminoácidos en depredadores.

Ocean Sciences Department Seminar, University of California Santa Cruz, CA, 2013

Using Predators $\delta^{13}C$ and $\delta^{15}N$ to Trace Spatial and Temporal Variation in biochemical processes of Nitrogen and Carbon in the E Pacific Ocean.

Environmental Research Division Seminar, Southwest Fisheries Science Center, NOAA, Pacific Grove, USA 2013

From Isotopes to Top Predators: Tracing Temporal Variation in Biochemical Cycling, Food Web Structure and migration of the Jumbo Squid in the California Current

Biology Departmental Seminar, Woods Hole Oceanographic Institution, Woods Hole, MA, USA, 2011

Latitudinal variation of C and N stable isotope ratios in the E Pacific Ocean: Humboldt squid and sperm whales explain the pattern

Ecology Departmental Seminar, Scripps Institution of Oceanography, La Jolla, CA, USA, 2010

Latitudinal variation of C and N stable isotope ratios in the E Pacific Ocean: Humboldt squid and sperm whales explain the pattern

International Sperm Whale Workshop, Biennial Conference on the Biology of Marine Mammals, Cape Town, South Africa, 2007

Geographic population variation of sperm whales in the North Pacific: evidence using isotopic analysis

Sperm Whale Seismic Study Workshop, Oregon State University, Newport, OR, USA, 2006

Trophic aspects of sperm whales in the northern Gulf of Mexico using stable isotopes of C and N: Geographical and interannual variation

International Symposium of Cephalopods from the Eastern Pacific, Lima, Peru, 2005

*Geographic trophic position and migration insights of *Dosidicus gigas* in the eastern Pacific Ocean*

ORAL PRESENTATIONS AT PROFESSIONAL MEETINGS

21st Biennial Conference on the Biology of Marine Mammals, S. Francisco, California, December 2015

Bulk and amino acid stable isotopes reveal a strong geographic structure in the Eastern Pacific population of sperm whales: Implications for understanding population structure and migration

Advanced Stable Isotope Workshop, 21st Biennial Conference on the Biology of Marine Mammals, S. Francisco, California, December 2015

Reconstructing the feeding ecology of sperm whales in Chile during the whaling industry

2014 Ecological Society of America Annual Meeting, Sacramento, California,

Dramatic change in trophic structure in the southern California Bight in response to the 1997-1998 El Niño: 17 years of record from predator $\delta^{15}N$ amino acids

- 20th Biennial Conference on the Biology of Marine Mammals, Dunedin, New Zealand, 2013
Tracing ecosystem variation in biochemical cycling and trophic structure using compound specific isotope analysis on odontocetes
- The 8th International Conference on Applications of Stable Isotope Techniques to Ecological Studies, Brest, France; 2012
Amino acid $\delta^{15}N$ from an apex mammal predator indicate shifts in nitrogen cycling and food web structure in the oceanic California Current
- Association for the Sciences of Limnology and Oceanography Meeting; 2012; Session: Compound-Specific amino acid analysis: a rapidly evolving tool for Ecology, Paleoceanography and Biogeochemical Cycle Research
Paradigms in estimating trophic level using compound specific ^{15}N amino acids: evidence from sperm whales the mesopelagic top predator
- 19th Biennial Conference on the Biology of Marine Mammals, Tampa, FL, USA; 2011
*A 17-year record of stable isotope values for common dolphin (*Delphinus delphis*) indicates changes in nitrogen cycling in the southern California region resulting in different feeding strategies,*
- 7th International Conference on Applications of Stable Isotope Techniques to Ecological Studies, Fairbanks, Alaska, USA; 2010
Latitudinal variation in stable isotopes signatures of the jumbo squid across the E Pacific Ocean
- 5th International Symposium of Pacific squid, La Paz, Mexico; 2010
*Differentiating subpopulations of jumbo squid (*Dosidicus gigas*) based on its feeding area*
- Seminar, Southwest Fisheries Science Center, January & July, USA; 2010
*Temporal Variation in the trophic position of odontocetes from the California Current: pre- and post- *D. gigas* range expansion*
- Cephalopod International Advisory Council, Vigo, Spain, 2009
*Trophic variation of the jumbo squid (*Dosidicus gigas*) revealed through $^{13}C/^{12}C$ and $^{15}N/^{14}N$ along *gladius*: Individual, groups and areas.*
- The 18th Biennial Conference on the Biology of Marine Mammals, Quebec, Canada; 2009
Are sperm whale keystone predators?
- Advancing Hispanics and Native Americans in Science Salt Lake City, UT, USA; 2008
*Geographic Trophic variation of the jumbo squid, *Dosidicus gigas*, in the Eastern Pacific Ocean: Evidence from stable isotopes*
- The Role of Squid in Pelagic Marine Ecosystems, Honolulu, HI, USA; 2006
*Use of stable isotopes to examine the foraging ecology of jumbo squid *Dosidicus gigas**
- Graduate Research and Arts Symposium-New Mexico State University, Las Cruces, NM, USA, 2006
Using stable isotopes to investigate the trophic ecology of free-ranging sperm whales
- Conference of the Mexican Association of Scientists of the Sea of Cortez, Ensenada, Mexico; 2001
Stable isotopes analysis on squid beaks for estimating their trophic position
- International Meeting for Marine Mammal Studies, Ensenada, Mexico; 2001
Trophic relationship between sperm whales & jumbo squid in the Gulf of California using stable isotopes
- 14th Biennial Conference on the Biology of Marine Mammals, Vancouver, Canada; 2001
Trophic relationship between sperm whale and jumbo squid in the Gulf of California using stable isotopes

POSTER PRESENTATIONS

- 17th Biennial Conference on the Biology of Marine Mammals, Cape Town, South Africa, 2007
Geographic trophic variation of sperm whales among large-scale geographic areas
- 24th Information Transfer Meeting, Kenner, Louisiana, USA, 2007

Trophic ecology of sperm whales in the northern Gulf of Mexico using stable isotopes of C & N

REVIEWER FOR:

Deep Sea Research,
ICES Journal of Marine Science,
Fisheries Research,
Frontiers Marine Science
Journal of Fish Biology,
Journal Marine Environmental Science
Journal of the Marine Biological Association of the United Kingdom,
Marine Biology,
Marine Ecology Progress Series,
Marine Mammal Science,
PlosONE,
Polar Biology,
Alaska Sea Grant,
Alaska Coastal Marine Institute,
National Science Foundation
Council on Ocean Affairs, Science & Technology, Graduate Applications

LANGUAGES -Spanish (native language), English