

CAROL A. BEUCHAT, PH.D.

CONTACT DETAILS

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CURRENT POSITIONS

2014 Member, Species Survival Commission (SSC) of Conservation Breeding Specialist Group (CBSG) at the International Union for Conservation of Nature (IUCN)
2013- Visiting Scholar, Division of Genetics, Genomics, and Development, Department of Cell & Molecular Biology, Univ. of Calif. Berkeley
2012- Scientific Director, Institute of Canine Biology
2003- Photographer - specializing in candid photography of show dogs (self-employed)

EDUCATION

1973-76	Occidental College, CA	Biology (Honors)	A.B. (cum laude)
1976-77	Occidental College, CA	Biology	M.A.
1977-82	Cornell University, NY	Physiology; minors in Ecology and Physiological Ecology	Ph.D.

PROFESSIONAL POSITIONS

1982-85	NIH Postdoctoral Research Fellow	Dept. of Physiology, College of Medicine, and Dept. of Ecology and Evolutionary Biology, Univ. of Arizona.
1985-86	Assistant Professor	Dept. of Biology, Colgate University, New York
1986-89	Visiting Assistant Professor	Dept. of Physiology, College of Medicine, Univ. of Arizona
1988-90	Research Associate	Dept. of Ecology and Evolutionary Biology, Univ. of Arizona
1989-90	Research Assistant Professor	Dept. of Physiology, College of Medicine, Univ. of Arizona
1990-97	Associate Professor	Dept. of Biology, San Diego State University
1996	Bodil Schmidt-Nielsen Fellow	Mount Desert Island Biological Laboratory, Maine
1997	Research Fellow	Mount Desert Island Biological Laboratory, Maine
1997-98	Visiting Associate Professor	Dept. of Physiology, and Section of Ecology & Systematics, Cornell University (Sabbatical leave)
1998-00	Honorary Research Professor	Dept. of Zoology, Univ. of Cape Town, South Africa
1998-03	Visiting Research Associate Professor	Dept. of Physiology, College of Medicine, Univ. of Arizona

PROFESSIONAL AFFILIATIONS

1990-95	Research Associate	Hubbs-Sea World Research Institute, San Diego, CA
1990-97	Associate Member	Coastal and Marine Institute, San Diego State Univ.
1993-97	Associate Member	Molecular Biology Institute, San Diego State University

RESEARCH GRANTS

Intramural

1979	\$450	Research Award, Ecology & Systematics, Cornell University
1979	\$225	Sigma Xi, Cornell Chapter: <i>The energetics of an ovoviparous lizard, <u>Sceloporus jarrovi</u>.</i>
1980	\$300	Sigma Xi, Cornell Chapter: <i>Thermoregulatory activities of the lizard, <u>Sceloporus jarrovi</u>.</i>
1980	\$150	Research Award, Ecology & Systematics, Cornell University
1986	\$1,640	Colgate University Research Council Award
1986	\$627	Colgate University Faculty Development Award: <i>Improvement of laboratories in animal Physiology.</i>
1986	\$1,506	Colgate University Sloan Foundation Award: <i>Development of new laboratories in introductory biology.</i>

1990	\$6,000	Biomedical Research Support Grant, University of Arizona: <i>Water and ion balance in hummingbirds</i> . (with Eldon Braun, co-investigator)
1990	\$6,000	Biomedical Research Support Grant, University of Arizona: <i>Urine concentrating ability of the kidney</i> .
1991	\$2,500	Biomedical Research Support Grant, San Diego State University: <i>Mitochondrial metabolism and Na/K ATPase activity in the outer medulla of mammalian kidney</i> .
1991	\$4,190	Research, Scholarship, and Creative Activity Award, San Diego State University: <i>Roles of the kidney and gastrointestinal tract in the regulation of water and energy balance of hummingbirds</i> .
1992	\$2,500	Research, Scholarship, and Creative Activity Award, San Diego State University: <i>Physiological and morphological correlates of muscle atrophy and hypertrophy in eared grebes</i> .
1992	\$3,104	Affirmative Action Faculty Development Program, San Diego State University: <i>Physiological and morphological correlates of muscle atrophy and hypertrophy in eared grebes</i> .
1993	\$3,230	Research, Scholarship, and Creative Activity Award, San Diego State University: <i>Integration of water and energy balance in hummingbirds</i> .
<i>Extramural</i>		
1979	\$400	Theodore Roosevelt Memorial Fund, American Museum of Natural History: <i>The energetics of an ovoviviparous lizard, <u>Sceloporus jarrovi</u></i> .
1979	\$400	Sigma Xi, National Chapter: <i>The energetics of an ovoviviparous lizard</i> .
1980	\$200	Sigma Xi, National Chapter: <i>Thermal and energetic consequences of viviparity in reptiles</i> .
1980	\$340	Gaige Award, American Society of Ichthyologists and Herpetologists: <i>Thermal and energetic consequences of viviparity in reptiles</i> .
1981	\$400	Theodore Roosevelt Memorial Fund, American Museum of Natural History: <i>Thermal and energetic consequences of viviparity in lizards</i> .
1981	\$1,250	Gaige Award, American Society of Ichthyologists and Herpetologists: <i>Thermal and energetic consequences of viviparity in <u>Sceloporus jarrovi</u></i> .
1981	\$5,325	Joseph Henry Fund, National Academy of Sciences: <i>Thermal and energetic consequences of viviparity in lizards</i> .
1981	\$150	Travel Award, American Society of Zoologists: To the annual meeting of the American Society of Zoologists.
1982	\$500	Sigma Xi, National Chapter: <i>Loss of the urinary bladder during postnatal development in a lizard</i> .
1982-84	\$94,000	National Science Foundation (with E.J. Braun and D. Vleck as co-principal investigators): <i>Osmoregulation in reptiles</i> . (DEB 82-02880)
1982-85	\$52,284	National Institutes of Health, National Research Service Award: Postdoctoral Fellowship (AM07063-03) <i>Function and adaptive significance of the urinary bladder in neonatal and adult lizards</i> .
1985-89	\$175,000	National Science Foundation: <i>Roles of the mesonephric and metanephric kidneys in osmoregulation of lizards</i> . (DCB 85-10632/ DCB 88-96203)
1986	\$24,000	National Science Foundation: Joint Equipment Request, Colgate University - Scintillation Counter (BBS 86-12287)
1989	\$3,500	Arizona Kidney Foundation: <i>Medullary thickness and urine concentrating ability in mammals</i> .
1990-92	\$180,000	National Science Foundation, Visiting Professorships for Women: <i>Kidney function in lizards</i> . (RII 9003021)
1991-92	\$8,750	National Science Foundation: Research Experiences for Undergraduates Supplement, <i>Kidney function in lizards</i> . (HRD 9003021)
1992-94	\$49,616	National Science Foundation Career Advancement Award: <i>Integration of water and energy balance in hummingbirds</i> . (IBN 9210007)
1992	\$4,000	National Science Foundation: Research Experiences for Undergraduates Supplement, <i>Kidney function in lizards</i> . (HRD 9003021)

1992	\$7,500	National Science Foundation: Research Experiences for Undergraduates Supplement, <i>Integration of water and energy balance in hummingbirds</i> . (IBN 9210007)
1993-96	\$237,975	National Science Foundation: <i>Integration of water and energy balance in hummingbirds</i> . (IBN 9307024)
1996	\$8,000	Bodil Schmidt-Nielsen Fellow, Mount Desert Island Biological Laboratory, Maine
1996-97	\$94,500	National Science Foundation: <i>Integration of water and energy balance in hummingbirds</i> . (IBN 9514351)
1997	\$5,000	National Science Foundation: Research Experiences for Undergraduates Supplement, <i>Integration of water and energy balance in hummingbirds</i> . (IBN 9514351)
1997	\$10,000	Young Investigator Award, Mount Desert Island Biological Laboratory, Maine.
1999-00	\$183,208	National Science Foundation (POWRE): <i>Structural specializations of protea flowers and their role in the biology of African sugarbirds: a solution to dilution?</i> (IBN 9973921)

Grants Awarded to Students for Research in My Laboratory

1985	\$500	Jonathan Trecker, senior, Colgate University: <i>Effect of neurohypophyseal hormones on permeability of the saurian urinary bladder</i> . (Society of Sigma Xi)
1986	\$300	Philip Bolton, junior, Colgate University: <i>Scanning and transmission electron microscopy of the saurian urinary bladder</i> . (Society of Sigma Xi)
1987	\$300	Philip Bolton, senior, Colgate University: <i>Studies of mucociliary transport and urinary acidification in the saurian urinary bladder</i> . (Society of Sigma Xi)
1987	\$550	Bruce Goldsmith, senior, Colgate University: <i>Fever maintenance and survivorship of pregnant lizards and their offspring</i> . (Society of Sigma Xi)
1991	\$325	Scott Medler, Master's candidate, San Diego State University: <i>Glomerular filtration rate in hummingbirds</i> . (Society of Sigma Xi)
1991	\$300	Scott Medler, Master's candidate, San Diego State University: <i>Glomerular filtration rates in hummingbirds</i> . (Instructionally Related Activities Fund, College of Sciences, San Diego State University)
1991	\$350	Lori Jackintell, Master's candidate, San Diego State University: <i>Effects of habitat on the urine concentrating ability of birds</i> . (Society of Sigma Xi)
1991	\$474	Robert Espinoza, Master's candidate, San Diego State University: <i>The influence of temperature on digestive physiology in herbivorous and carnivorous lizards</i> . (Chicago Herpetological Society)
1991	\$400	Laine Muir, senior, San Diego State University: <i>Ontogenetic changes in kidney function in <i>Sceloporus jarrovi</i></i> . (Instructionally Related Activities Fund, College of Sciences, San Diego State University)
1992	\$400	Rebecca Bailey, Master's candidate, San Diego State University: <i>Urine concentrating ability in marine mammals</i> . (Society of Sigma Xi)
1992	\$622	Rebecca Bailey, Master's candidate, San Diego State University: <i>Urine concentrating ability in marine mammals</i> . (Lerner Gray Fund for Marine Research)
1992	\$350	Robert Espinoza, Master's candidate, San Diego State University: <i>The relationship of temperature, diet, and biogeography in lizards</i> . (Society of Sigma Xi)
1992	\$375	Martin Nackman, Master's candidate, San Diego State University: <i>The influence of sodium transport on urine concentrating ability in mammalian kidneys</i> . (Society of Sigma Xi)
1993	\$375	Rebecca Bailey, Master's candidate, San Diego State University: <i>Physiological changes over the course of dehydration in the white rat</i> . (Society of Sigma Xi)
1993	\$375	Madelyne Brooker, Master's candidate, San Diego State University: <i>The effects of dehydration on renal cellular metabolism</i> . (Society of Sigma Xi)
1993	\$375	Martin Nackman, Master's candidate, San Diego State University: <i>Changes in the renal sodium pumps due to water deprivation in the white rat</i> . (Society of Sigma Xi)
1993	\$375	Robert Espinoza, Master's candidate, San Diego State University: <i>The influence of diet quality on circadian patterns of thermoregulation in the desert iguana (<i>Dipsosaurus dorsalis</i>)</i> . (Society of Sigma Xi)
1993	\$500	Robert Espinoza, Master's candidate, San Diego State University: <i>The influence of diet quality on circadian patterns of thermoregulation in the desert iguana (<i>Dipsosaurus dorsalis</i>)</i> . (San Diego Herpetological Society)

1994 \$450 Donna Folk, Master's candidate, San Diego State University: *Intestinal microflora of Anna's hummingbird*. (Society of Sigma Xi)

AWARDS, HONORS, AND FELLOWSHIPS

1972 Award for Writing, National Council of Teachers of English
 1976 Elected Member, Beta Beta Beta Biological Honor Society
 1976 \$1,860 Richter Fellow, Occidental College
 1976 Graduated with Honors in Biology, Occidental College
 1977 University of California Regents Fellowship (awarded and declined)
 1977 Brooks Award for Outstanding Student Research, Beta Beta Beta Biological Honor Society
 1979 Elected Member, Honor Society of Sigma Xi
 1979 \$800 Cornell University Graduate Summer Research Fellowship
 1980 \$3,500 Cornell University Graduate Fellowship for Outstanding Teaching
 1980 \$800 Cornell University Graduate Summer Research Fellowship
 1980 Cornell University Graduate Fellowship for Outstanding Teaching
 1981 Charles H. Baker Essay Award, Cornell University Sigma Xi
 1982-85 \$52,284 NIH Postdoctoral Fellow: National Research Service Award
 1996 \$8,000 Bodil Schmidt-Nielsen Fellow, Mount Desert Island Biological Laboratory, Maine
 1997 \$10,000 Young Investigator Award, Mount Desert Island Biological Laboratory, Maine

TEACHING EXPERIENCE

1977-81 Cornell University
 Introductory Biology (Laboratory)
 Mammalogy (Laboratory)
 Introductory Auto-tutorial Biology (Laboratory)
 The Vertebrates (Laboratory)

1982-85 University of Arizona
 Physiology (for Engineering Majors): Renal Physiology (Lectures and Laboratory)
 Physiology (for Medical Students): Renal and Cardiac Physiology (Laboratory)

1985-86 Colgate University
 Introductory Biology (lectures and laboratory)
 Animal Physiology (lectures and laboratory)
 Research Tutorial in Animal Energetics
 Research Tutorial in Environmental Physiology
 Independent Study in Physiology

1989 University of Arizona
 Physiology (for Pharmacy students): Renal Physiology (lectures)
 Physiology (for Physiology graduate students): Renal Physiology (lectures)
 Career Skills for Scientists (graduate seminar)

1990- San Diego State University
 Human Systems Physiology: Renal Function (lectures)
 Topics in Comparative Physiology (lectures and discussion)
 Animal Physiology (lectures)
 Special Studies (supervised undergraduate research)
 Biology of Animals (laboratory; General Education course for non-majors)
 How Animals Work (lectures; General Education course for non-majors)
 Physiology of Diving (lectures and discussion)
 Ecology Graduate Seminar: Biophysical Ecology (lectures and discussion)
 Ecology Graduate Core Course: Introduction to Ecological Field Research (Coordinator; field trips, discussion, current literature)
 Classics in Ecology and Evolution (reading group)
 Topics in Ecology and Evolution (reading group)
 Career Skills for Scientists: Grantsmanship, Preparing a Poster, Preparing a CV (workshops)

1996 Coast Telecourses: Coastline Community College
 Cycles of Life: Digestion and Fluid Balance (3 segments of introductory biology telecourse for educational TV)

OTHER PROFESSIONAL ACTIVITIES***Professional Societies and Organizations***

American Association for the Advancement of Science
 American Ornithologist's Union
 American Physiological Society
 American Society of Ichthyologists and Herpetologists
 Ecological Society of America
 Society for Integrative and Comparative Biology (formerly the American Society of Zoologists)
 Society of Sigma Xi

Journal Referee

American Journal of Physiology
American Midland Naturalist
Australian Journal of Zoology
Copeia
Ecology
Herpetologica
Journal of Experimental Biology
Journal of Herpetology
Physiological Zoology
Science
South African Journal of Zoology

Grant Proposal Referee

The Research Corporation
 The National Science Foundation:
 Physiological Processes (Regulatory Biology)
 Ecology and Environmental Physiology
 Ecological and Evolutionary Physiology
 Metabolic Biology
 Division of International Programs
 Developmental Biology
 Physiology and Behavior

Committees and Service***Intramural***

1979	Search Committee (Mammalogist)	Cornell University
1980	President, Graduate Student Association (Department of Ecology & Systematics)	Cornell University
1984-85	Seminar Committee, Physiology	University of Arizona
1985-87	Science Colloquium Committee	Colgate University
1986	Search Committee (Molecular Biologist)	Colgate University
1991	Compensation Evaluation Committee, Ecology	San Diego State University
1991-	Sigma Xi grant writing workshops (periodically)	San Diego State University
1992	Howard Hughes Project: Special Studies Advisor	San Diego State University
1992	Library Committee, Biology	San Diego State University
1993	Ecology Long-Term Planning Committee (chair)	San Diego State University
1994	Graduate Ecology Core Course Committee (chair)	San Diego State University
1995-	Council of Principal Investigators, College of Science	San Diego State University
1995-96	Graduate Curriculum Committee, Ecology	San Diego State University

Extramural

1984	Judge, Student papers in Ecology, Annual Meeting	American Society of Zoologists
1986-89	Committee to Ensure Equal Opportunity	American Society of Zoologists
1990	Judge, Scholander Award, Annual Meeting	American Physiological Society
1990	Co-chair: Contributed Paper Session, Div. of Comp. Physiol. & Biochem. - <i>Renal Function and Osmotic / Ionic Regulation</i>	American Society of Zoologists
1992	Judge, Scholander Award, Annual Meeting	American Physiological Society
1992-94	Treasurer	San Diego Chapter of Sigma Xi
1993-1997	Secretary, Comparative Physiology Section	American Physiological Society
1993-1997	Steering Committee, Comparative Physiology Section	American Physiological Society
1997	Judge, Scholander Award, Annual Meeting	American Physiological Society

TRAINING CERTIFICATIONS

1983-	Radiation Protection and Safety (periodic renewal)
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- 1989- Laboratory Safety (periodic renewal)
 1989- Animal Care and Use Training: Laws and Regulations (periodic renewal)
 1989 SCUBA: Advanced Open Water Diver; Specialty Certifications: Research Diver, Night Diver, Equipment Specialist, Underwater Navigation

OTHER EXPERIENCE

Student Participant

- 1972 Dr. M. Singer (University of Washington), director; National Science Foundation Student Science Training Program (Study of a climal sequence of soils in Snohomish County, WA)

Field Assistant

- 1976 Dr. M.L. Morton (Occidental College), director; Sierra Nevada Field Station (Ecology of the Yosemite Toad)
 1978 Dr. F.H. Pough (Cornell University), director; Puerto Rico (Physiology of sibling frog species)

Curatorial Assistant

- 1975-77 Moore Laboratory of Zoology Ornithological Museum, Occidental College

Consultant

- 1981 To Lincoln Brower (University of Florida) and the Governor of Michoacan, Mexico (Habitat requirements and physiology of overwintering Monarch butterflies in Central Mexico)
 1990-5 Hubbs-Sea World Research Institute, San Diego, CA (Physiology of Marine Vertebrates)

DISSERTATIONS

- M.A. Dissertation: The influence of ambient temperature on diurnal rhythms of body weight, activity, and feeding frequency in hummingbirds. Advisor: Martin L. Morton, Professor of Biology, Occidental College
 Ph.D. Dissertation: Physiological and ecological consequences of viviparity in a lizard. Advisor: F. Harvey Pough, Professor of Physiology, and Professor of Ecology & Systematics, Cornell University. Minors: Ecology, Physiological Ecology

PUBLICATIONS

Original Papers

- Beuchat, C.A., S.B. Chaplin, and M.L. Morton. 1979. Ambient temperature and the daily energetics of two species of hummingbirds, *Calypte anna* and *Selasphorus rufus*. *Physiological Zoology* 52: 280-295.
 Blackburn, D.G., L.J. Vitt, and C.A. Beuchat. 1984. Eutherian-like reproductive specializations in a viviparous reptile. *Proceedings of the National Academy of Sciences* 81: 4860-4863.
 Beuchat, C.A., F.H. Pough, and M.M. Stewart. 1984. Response to simultaneous hydric and thermal stress by three species of Puerto Rican frogs. *Journal of Comparative Physiology B* 154: 579-585.
 Taigen, T.L. and C.A. Beuchat. 1984. Anaerobic threshold of anuran amphibians. *Physiological Zoology* 57: 641-647.
 Ellner, S.P. and C.A. Beuchat. 1984. A model of optimal thermoregulation during gestation by *Sceloporus jarrovi*, a live-bearing lizard. Pp. 15-28 In: *Mathematical Ecology. Proceedings, Trieste 1982 (Lecture Notes in Biomathematics, Vol. 54)*. S.A. Levin and T.G. Hallam, editors. Springer-Verlag, New York.
 Beuchat, C.A., E.J. Braun, and D. Vleck. 1985. An ephemeral urinary bladder in neonatal lizards. *Herpetologica* 41: 282-286.
 Beuchat, C.A. 1986. Phylogenetic distribution of the urinary bladder in lizards. *Copeia* 1986: 512-517.
 Beuchat, C.A. 1986. Reproductive influences on the thermoregulatory behavior of a live-bearing lizard. *Copeia* 1986: 971-979.
 Beuchat, C.A., D. Vleck, and E.J. Braun. 1986. Role of the urinary bladder in osmotic regulation of neonatal lizards. *Physiological Zoology* 59: 539-551.
 Beuchat, C.A. and S. Ellner. 1987. A quantitative test of life history theory: thermoregulation by a viviparous lizard. *Ecological Monographs* 57: 45-60.
 Beuchat, C.A. 1988. Temperature effects during gestation in a viviparous lizard. *Journal of Thermal Biology* 13: 135-142.
 Beuchat, C.A. and E.J. Braun. 1988. Allometry of the kidney: implications for the ontogeny of osmoregulation. *American Journal of Physiology* 255 (Regulatory, Integrative and Comparative Physiology 24): R760-R767.

- Beuchat, C.A. 1989. Patterns and frequency of activity in a high altitude population of the iguanid lizard, *Sceloporus jarrovi*. *Journal of Herpetology* 23: 152-158.
- Beuchat, C.A. and D. Vleck. 1990. Metabolic consequences of viviparity in a lizard, *Sceloporus jarrovi*. *Physiological Zoology* 63: 555-570.
- Beuchat, C.A. 1990. Metabolism and the scaling of urine concentrating ability in mammals: resolution of a paradox? *Journal of Theoretical Biology* 143: 113-122.
- Beuchat, C.A. 1990. *Invited Commentary*: Body size, medullary thickness, and urine concentrating ability in mammals. *American Journal of Physiology (Regulatory, Integrative and Comparative Physiology)* 258: R298-R308.
- Beuchat, C.A., W.A. Calder, and E.J. Braun. 1990. *Invited Perspectives in Physiological Zoology*: Integration of osmoregulation and energy balance in hummingbirds. *Physiological Zoology* 63: 1059-1081.
- Bolton, P.M. and C.A. Beuchat. 1991. Cilia in the urinary bladder of amphibians and reptiles: a correlate of urate production? *Copeia* 1991: 709-715.
- Carpenter, F.L., M.A. Hixon, C.A. Beuchat, R.W. Russell, and D.C. Paton. 1993. Biphase mass gain in migrant rufous hummingbirds: body composition changes, use of torpor, and ecological significance. *Ecology* 74: 1173-1182.
- Sweeney, T.E. and C.A. Beuchat. 1993. *Editorial Review*: Limitations of methods of osmometry: measuring the osmolality of biological fluids. *American Journal of Physiology* 264: R469-R480.
- Beuchat, C.A. 1993. The scaling of concentrating ability in mammals. Pages 259-279. In: *New Insights in Vertebrate Kidney Function*. J.A. Brown, R.J. Balment, and J.C. Rankin, eds. Cambridge University Press.
- Beuchat, C.A. 1996. Structure and concentrating ability of the mammalian kidney: correlations with habitat. *American Journal of Physiology (Regulatory, Integrative and Comparative Physiology)* 271: R157-R179.
- Preest, M.R. and C.A. Beuchat. 1997. Ammonia excretion by hummingbirds. *Nature* 386:561-562.
- Beuchat, C.A. and C.R. Chong. 1997. Blood glucose levels in hummingbirds. *Bulletin of the Mount Desert Island Biological Laboratory* 36:102-103
- Beuchat, C.A. 1998. Allometric scaling laws in biology. (Letter) *Science* 278: 371-373.
- Casotti, G., E.J. Braun, and C.A. Beuchat. 1998. Morphology of the kidney in a nectarivorous bird, the Anna's hummingbird (*Calypte anna*). *Journal of Zoology* 244: 175-184.
- Beuchat, C.A. and C.R. Chong. 1998. Hyperglycemia in hummingbirds and its consequences for hemoglobin glycation. *Comparative Biochemistry and Physiology* 120A: 409-416.
- Beuchat, C.A. 1998. Urinary concentrating ability of a nectarivorous bird, the ruby-throated hummingbird. *Bulletin of the Mount Desert Island Biological Laboratory* 37: 77-78.
- Beuchat, C.A. 1999. Kidney structure of a euryhaline mammal, the Cape clawless otter. *South African Journal of Zoology* 34: 163-165.
- Beuchat, C.A., M.R. Preest, and E.J. Braun. 1999. Glomerular and medullary architecture of the kidney of Anna's hummingbird. *Journal of Morphology* 240: 95-100.
- Williams, E.E., B.S. Stewart, C.A. Beuchat, G.N. Somero, and J.R. Hazel. 2001. Hydrostatic pressure and temperature effects on the molecular order of erythrocyte membranes from deep-, shallow-, and non-diving mammals. *Canadian Journal of Zoology* 79: 888-894.
- Beuchat, C.A. 2002. Kidney, Structure and Function. In: *Encyclopedia of Marine Mammals*. W.F. Perrin, B. Wursig, and J.G.M. Thewissen. Elsevier Press.
- Preest, M.R., D.G. Folk, and C.A. Beuchat. 2003. Decomposition of nitrogenous compounds by intestinal bacteria in hummingbirds. *Auk* 120: 1091-1101.
- Lacy, R.C. and C.A. Beuchat. 2012. Managing the genetic health of the Basenji population. *The Basenji* May/June: 10-13.

Published Abstracts

- Beuchat, C.A. 1980. Temperature regulation in the live-bearing lizard, *Sceloporus jarrovi*. *American Zoologist* 20: 734.
- Beuchat, C.A., D. Vleck, and E.J. Braun. 1981. Urinary bladders in lizards: ontogenetic changes in structure and function. *American Zoologist* 21: 1031.
- Beuchat, C.A., E.J. Braun, and D. Vleck. 1982. An ephemeral urinary bladder in neonatal lizards: a water store for survival? *The Physiologist* 25: 227.

- Beuchat, C.A. and S.P. Ellner. 1984. A model of optimal thermoregulation during gestation in *Sceloporus jarrovi*, a live-bearing lizard. *American Zoologist* 24: 142A.
- Vleck, D. and C. Beuchat. 1984. Maternal investment in a viviparous lizard: costs of pregnancy in *Sceloporus jarrovi*, a live-bearing lizard. *American Zoologist* 24: 138A.
- Beuchat, C.A. and E.J. Braun. 1985. Allometry of the saurian kidney: implications for the ontogeny of osmoregulation in amniote vertebrates. *The Physiologist* 28: 367.
- Bolton, P. and C.A. Beuchat. 1986. Electron microscopy of ciliated cells in the urinary bladder of lizards. *American Zoologist* 26: 116A.
- Beuchat, C.A. 1989. Renal structure, body size, and the urine concentrating ability of mammals. *American Zoologist* 29: 105A.
- Beuchat, C.A. 1990. Factors influencing the scaling of renal structure and urinary concentrating ability in mammals. *The Physiologist* 33:A-113.
- Beuchat, C.A. 1990. Why can mammals concentrate their urine better than birds? *American Zoologist* 30: 124A.
- Medler, S. and C. Beuchat. 1991. Measurement of glomerular filtration rate in conscious hummingbirds. *American Zoologist* 31: 44A.
- Beuchat, C.A. 1992. Predicting the urinary concentrating ability of the mammalian kidney. *American Zoologist* 32: 32A.
- Prest, M.R. and C.A. Beuchat. 1994. Nitrogen excretion in hummingbirds: ammonotelic in a bird? *The Physiologist* 37: A-53.
- Williams, E.E., G.N. Somero, J.R. Hazel, C.A. Beuchat, and B.S. Stewart. 1994. Fluidity, composition and Na^+/K^+ -ATPase activity of cell membranes from diving mammals. *The Physiologist* 37: A58.
- Prest, M.R. and C.A. Beuchat. 1994. Forms of nitrogen excretion in a nectarivore. *Journal für Ornithologie* 135: 80.
- Braun, E.J., G. Casotti, and C.A. Beuchat. 1997. Kidney morphology in Anna's hummingbird. *FASEB Journal* 11: A94.
- Beuchat, C.A. and C.R. Chong. 1997. Hyperglycemia in hummingbirds: implications for hummingbird ecology and human health. *FASEB Journal* 11.
- Casotti, G. and C.A. Beuchat. 1997. The tongue of the Anna's hummingbird. *American Zoologist* 37: 59A.
- Van Tets, I.G., C.A. Beuchat, S.W. Nicolson. 2001. Is the ability of small rodents to dilute their urine linked to their concentrating ability? Chobe 2001, Second International Conference of Comparative Physiology and Biochemistry in Africa, Botswana 18-24 August, 2001.