

# Charles D. Amsler

## Education:

- A.B. Duke University, 1980
- M.S. University of North Carolina at Wilmington, 1983
- Ph.D. University of California at Santa Barbara, 1989

## Academic Positions:

- Assistant Research Biologist, University of California at Santa Barbara, 1990
- Postdoctoral Research Associate, University of Illinois at Chicago, 1990-1994
- Assistant Professor, University of Alabama at Birmingham, 1994-2000
- Associate Professor, University of Alabama at Birmingham, 2000-2004
- Professor, University of Alabama at Birmingham, 2004-present

## Publications (Peer-Reviewed):

McClintock, J.B., R.A. Angus, C. Ho, **C.D. Amsler**, & B.J. Baker. 2008. Intraspecific agonistic arm-fencing behavior in the Antarctic keystone sea star *Odontaster validus* influences prey acquisition. *Marine Ecology Progress Series* 371: 297-300.

Huang, J.P., J.B. McClintock, **C.D. Amsler**, & Y.M. Huang. 2008. Mesofauna associated with the marine sponge *Amphimedon viridis*. Do its physical or chemical attributes provide a prospective refuge from fish predation? *Journal of Experimental Marine Biology and Ecology* 362: 95-100.

McClintock, J.B., R.A. Angus, C. Ho, **C.D. Amsler**, & B.J. Baker. 2008. A laboratory study of interactions of the Antarctic keystone sea star *Odontaster validus* with three sympatric predatory sea stars. *Marine Biology* 154: 1077-1084.

**Amsler, C.D.** (Editor) 2008. *Algal Chemical Ecology*. Springer-Verlag, Berlin. xviii + 313 pp.

**Amsler, C.D.**, J.B. McClintock, & B.J. Baker. 2008. Macroalgal chemical defenses in polar marine communities. In: *Algal Chemical Ecology*, C.D. Amsler (ed.), Springer-Verlag, Berlin. pp. 91-103.

**Amsler, C.D.** 2008. Algal sensory chemical ecology. In: *Algal Chemical Ecology*, C.D. Amsler (ed.), Springer-Verlag, Berlin. pp. 297-309.

Miyata, Y., T. Diyabalanage, **C.D. Amsler**, J.B. McClintock, F.A. Valeriote, & B.J. Baker. 2007. Ecdysteroids from the Antarctic tunicate *Synoicum adareanum*. *Journal of Natural Products* 70: 1859-1864.

Gavand, M.R., J.B. McClintock, **C.D. Amsler**, R.W. Peters, & R.A. Angus. 2007. Effects of sonication and advanced chemical oxidants on the unicellular green alga *Dunaliella tertiolecta* and cysts, larvae and adults of the brine shrimp *Artemia salina*: a prospective treatment to eradicate invasive organisms from ballast water. *Marine Pollution Bulletin* 54: 1777-1788.

- Huang, Y.M., M.O. Amsler, J.B. McClintock, **C.D. Amsler**, & B.J. Baker. 2007. Patterns of gammaridean amphipod abundance and species composition associated with dominant subtidal macroalgae from the western Antarctic Peninsula. *Polar Biology* 30: 1417-1430.
- Iken, K., **C.D. Amsler**, J.M. Hubbard, J.B. McClintock, & B.J. Baker. 2007. Allocation patterns of phlorotannins in Antarctic brown algae. *Phycologia* 46: 386-395.
- Wiencke, C., M.N. Clayton, I. Gómez, K. Iken, U. Lüder, **C.D. Amsler**, U. Karsten, D. Hanelt, K. Bischof, & K. Dunton. 2007. Life strategy, ecophysiology and ecology of seaweeds in polar waters. *Reviews in Environmental Science and Biotechnology* 6: 95-126.
- Fairhead, V.A., **C.D. Amsler**, J.B. McClintock, & B.J. Baker. 2006. Lack of defense or phlorotannin induction by UV radiation or mesograzers in *Desmarestia anceps* and *D. menziesii* (Phaeophyceae). *Journal of Phycology* 42: 1174-1183.
- Amsler, M.O., **C.D. Amsler**, D. Rittschof, M. Becerro, & J.B. McClintock. 2006. The use of computer-assisted motion analysis for quantitative studies of the behaviour of barnacle (*Balanus amphitrite*) larvae. *Marine and Freshwater Behaviour and Physiology* 39: 259-268.
- McClintock, J.B., M.O. Amsler, **C.D. Amsler**, & B.J. Baker. 2006. Biochemical composition, energy content and chemical antifeedant defenses of the common Antarctic Peninsular sea stars *Granaster nutrix* and *Neosmilaster georgianus*. *Polar Biology* 29: 615-623.
- Diyabalange, D., **C.D. Amsler**, J.B. McClintock, & B.J. Baker. 2006. Palmerolide A, a cytotoxic macrolide from the Antarctic tunicate *Synoicum adareanum*. *Journal of the American Chemical Society* 128: 5630-5631.
- Sorscher, E.J., J. Harris, M. Alexander, A. Rottgers, K. Hardy, S. Ponnazhagan, J.F. Collawn, J.B. McClintock, **C.D. Amsler**, A. Webster, J. Maddry, B.J. Baker, & J.S. Hong. 2006. Activators of viral gene expression in polarized epithelial monolayers identified by rapid-throughput drug screening. *Gene Therapy* 13: 781-788.
- Greer, S.P., K. Iken, J.B. McClintock, & **C.D. Amsler**. 2006. Bioassay-guided fractionation of antifouling compounds using computer-assisted motion analysis of brown algal spore swimming. *Biofouling* 22: 125-132.
- McKamey, K.A & **C.D. Amsler**. 2006. Effects of temperature and light on growth of the Antarctic algae *Geminocarpus geminatus* (Ectocarpales: Phaeophyceae) and *Cladophora repens* (Cladophorales: Cladophorophyceae) in culture. *Phycologia* 45: 225-232.
- Huang, Y.M., J.B. McClintock, **C.D. Amsler**, K.J. Peters, & B.J. Baker. 2006. Feeding preferences of common Antarctic gammarid amphipods on ecologically important sympatric macroalgae. *Journal of Experimental Marine Biology and Ecology* 329: 55-65.
- Amsler, C.D.** & V.A. Fairhead. 2006. Defensive and sensory chemical ecology of brown algae. *Advances in Botanical Research* 43: 1-91.

**Amsler, C.D.**, I.N. Okogbue, D.M. Landry, M.O. Amsler, J.B. McClintock, & B.J. Baker. 2005. Potential chemical defenses against diatom fouling in antarctic macroalgae. *Botanica Marina* 44: 318-322.

Fairhead, V.A., **C.D. Amsler**, J.B. McClintock & B.J. Baker. 2005. Variation in phlorotannin content within two species of brown macroalgae (*Desmarestia anceps* and *D. menziesii*) from the Western Antarctic Peninsula. *Polar Biology* 28: 680-686.

Peters, K.J., **C.D. Amsler**, M.O. Amsler, J.B. McClintock, R.B. Dunbar, & B.J. Baker. 2005. A comparative analysis of the nutritional and elemental composition of macroalgae from the western Antarctic Peninsula. *Phycologia* 44: 453-463.

Fairhead, V.A., **C.D. Amsler**, J.B. McClintock & B.J. Baker. 2005. Within-thallus variation in chemical and physical defenses in two species of ecologically dominant brown macroalgae from the Antarctic Peninsula. *Journal of Experimental Marine Biology and Ecology* 322: 1-12.

**Amsler, C.D.**, K. Iken, J.B. McClintock, M.O. Amsler, K.J. Peters, J.M. Hubbard, F.B. Furrow, & B.J. Baker. 2005. Comprehensive evaluation of the palatability and chemical defenses of subtidal macroalgae from the Antarctic Peninsula. *Marine Ecology Progress Series* 294: 141-159.

McClintock, J.B., **C.D. Amsler**, B.J. Baker, & R.W.M. van Soest. 2005. Ecology of antarctic marine sponges: an overview. *Integrative and Comparative Biology* 45: 359-368.

McClintock, J.B., M.O. Amsler, **C.D. Amsler**, K.J. Southworth, C. Petrie, & B.J. Baker. 2004. Biochemical composition, energy content and chemical antifeedant and antifoulant defenses of the circumpolar colonial Antarctic ascidian *Distaplia cylindrica*. *Marine Biology* 145: 885-894.

Ankisetty, S., S. Nandiraju, H. Win, Y.C. Park, **C.D. Amsler**, J.B. McClintock, J.A. Baker, T. Diyabalange, A. Passeribu, M.P. Singh, W.M. Maiese, R.D. Walsh, M.J. Zaworotko, & B.J. Baker. 2004. Chemical investigation of predator-deterred macroalgae from the Antarctic Peninsula. *Journal of Natural Products* 67: 1295-1302.

Ankisetty, S., **C.D. Amsler**, J.B. McClintock, & B.J. Baker. 2004. Further membranolide diterpenes from the antarctic sponge *Dendrilla membranosa*. *Journal of Natural Products* 67: 1172-1174.

Greer, S.P. & **C.D. Amsler**. 2004. Clonal variation in phototaxis and settlement behaviors of *Hincksia irregularis* (Phaeophyceae) spores. *Journal of Phycology* 40: 44-53

Greer, S.P., K. Iken, J.B. McClintock, & **C.D. Amsler**. 2003. Individual and coupled effects of echinoderm extracts and surface hydrophobicity on spore settlement and germination in the brown alga *Hincksia irregularis*. *Biofouling* 19: 315-326.

Iken, K., S.P. Greer, **C.D. Amsler**, & J.B. McClintock. 2003. A new antifouling bioassay monitoring brown algal spore swimming behavior in the presence of echinoderm extracts. *Biofouling* 19: 327-334.

McClintock, J.B., A.R. Mahon, K.J. Peters, **C. D. Amsler**, & B.J. Baker. 2003. Chemical defenses in embryos and juveniles of two common Antarctic sea stars and an isopod. *Antarctic Science* 15: 339-344.

Furrow, F.B., **C.D. Amsler**, J.B. McClintock, & B.J. Baker. 2003. Surface sequestration of chemical feeding deterrents in the Antarctic sponge *Latrunculia apicalis* as an optimal defense against sea star spongivory. *Marine Biology* 143: 443-449.

Mahon, A.R., **C.D. Amsler**, J.B. McClintock, M.O. Amsler & B.J. Baker. 2003. Tissue-specific palatability and chemical defenses against macropredators and pathogens in the common articulate brachiopod *Liothyrella uva* from the Antarctic Peninsula. *Journal of Experimental Marine Biology and Ecology* 290: 197-210.

Mahon, A.R., **C.D. Amsler**, J.B. McClintock, & B.J. Baker. 2002. Chemo-tactile predator avoidance responses of the common antarctic limpet *Nacella concinna*. *Polar Biology* 25: 469-473.

Greer, S.P. & **C.D. Amsler**. 2002. Light boundaries and the coupled effects of surface hydrophobicity and light on spore settlement in the brown alga *Hincksia irregularis* (Phaeophyceae). *Journal of Phycology* 38: 116-124.

Vickery, M.C.L., M.S. Vickery, **C.D. Amsler**, & J.B. McClintock. 2001. Regeneration in echinoderm larvae. *Microscopy Research and Technique*. 55: 464-473.

Iken, K., **C.D. Amsler**, S.P. Greer, & J.B. McClintock. 2001. Quantitative and qualitative studies of the swimming behaviour of *Hincksia irregularis* (Phaeophyceae) spores: ecological implications and parameters for quantitative swimming assays. *Phycologia* 40: 359-366.

**Amsler, C.D.** & K.B. Iken. 2001. Chemokinesis and chemotaxis in marine bacteria and algae. In: *Marine Chemical Ecology*, J.B. McClintock & B.J. Baker (eds.). CRC Press, Boca Raton, Florida. pp. 413-430.

**Amsler, C.D.**, K.B. Iken, J.B. McClintock, & B.J. Baker. 2001. Secondary metabolites from antarctic marine organisms and their ecological implications. In: *Marine Chemical Ecology*, J.B. McClintock & B.J. Baker (eds.). CRC Press, Boca Raton, Florida. pp. 267-300.

**Amsler, C.D.** 2001. Induced defenses in macroalgae: the herbivore makes a difference. *Journal of Phycology* 37: 353-356.

**Amsler, C.D.**, J.B. McClintock, & B.J. Baker. 2001. Secondary metabolites as mediators of trophic interactions among antarctic marine organisms. *American Zoologist* 41: 17-26.

Vickery, M.C.L., M.S. Vickery, J.B. McClintock, & **C.D. Amsler**. 2001. Utilization of a novel deuterostome model for the study of regeneration genetics: Molecular cloning of genes that are differentially expressed during early stages of larval sea star regeneration. *Gene* 262: 73-80.

De Marino, S., M. Iorizzi, F. Zollo, **C.D. Amsler**, S.P. Greer. & J.B. McClintock. 2000. Starfish saponins, LVI. Three new asterosaponins from the starfish *Goniopecten demonstrans*. European Journal of Organic Chemistry 2000: 4093-4098.

**Amsler, C.D.**, J.B. McClintock, & B.J. Baker. 2000. Chemical defenses of antarctic marine organisms: a reevaluation of the latitudinal hypothesis. In: Davison, W., C. Howard-Williams, & P. Broady (eds.), *Antarctic Ecosystems: Models for Wider Ecological Understanding*, Proceedings of the Seventh SCAR International Biology Symposium. N.Z. Natural Sciences, Christchurch, New Zealand. pp. 158-164.

**Amsler, C.D.**, C.B. Moeller, J.B. McClintock, K.B. Iken, & B.J. Baker. 2000. Chemical defenses against diatom fouling in antarctic marine sponges. *Biofouling* 16: 29-45.

McClintock, J.B., B.J. Baker, **C.D. Amsler**, & T.L. Barlow. 2000. Chemotactic tube-foot responses of the spongivorous sea star *Perknaster fuscus* to organic extracts of sponges from McMurdo Sound, Antarctica. *Antarctic Science*. 12: 41-46.

**Amsler, C.D.**, J.B. McClintock, & B.J. Baker. 1999. An antarctic feeding triangle: defensive interactions between macroalgae, sea urchins, and sea anemones. *Marine Ecology Progress Series*. 183: 105-114.

**Amsler, C.D.**, K.L. Shelton, C.J. Britton, N.Y. Spencer & S.P. Greer. 1999. Nutrients do not influence swimming behavior or settlement rates of *Ectocarpus siliculosus* spores (Phaeophyceae). *Journal of Phycology* 35: 239-244.

**Amsler, C.D.**, J.B. McClintock, & B.J. Baker. 1998. Chemical defense against herbivory in the antarctic marine macroalgae *Iridaea cordata* and *Phyllophora antarctica* (Rhodophyceae). *Journal of Phycology* 34: 53-59.

De Marino, S., M. Iorizzi, F. Zollo, L. Minale, **C.D. Amsler**, B.J. Baker, & J.B. McClintock. 1997. Isolation, structure elucidation, and biological activity of the steroid oligoglycosides and polyhydroxysteroids from the antarctic starfish *Acodontaster conspicuus*. *Journal of Natural Products* 60: 959-966.

Zhu, X., **C.D. Amsler**, K. Volz, & P. Matsumura. 1996. Tyrosine 106 of CheY plays an important role in chemotaxis signal transduction in *Escherichia coli*. *Journal of Bacteriology* 178: 4208-4215.

**Amsler, C.D.** 1996. Use of computer-assisted motion analysis for quantitative measurements of swimming behavior in peritrichously flagellated bacteria. *Analytical Biochemistry* 235: 20-25.

Zhao, R., **C.D. Amsler**, P. Matsumura, & S. Khan. 1996. Distribution of *Salmonella typhimurium* FliG and FliM proteins in the cell and flagellar basal bodies. *Journal of Bacteriology* 178: 258-265.

**Amsler, C.D.**, R.J. Rowley, D.R. Laur, L.B. Quetin, & R.M. Ross. 1995. Vertical distribution of Antarctic peninsular macroalgae: cover, biomass, and species composition. *Phycologia* 34: 424-430.

**Amsler, C.D.** & P. Matsumura. 1995. Chemotactic signal transduction in *Escherichia coli* and *Salmonella typhimurium*. In: J.A. Hoch & T.J. Silhavy (eds.), Two-Component Signal Transduction. ASM Press. pp. 89-103.

**Amsler, C.D.**, M. Cho, & P. Matsumura. 1993. Multiple factors underlying the maximum motility of *Escherichia coli* as cultures enter post-exponential growth. *Journal of Bacteriology* 175: 6238-6244.

Brzezinski, M.A., D.C. Reed, & **C.D. Amsler**. 1993. Neutral lipids as major storage products in zoospores of the giant kelp, *Macrocystis pyrifera*. *Journal of Phycology* 29: 16-23.

**Amsler, C.D.**, D.C. Reed, & M. Neushul. 1992. The microclimate inhabited by macroalgal propagules. *British Phycological Journal* 27: 253-270.

Reed, D.C., **C.D. Amsler**, & A.W. Ebeling. 1992. Dispersal in kelps: factors affecting spore swimming and competency. *Ecology* 73: 1577-1585.

Neushul, M., **C.D. Amsler**, D.C. Reed, & R.J. Lewis. 1992. The introduction of marine plants for aquacultural purposes. In: A. Rosenfield & R. Mann (eds.), Dispersal of Living Organisms into Aquatic Ecosystems. Maryland Sea Grant College. pp. 103-135.

**Amsler, C.D.** 1991. Family Ectocarpaceae. In: C.W. Schneider & R.B. Searles, *Seaweeds of the Southeastern United States: Cape Hatteras to Cape Canaveral*. Duke University Press. pp. 111-128.

**Amsler, C.D.** & M. Neushul. 1991. Photosynthetic physiology and chemical composition of spores of the kelps *Macrocystis pyrifera*, *Nereocystis luetkeana*, *Laminaria farlowii*, and *Pterygophora californica* (Phaeophyceae). *Journal of Phycology* 27: 26-34.

**Amsler, C.D.** & M. Neushul. 1990. Nutrient stimulation of spore settlement in the kelps *Pterygophora californica* and *Macrocystis pyrifera*. *Marine Biology*, 107: 297-304.

**Amsler, C.D.** & M. Neushul. 1989. Diel periodicity of spore release from the kelp *Nereocystis luetkeana* (Mertens) Postels et Ruprecht. *Journal of Experimental Marine Biology and Ecology* 134: 117-127.

**Amsler, C.D.** & M. Neushul. 1989. Chemotactic effects of nutrients on spores of the kelps *Macrocystis pyrifera* and *Pterygophora californica*. *Marine Biology* 102: 557-564.

**Amsler, C.D.** 1985. Field and laboratory studies of *Giffordia mitchelliae* (Phaeophyceae) in North Carolina. *Botanica Marina* 28: 295-301.

**Amsler, C.D.** & D.F. Kapraun. 1985. *Giffordia onslowensis* sp. nov. (Phaeophyceae) from the North Carolina continental shelf and the relationship between *Giffordia* and *Acinetospora*. *Journal of Phycology* 21: 94-99.

Searles, R.B., M.M. Hommersand, & **C.D. Amsler**. 1984. The occurrence of *Codium fragile* (subsp. *tomentosoides*) and *C. taylorii* (Chlorophyta) in North Carolina. *Botanica Marina* 27: 185-187.

**Amsler, C.D.** 1984. Culture and field studies of *Acinetospora crinita* (Carmichael) Sauvageau (Ectocarpaceae, Phaeophyceae) in North Carolina (USA). *Phycologia* 23: 377-382.

**Amsler, C.D.** & R.B. Searles. 1980. Vertical distribution of seaweed spores in a water column offshore of North Carolina. *Journal of Phycology* 16: 617-619.

### **Publications (Not Peer-Reviewed):**

Vickery, M.C.L., **C.D. Amsler**, J.B. McClintock, & B.J. Baker. 2005. Secondary metabolite biosynthesis at ambient temperature in antarctic sponge-derived bacterium, *Pseudomonas aeruginosa*. *Antarctic Journal of the United States* 33: 47-50.

McClintock, J.B., **C.D. Amsler**, & B.J. Baker. 2001. Introduction to the symposium: Antarctic marine biology. *American Zoologist* 41: 1-2.

**Amsler, C.D.**, J.B. McClintock, D. Tedeschi, K.H. Dunton, & B.J. Baker. 1997. Quantitative estimation of the phlorotannin content of three antarctic brown macroalgae. *Antarctic Journal of the United States* 32: 84-85.

**Amsler, C.D.**, D.R. Laur, L.B. Quetin, R.J. Rowley, R.M. Ross, & M. Neushul. 1990. Quantitative analysis of the vertical distribution of overstory macroalgae near Anvers Island, Antarctica. *Antarctic Journal of the United States* 25: 201-202.

Kennicutt, M.C., ..., **C.D. Amsler**, et al. (27 authors). 1990. Oil spillage in Antarctica: Initial report of the National Science Foundation-sponsored Quick Response Team on the grounding of the Bahia Paraiso. *Environmental Science and Technology* 24: 620-624.