

## Christopher James Clark, Ph.D.

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### Employment:

2011-present Postdoctoral Associate, Peabody Museum of Natural History, Yale University. Advisor: Richard Prum  
2009-2011 Donnelley Postdoctoral Associate, Yale Institute of Biospheric Studies, Yale University. Advisor: Richard Prum

### Education

2003 - 2009 Museum of Vertebrate Zoology, University of California, Berkeley. Ph.D. in Integrative Biology. Advisor: Robert Dudley.  
1997 - 2001 Washington State University, B.S. in Zoology. Advisor: Hubert Schwabl.

### Grants and Fellowships

2009-2012 NSF IOS-090353, "Mechanics and Evolution of Tonal Sounds Produced by Feathers". PI: Richard Prum (\$448,964).  
2009 Donnelley Postdoctoral Fellowship for research in biodiversity (2 years)  
2006 Joseph Maillard Fellowship for work in ornithology (1 semester)  
2004 American Ornithologist's Union Research Award (\$1800)  
2004, '07 AMNH Frank M. Chapman Research Grant (\$2000)

### Awards

2009 Outstanding Graduate Student Instructor Award (Dept. of Integrative Biol.)  
2009 Teaching Effectiveness Award (Graduate Division, UC Berkeley)  
2006 Lynds Jones Prize for best student poster, North American Ornithological Congress, Oct. 3-7, Veracruz, Mexico.

### Peer-reviewed Publications

16. Clark, C. J., Feo, T. J., and Bryan, K. B. 2012. Courtship displays and sonations of a male Broad-tailed × Black-chinned Hummingbird Hybrid (*Selasphorus platycercus* × *Archilochus alexandri*). *Condor*, in press.
15. Clark, C. J., Elias, D., and Prum, R. O. 2011. Aeroelastic flutter produces hummingbird feather songs. *Science*, 333: 1430-1433.
14. Clark, C. J. 2011. Wing, tail, and vocal contributions to the complex signals of a courting Calliope Hummingbird. *Current Zoology*, 57: 187-196.
13. Clark, C. J., Feo, T. J. and Escalante, I. 2011. Courtship displays and natural history of the Scintillant (*Selasphorus scintilla*) and Volcano (*S. flammula*) hummingbirds. *Wilson J. Ornith.*, 123: 218-228.
12. Feo, T. J.\* and Clark, C. J. 2010. The displays and mechanical sounds of the Black-chinned Hummingbird (Trochilidae: *Archilochus alexandri*). *Auk*, 127: 787-796.

\* undergraduate coauthor

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11. Clark, C. J. 2010. Effects of tail length on an escape maneuver of the Red-billed Streamertail. *J. Ornith.*, 152: 397-408. DOI: 10.1007/s10336-010-0550-8.
10. Clark, C. J. and Dudley, R. 2010. Hovering and forward flight energetics in Anna's and Allen's Hummingbirds. *Physiol. Biochem. Zool.* 83: 654-662. DOI: 10.1086/653477
9. Brennan, P. L. R., Clark, C. J. and Prum, R. O. 2010. Explosive eversion and functional morphology of the waterfowl penis supports sexual conflict in genitalia. *Proc. R. Soc. Lond. B*, 277: 1309-1314. doi: 10.1098/rspb.2009.2139.
8. Clark, C. J. 2010. The evolution of tail shape in hummingbirds. *Auk*, 127: 44-56.
7. Clark, C. J. and Feo, T. J.\* 2010. Why do *Calypte* hummingbirds "sing" with both their tail and their syrinx? An apparent example of sexual sensory bias. *Am. Nat.*, 175: 27-37.
6. Clark, C. J. 2009. Courtship dives of Anna's Hummingbird offer insights into flight performance limits. *Proc. R. Soc. Lond. B*. 276: 3047-3052.
5. Clark, C. J. and Dudley, R. 2009. Flight costs of long, sexually selected tails in hummingbirds. *Proc. R. Soc. Lond. B*. 276: 2109-2115.
4. Clark, C. J. 2008. Fluttering wing feathers produce the flight sounds of male streamertail hummingbirds. *Biology Letters*, 4: 341-344.
3. Clark, C. J. and Feo, T. J.\* 2008. The Anna's Hummingbird chirps with its tail: a new mechanism of sonation in birds. *Proc. R. Soc. Lond. B*. 275: 955-962.
2. Tobalske, B. W., Warrick, D. R., Clark, C. J., Powers, D. R., Hedrick, T. L., Hyder, G. & Biewener, A. A. 2007. Three-dimensional kinematics of hummingbird flight. *J. Exp. Biol.*, 210: 2368-2382.
1. Clark, C. J. 2006. Observations on the Vervain Hummingbird's (*Mellisuga minima*) display dive and territorial behavior. *Ornitologia Neotropical* 17: 403-408.

### Other Publications

- Clark, C. J., and Russell, S. M. 2012. Anna's Hummingbird (*Calypte anna*) [revision]. The Birds of North America # 226 (Alan Poole, Ed.). Cornell Lab of Ornithology, Ithaca, NY.
- Clark, C. J. 2011. Scintillant Hummingbird (*Selasphorus scintilla* Gould), Neotropical Birds Online (T. S. Schulenberg, Ed.). Ithaca: Cornell Lab of Ornithology; retrievable from: [http://neotropical.birds.cornell.edu/portal/species/overview?p\\_p\\_spp=281496](http://neotropical.birds.cornell.edu/portal/species/overview?p_p_spp=281496)
- Clark, C. J. 2009. Vervain Hummingbird (*Mellisuga minima* Linnaeus), Neotropical Birds Online (T. S. Schulenberg, Ed.). Ithaca: Cornell Lab of Ornithology; retrievable from: [http://neotropical.birds.cornell.edu/portal/species/overview?p\\_p\\_spp=25694](http://neotropical.birds.cornell.edu/portal/species/overview?p_p_spp=25694)

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Altshuler, D. L., and Clark, C. J. 2003. Darwin's Hummingbirds [Perspective]. *Science*, 300: 588-589.

### Pending Publications

Clark, C. J. The role of power versus energy in courtship: what is the “energetic cost” of a courtship display? Resubmitted to *Animal Behavior* Jan. 30, 2012.

Clark, C. J., Feo, T. J. and van Dongen, W. Songs and courtship displays of Peruvian Sheartail, Chilean Woodstar, Oasis Hummingbird and a Peruvian Sheartail × Chilean Woodstar hybrid. In prep, target: *Condor or similar*

### Selected Press Coverage

2011 *New York Times, Discover Magazine, Wired Magazine, msnbc.com, Australian Geographic, Der Standard, Geek.com, Berkeley Daily Planet, earthsky.org (NPR), LiveScience.com, National Wildlife magazine, Swiss public radio,*

2010 *PBS Nature (“Hummingbirds: Magic in the Air”), Yale Alumni Magazine*

2009 *Nature; Cage & Aviary Birds; The Daily Californian; Harper's Magazine; Science News; BBC News; National Geographic; As It Happens (CBC radio); National Geographic; Scientific American; Science; Irish Public Radio; Brink (CBS Discovery Science Channel); CBS News; BBC Wildlife; Yes Magazine; Anchorage Daily News*

2008 *Science; BBC News; National Geographic News; New Scientist; Quirks and Quarks (CBC science news radio); Discovery News; LiveScience; DDP; London Daily Telegraph; COSMOS Magazine; ABC Channel 7 News; San Francisco Chronicle; Current Biology; Australian Broadcasting Corporation; New York Times; The Daily Californian; Discovery Channel; Nature; Popular Science; Birding Magazine; KNOW magazine; GEO magazine; Audubon Magazine; Berkeley Science Review; California Magazine*

2007 *Science News; BBC Natural History Magazine*

### Invited Presentations:

2011 Arlington (MA.) Bird Club (April 27)  
Yale Institute for Biospheric Studies (April 14)  
Columbia University Population Biology Seminar (Feb. 28)  
Western CT Bird Club (Jan)

2010 Cornell Lab of Ornithology (Nov. 15)  
Yale Institute for Biospheric Studies (Nov. 19)  
Concord Field Station, Harvard University (Dec. 2)

2009 New Haven Bird Club

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### **Service**

Reviewer:

General: *Proceedings of the Royal Society of London B* (×4), *Biology Letters* (×1)

Behavior: *Animal Behaviour* (×1), *Ethology* (×1)

Ecology: *Ecology* (×1), *American Naturalist* (×1), *BMC Ecology* (×1)

Physiology: *Journal of Experimental Biology* (×2), *Journal of Comparative Physiology B* (×1),  
*Proceedings of the Royal Society Interface* (×1), *Bioinspiration & Biomimetics* (×1),

Ornithology: *Auk* (×3), *Journal of Avian Biology* (×1), *Wilson Journal of Ornithology* (×1),  
*Journal of Caribbean Ornithology* (×2), *Journal of Field Ornithology* (×1),

Grants: *National Geographic Society* (×2), *NSERC* (×1)

**Lecturer/Instructor**-- UC Berkeley:

Integrative Biology 104: Vertebrate Natural History, (1/3 of class, Spring 2007).

**Graduate Student Instructor (i.e., Teaching Assistant)**-- UC Berkeley

Integrative Biology 104: Vertebrate Natural History, (Spring 2005, 2006, 2008, 2009)

Integrative Biology 135: Biomechanics (Fall 2007)

Integrative Biology 107: Animal Behavior (Fall 2004)

Biology 1B: Introductory Biology (Spring 2003, Fall 2005, 2007, 2008)