

## SARAH COHEN

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### Professional preparation

Swarthmore College, Swarthmore, PA. Biology, B.A. 1982.

University of Washington, Seattle, WA. Zoology, Ph.D. 1992.

Stanford University, School of Medicine, Palo Alto, CA. Evolution, Immunology, Phylogenetics,  
Postdoctoral. 1993-1996.

### Appointments

2014- **Professor**, EOS Center, Romberg Tiburon Campus, Biology, SFSU.

2009-2014 **Associate Professor**, Romberg Tiburon Center, Biology, SFSU.

2004-2018 **Faculty Lead**, Molecular facility, EOS Romberg Tiburon Campus, SFSU.

2003-2009 **Assistant Professor**, Romberg Tiburon Center, Biology, SFSU.

2002-2003 **Research Associate**, Organismic and Evolutionary Biology, Harvard University.

1999-2001 **Senior Research Fellow**, National Research Council, US EPA; Harvard Univ.

1997-1999 **Adjunct Assistant Professor**, Zoology, University of New Hampshire.

1997-1999 **Assistant Director**, Shoals Marine Lab, Univ. New Hampshire, Cornell Univ.

### Recent Publications (^undergraduate, \*graduate student, \*\*postdoctoral

Nydam M.L., Lemmon A.R, Cherry J.R., Kortyna ML, Clancy DL\*, Hernandez C\*, Cohen CS. 2021. Phylogenomic and morphological relationships among the botryllid ascidians (Subphylum Tunicata, Class Ascidiacea, Family Styelidae). **Scientific Reports**, in press.

Melroy, L.M.\* and CS Cohen. 2021. Temporal and spatial variation in population structure among brooding sea stars in the genus *Leptasterias*. **Ecology and Evolution**. <http://doi.org/10.1002/ece3.7283> .

\*Hossfeld D, \*\*Ling L, Cohen CS. 2020. Experimental investigation of tidal and freshwater influence on Symbiodiniaceae abundance in *Anthopleura elegantissima*. **PLoS ONE**, <https://doi.org/10.1371/journal.pone.0238361>

\*Jaffe N, \*\*Eberl R, ^Bucholz J, Cohen CS. 2019. Sea star wasting disease demography and etiology in the brooding sea star *Leptasterias* spp. **PLoS ONE** 14(11):e0225248. <https://doi.org/10.1371/journal.pone.0225248>

\*Weinberg, R, Cohen, CS. 2019. Genotypic variability following fusion in the invasive colonial tunicate *Didemnum vexillum*. **Invertebr Biol**. 2019;00:e12263. <https://doi.org/10.1111/ivb.12263>

\*Melroy, L., ^Smith, R., and CS Cohen. 2017. Phylogeography of direct-developing sea stars in the genus *Leptasterias* in relation to San Francisco Bay outflow in central California. **Marine Biology** 64: 152- . [DOI: 10.1007/s00227-017-3184-z](https://doi.org/10.1007/s00227-017-3184-z)

### Other Publications

\*Sheets E, Cohen CS, Ruiz GM, Rocha RM, 2016. Investigating the widespread introduction of a tropical marine fouling species. **Ecology and Evolution** 6 (8): 2453–2471.

\*Goulding T, Cohen CS. 2014. Phylogeography of a marine acanthocephalan: lack of cryptic diversity in a cosmopolitan parasite of mole crabs. **Journal of Biogeography** 41(5): 965-976.

\*\*Ort BS, Cohen CS, Boyer KE, Reynolds LK, \*\*Tam SM, Wyllie-Echeverria S. 2014. Conservation of eelgrass (*Zostera marina*) genetic diversity in a mesocosm-based restoration experiment. [PLoS ONE 9\(2\): e89316. doi:10.1371/journal.pone.0089316](#)

\*Craig C, Kimmerer W, Cohen CS. 2013. A DNA-based method for investigating feeding by copepod nauplii. **J. Plankton Research** 36 (1): 271-275. doi:10.1093/plankt/fbt104

\*\*Ort, B, Cohen, CS, Boyer, KE, Wyllie-Echeverria, S. 2012. Genetic diversity within and among eelgrass (*Zostera marina*) beds in the San Francisco Bay. [Journal of Heredity, doi: 10.1093/jhered/ess022.](#)

Cohen, C.S., McCann, L, Davis, T., Shaw, L., Ruiz, G. 2011. Discovery and significance of the colonial tunicate *Didemnum vexillum* in Alaska. [Aquatic Invasions](#): 6 (3): 263-271. doi: 10.3391/ai.2011.1

Nacci, D.,M. Huber, D. Champlin, S. Jayaraman, S. Cohen, \*E. Gauger, ^A. Fong, M. Gomez-Chiarri. 2009. Trade-offs of contemporary evolution: pathogen susceptibility in a chemically-tolerant estuarine fish population. *Environmental Pollution*, 157: 857- 864.

\*Eberl, R., S. Cohen, F. Cipriano, and E. Carpenter. 2007. Genetic diversity and population structure of the pelagic harpacticoid copepod *Macrosetella gracilis* on rafts of the bloom-forming cyanobacterium *Trichodesmium* spp. *Aquatic Biology*, 1: 33-43

Cohen S, \*Tirindelli J., Gomez-Chiarri M, Nacci D. 2006. Functional implications of Major Histocompatibility (MH) variation using estuarine fish populations. **Integrative and Comparative Biology** 46 (6): 1016-1029.

Cohen S. 2002. MHC variation in natural populations of an estuarine fish: high levels of variation and relationship to severe environmental stress. **Mol Biol Evol** 19: 1870-1880.

Cohen, S., Saito, Y. and I. Weissman. 1998. Evolution of allorecognition in botryllid ascidians inferred from a molecular phylogeny. **Evolution** 52(3):746-756.

### **Synergistic Activities**

**Mentor for Secondary teacher and student summer research internships**, California State University Science Teacher and Researcher (STAR) Program. 2009 - current. Initiated SFSU host site program. Research mentor to 18 secondary school teachers. Host lab for 16 high school interns.

**PI, NSF REU site program, SFSU**. REU site award (1659175) 2017-2022. Co-PI, Previous site awards, 2012-2016, 2009-2011. Research mentor NSF REU site, supplements, NSF RCN EDEN. Sponsor/mentor for 3 NSF ROAs - faculty from community college (Santa Rosa Junior College, CA), small liberal arts colleges (Hendrix College, AR; Soka University CA). CIMER Entering Mentoring workshop participant, Arlington, VA. Created virtual version of SFSU REU site program (2020)—1 of 25 REUs to run in 2020.

**Invited contributor and participant in NSF workshops:** NSF Unlearning Racism in Geosciences (URGE) Monterey Bay, 2021. RCN EDEN, NESCENT- Durham, NC, 2013. Tools for 21<sup>st</sup> Century Biology-Washington, DC, 2009; NSF COSEE-California –‘Communicating Ocean Science Workshop’, UCB. 2008. *Fundulus* Genomics-Charlestown, SC, 2006; Comparative Immunology-Charlestown, SC, 2002.

**Public, agency presentations on disease, restoration, invasive species, climate change, marine.** Ketchikan Workshop, BioBlitz; Co-organizer-Sitka BioBlitz; Alaska SeaLife Center; Exploratorium (display development, After Dark series, Bay Day public hands-on); California Academy of Sciences Night Life(s), high school teacher marine science workshop in Philippines; Cape Canaveral National Seashore; EOS Discovery Days; Tiburon Audubon; BAASICS.4; Google Science hangout; Stanford Journalism video - seastar epidemic; Seattle Aquarium symposium--Sea Star Wasting Disease, Marin Chapter of World Affairs Council on Climate Change.

**Seagrass restoration genetics: Research presentations and advising--**California Coastal Conservancy, CALFED, ESA, International Seagrass Workshop, Conservation Genetics Meeting, NOAA CICEET seagrass webcast, RTC, SFSU, and others. Invited Participant, Seagrass conservation meetings for SF Bay. Collaborative research with the Washington State Department of Natural Resources.

Mentored 41 research Master’s students and > 80 undergraduates in ecological and evolutionary genetics.

## **Field Activities and Experience**

### **Certification**

SCUBA, NAUI Open Water (1985), Advanced (1985), NOAA saturation for week-long Aquarius mission (1993), AAUS research diver certification

### **Field work, saturation diving, and cruises**

Intertidal: Pacific Northwest US, California, Atlantic Northeast US, Philippines.

Subtidal: Pacific Northwest, Caribbean, Florida, California, Philippines (2014, 2015)

Saturation: Fish mating behavior, NOAA Aquarius, Ft. Pierce, Florida (1993).

Research cruise: Chemical ecology, NSF R/V *Columbus Iselin*, 3 weeks, Bahamas (1993).

Teaching cruises: Monterey Bay on UNOLS Pt Sur, SF Bay cruises on Questuary: Marine Ecology classes, REU site program orientation

### **Wildlife Experience**

Over 30 years as an academic researcher and field technician in the US, Caribbean, Philippines, Bahamas, carrying out field and laboratory investigations on invertebrate, sea grass, and estuarine and reef fish behavior, ecology, physiology, and evolutionary biology. Extensive field sampling in coastal areas of California and elsewhere, leading Invertebrate Biology and Marine Ecology classes with extensive field trips and experiential laboratories with live organisms for 15 years at San Francisco State University. Mentored graduate students and undergraduates in estuarine fish ecology, invertebrate biology, including working with state and federal agencies in collaborative sampling and in permitting for invasive, native, and protected species. Culture of marine organisms including fish, invertebrates, and sea grass.