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University of Maryland Center for Environmental Science  
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### Education

B.S., Botany, University of New Hampshire, 1969  
M.S., Microbiology, University of Hawaii, 1970  
Ph.D., in Ecology & Evolution, State University of New York at Stony Brook, 1979

Dissertation: The ecological roles of acid and vanadium in ascidians

### Professional Experience

Professor Emeritus, University of Maryland Center for Environmental Science, Horn Point Laboratory, 2017  
Professor, University of Maryland Center for Environmental Science, Horn Point Laboratory, 1995-2016  
Associate Professor, CEES, Univ. of Maryland System, 1991-1995  
Associate Scientist, W.H.O.I., Woods Hole, MA, 1984-1991  
Assistant Scientist, W.H.O.I., Woods Hole, MA, 1980-1984  
Postdoctoral Scholar W.H.O.I., Woods Hole, MA, 1979-1980  
Consultant, Ecological Analysts, Inc., Melville, N.Y., 1977-1978  
Teaching Assistant, SUNY at Stony Brook, 1975-1977  
Assistant Director of Terrestrial Ecology, Environmental Analysts, Inc., Woodbury, N.Y., 1974-1975  
Biologist, Environmental Analysts, Inc., Garden City, N.Y., 1973-1974  
Consultant, Westinghouse Environmental Systems Dept., 1972  
Instructor in Natural Sciences, Maunaolu College, Maui, Hawaii, 1971-1972  
Ranger-Naturalist, United States National Park Service, summers 1971 & 1972

### Awards and Special Recognition

Fellow, American Association for the Advancement of Science, 1996-present  
  
University of Maryland, Regents Award for Scholarship, 2005  
  
The Luigi Provasoli Award, Journal of Phycology, 2006

Research Interests

Ecology and physiology of polar, estuarine and oceanic dinoflagellates, ciliates and other protists; Use of alternate modes of nutrition (mixotrophy) among the plankton; Sequestration of foreign organelles and the evolution of protists; Trophic interactions between the microbial and metazoan food webs; Regulation of protistan population dynamics; Harmful algal blooms; Alleochemical modulation of plankton food web structure.

Publications

- 1978 Stoecker, D. Resistance of a tunicate to fouling. Biol. Bull. 155: 615-626.
- 1980 Stoecker, D. Relationships between chemical defenses and ecology in benthic ascidians. Marine Ecology-Progress Series 3: 257-265.
- 1980 Stoecker, D. Chemical defenses of ascidians against predators. Ecology, 61: 1327-1334.
- 1980 Stoecker, D. Distribution of acid and vanadium in *Rhopalaea birkelandi* Tokioka. J. Exp. Mar. Biol. & Ecol. 48: 277-281.
- 1981 Stoecker, D., R. R. L. Guillard and R. M. Kavee. Selective predation by *Favella ehrenbergii* (Tintinnia) on and among dinoflagellates. Biol. Bull. 160: 136-145.
- 1982 Stoecker, D. and R. R. L. Guillard. Effects of temperature and light on the feeding rate of *Favella* sp. (ciliated protozoa, suborder Tintinnina). Les Annales de l'Institut Oceanographique, Paris. 58(S): 309-318.
- 1982 Verity, P. J. and D. Stoecker. Effects of *Olisthodiscus luteus* on the growth and abundance of tintinnids. Mar. Biol. 72: 79-87.
- 1983 Stoecker, D., L. H. Davis, and A. Provan. Growth of *Favella* sp. (Ciliata, Suborder Tintinnina) and other microzooplankters in cages incubated *In situ* and comparison to growth *In vitro*. Mar. Biol. 75: 293- 302.
- 1984 Stoecker D., L. H. Davis and D. M. Anderson. Fine scale spatial correlations between planktonic ciliates and dinoflagellates. J. Plank. Res. 6: 829-842.
- 1984 Stoecker, D. and J. J. Govoni. Food selection by young larval gulf menhaden (*Brevoortia patronus*) in the field and laboratory. Mar. Biol. 80: 299-306.
- 1984 Stoecker, D. Particle production by planktonic ciliates. Limnol. Oceanogr. 29: 930-940.

- 1984 Stoecker, D. K. and N. K. Sanders. Differential grazing by *Acartia tonsa* on a dinoflagellate and a tintinnid. *J. Plank. Res.* 7: 85-100.
- 1985 Stoecker, D. and G. T. Evans. Effects of protozoan herbivory and carnivory in a microplankton food web. *Mar. Ecol. Prog. Ser.* 25: 159- 167.
- 1986 Stoecker, D., T. Cucci, C. M. Yentsch and E. M. Hulburt. Selective feeding by *Balanion* sp. (Ciliata, Balanionidae) on phytoplankton that best support its growth. *J. Exp. Mar. Biol. Ecol.* 95: 113-130.
- 1986 Stoecker, D., W. G. Sunda, and L. H. Davis. Effects on copper and zinc on two planktonic ciliates. *Mar. Biol.* 92: 21-29.
- 1987 Stoecker, D., A. E. Michaels, and L. H. Davis. Large proportion of marine planktonic ciliates found to contain functional chloroplasts. *Nature.* 326: 791-792.
- 1987 Stoecker, D. K. and M. W. Silver. Chloroplast retention by marine planktonic ciliates. (extended abstract) *Endocytobiology III, Annals of the New York Academy of Sciences* 503: 562-565.
- 1987 Stoecker, D. K., P. G. Verity, A. E. Michaels, and L. H. Davis. Feeding by larval and post-larval ctenophores on microzooplankton. *J. Plank. Res.* 9: 667-683.
- 1987 Stoecker, D. K. and D. A. Egloff. Predation by *Acartia tonsa* Dana on planktonic ciliates and rotifers. *J. Exp. Mar. Biol. Ecol.* 110: 53-68.
- 1987 Stoecker, D., A. Michaels, and L. H. Davis. Grazing by the jellyfish, *Aurelia aurita* on microzooplankton. *J. Plank. Res.* 9: 901-915.
- 1988 Stoecker, D. K. Are marine planktonic ciliates suspension feeders? *J. Protozool* 36: 252-255.
- 1988 Montagnes, D.J.S., D.H. Lynn, D.K. Stoecker and E.B. Small. Planktonic ciliates with chloroplasts: Taxonomic descriptions of one new species and redescriptions of four species in the family Strombidiidae (Ciliophora, Oligotrichida). *J. Protozool* 35: 189-197.
- 1988 Stoecker, D.K., M.W. Silver, A.E. Michaels and L.H. Davis. Obligate mixotrophy in *Laboea strobila*, a ciliate which retains chloroplasts. *Mar. Biol.* 99: 415-423.
- 1988 Buskey, E.J. and D.K. Stoecker. Locomotory patterns of planktonic ciliates; adaptations for locating food patches and food particles. *Bull. Mar. Sci.* 43: 783-7196.

- 1988/89 Stoecker, D. K., M. W. Silver, A. E. Michaels and L. H. Davis. Enslavement of algal chloroplasts by four *Strombidium* spp. (Ciliophora, Oligotrichida) Mar. Microbial Food Webs 3: 79-100.
- 1989 Stoecker, D.K., A. Taniguchi and A.E. Michaels. Abundance of autotrophic, mixotrophic and heterotrophic planktonic ciliates in shelf and slope waters. Mar. Ecol. Prog. Ser. 50: 241-254.
- 1989 Choi, J.W. and D.K. Stoecker. Effects of fixation on cell volume of marine planktonic protozoa. Applied and Environmental Microbiology 55: 1761-1765.
- 1989 Gallager, S. M., V. M. Bricelj and D. K. Stoecker. Effects of the brown tide alga on growth, feeding physiology and locomotory behavior of scallop larvae (*Argopecten irradians*), pp. 511-541. In: E. M. Cosper, V. M. Bricelj and E. J. Carpenter (Eds.) Novel Phytoplankton Blooms. Springer-Verlag, Berlin.
- 1989 Buskey, E.J. and D.K. Stoecker. Behavioral responses of the marine tintinnid *Favella* sp. to phytoplankton: influence of chemical, mechanical and photic stimuli. J. Exp. Mar. Biol. Ecol. 132: 1-16.
- 1989 Putt, M. and D.K. Stoecker. An experimentally determined carbon: volume ratio for marine "oligotrichous" ciliates from estuarine and coastal waters. Limnol. Oceanogr. 34: 1097-1103.
- 1989 Stoecker, D. K., N. Swanberg and S. Tyler. Oceanic mixotrophic flatworms. Mar. Ecol. Prog. Ser. 58: 41-51.
- 1990 Stoecker, D. K. and J. McDowell-Capuzzo. Predation on protozoa; its importance to zooplankton. J. Plankton Res. 12: 891-908.
- 1990 Stoecker, D. K. and M. W. Silver. Replacement and aging of chloroplasts in *Strombidium capitatum* (Ciliata, Oligotrichida). Mar. Biol. 107: 491-502.
- 1991 Stoecker, D.K. "Mixotrophy in marine planktonic ciliates: Physiological & ecological aspects of plastid-retention by oligotrichs". pp. 161-179 In: D.C. Reid, C.M. Turley, and P.H. Burkill (eds.) Protozoa and their role in Marine Processes. NATO ASI Ecological Series. Springer-Verlag, NY.
- 1991 Stoecker, D. K. and A. E. Michaels. Respiration, photosynthesis and carbon metabolism in planktonic ciliates. Mar. Biol. 108: 441-447.
- 1991 Stoecker, D. K., M. Putt, L. H. Davis and A. E. Michaels. Photosynthesis in *Mesodinium rubrum*: Per cell measurements and comparison to community rates. Mar. Ecol. Prog. Ser. 73: 245-252.

- 1992 Stoecker, D.K., K.R. Buck, and M. Putt. Changes in the sea-ice brine community during the spring-summer transition, McMurdo Sound, Antarctica I. Photosynthetic protists. Mar. Ecol. Prog. Ser. 84: 265-278.
- 1993 Sieracki, M.E., P.G. Verity and D.K. Stoecker. Plankton community response to silicate and nitrate depletion at 47° N during the 1989 North Atlantic spring bloom. Deep-Sea Res. 40: 213-225.
- 1993 Verity, P.G., D.K. Stoecker, M.E. Sieracki, P.H. Burkill, E.S. Edwards, and C.R. Tronzo. The abundance, biomass, and distribution of heterotrophic dinoflagellates during the North Atlantic spring bloom. Deep-Sea Res. 40: 227-244.
- 1993 Stoecker, D.K. Chloroplast-retention in ciliated Protozoa. pp.9-26 in R. A. Lewin (ed) Origins of Plastids. Chapman and Hall, NY.
- 1993 Stoecker, D.K., K.R. Buck, and M. Putt. Changes in the sea-ice brine community during the spring-summer transition, McMurdo Sound, Antarctica II. Phagotrophic protists. Mar. Ecol. Prog. Ser. 95: 103-113.
- 1993 Verity, P.G., D.K. Stoecker, M.E. Sieracki, and J.R. Nelson. Grazing, growth and mortality of microzooplankton during the 1989 North Atlantic spring bloom at 47°N, 18°W. Deep Sea Res. 40: 1793-1814.
- 1994 Putt, M., G. Miceli and D.K. Stoecker. Association of bacteria with *Phaeocystis* sp. in McMurdo Sound, Antarctica. Mar. Ecol. Prog. Ser. 105: 179-189.
- 1994 Stoecker, D.K., M.E. Sieracki, P.G. Verity, A.E. Michaels, P.H. Burkill, E. Haugen and E.S. Edwards. Nanoplankton and protozoan microzooplankton during the JGOFS North Atlantic Bloom Experiment: 1989 and 1990. J. Mar. Biol. Ass. U.K. 74: 427-443.
- 1994 Stoecker, D.K., D.J. Gifford and M. Putt. Preservation of marine planktonic ciliates: Losses and cell shrinkage during fixation. Mar. Ecol. Prog. Ser. 110: 293-299.
- 1994 Gallagher, S.M., J.B. Waterbury, and D.K. Stoecker. Efficient grazing and utilization of the marine cyanobacterium *Synechococcus* sp. by larvae of the bivalve *Mercenaria mercenaria*. Mar. Biol. 119: 251-259.
- 1995 Stoecker, D.K., Gallagher, S.M., Langdon, C.J. and L.H. Davis. Particle capture by *Favella* sp. (Ciliata, Tintinnina) J. Plankton Res. 17: 1105-1124.

- 1995 Stoecker, D.K., Putt, M. and Moisan, T. Nano- and Microplankton Dynamics during the spring *Phaeocystis* sp. bloom in McMurdo Sound, Antarctica. J. mar. biol. Ass. U.K. 75: 815-832.
- 1996 Li, A., Stoecker, D.K., Coats, D.W. and Adam, J.E. Ingestion of fluorescently-labeled and phycoerythrin-containing prey by mixotrophic dinoflagellates. Aquat. Microb. Ecol. 10: 39-147.
- 1996 Stoecker, D.K., Gustafson, D.E., and P.G. Verity. Micro- and Mesoprotozooplankton at 140°W in the Equatorial Pacific: Heterotrophs and Mixotrophs. Aquat. Microb. Ecol. 10 273-282.
- 1996 Olesen, N.J., Purcell, J.E., and Stoecker, D.K. Feeding and growth of ephyrae scyphomedusae *Chrysaora quinquecirrha*. Mar. Biol. Prog. Ser. 137: 149-159.
- 1996 Verity, P.G., Stoecker, D.K., Sieracki, M.E. and Nelson, J.R. Microzooplankton grazing of primary production at 140° W in the Equatorial Pacific. Deep Sea Res. II. 43: 1227-1255.
- 1996 Crawford, D.W. and D.K. Stoecker. Carbon content, dark respiration and mortality of the mixotrophic planktonic ciliate *Strombidium capitatum*. Mar. Biol. 126:415-422.
- 1997 Stoecker, D.K., D.E. Gustafson, J.R. Merrell, M.M.D. Black and C.T. Baier. Excystment and growth of Chrysophytes and Dinoflagellates at low temperatures and high salinities in Antarctic sea-ice. J. Phycol. 33: 585-595.
- 1997 Stoecker, D.K., Al. Li, D.W. Coats, D.A. Gustafson and M. Nannen. Mixotrophy in the dinoflagellate, *Prorocentrum minimum*. Mar. Ecol. Prog. Ser. 152: 1-12.
- 1997 Landry, M.R., R.T. Barber, R.R. Bidigare, F. Chai, K.H. Coale, H.G. Dam, M.R. Lewis, S.T. Lindley, J.J. McCarthy, M.R. Roman, D.K. Stoecker, P.G. Verity and J.R. White. Iron and grazing constraints on primary production in the central equatorial Pacific: An EqPac synthesis. Limnol. Oceanogr. 42: 405-418.
- 1998 Merrell, J.R. and D.K. Stoecker. Differential grazing on protozoan microplankton by developmental stages of the calanoid copepod *Eurytemora affinis* Poppe. J. Plankton Res. 20: 289-304.
- 1998 Stoecker, D.K., D.E. Gustafson, M.M.D. Black and C.T. Baier. Population dynamics of microalgae in the upper land-fast sea ice at a snow-free location. J. Phycol. 34: 60-69.

- 1998 Stoecker, D.K. Conceptual models of mixotrophy in planktonic protists and some ecological and evolutionary implications. *European J. Protistol.* 34:281-290.
- 1999 Montresor, M., G. Procaccini and D.K. Stoecker. *Polarella glacialis* gen nov., sp. nov. (Dinophyceae): Suessiaceae are still alive! *J. Phycol.* 35: 186-197.
- 1999 Stoecker, D.K. Mixotrophy among dinoflagellates. *J. Eukary. Microbiol.* 46: 397-401.
- 1999 Li, A., D.K. Stoecker and J.E. Adolf. Feeding, pigmentation, photosynthesis and growth of the mixotrophic dinoflagellate *Gyrodinium galatheanum*. *Aquat. Micro. Ecol.* 19: 163-176.
- 2000 Stickney, H.L., Hood, R.R. and D.K. Stoecker. The impact of mixotrophy on planktonic trophic dynamics in marine ecosystems. *Ecol. Model.* 125: 203-230.
- 2000 Li, A., D.K. Stoecker and D.W. Coats. Mixotrophy in *Gyrodinium galatheanum* (Dinophyceae): Grazing responses to light intensity and inorganic nutrients. *J. Phycol.* 36: 33-45.
- 2000 Stoecker, DK, Gustafson, DE, Baier, CT and MMD Black. Primary production in the upper sea ice. *Aquat. Microb. Ecol.* 21: 275-287.
- 2000 Gustafson, DE, Stoecker, DK, Johnson, MD, Van Heukelem, WF and K Sneider. Cryptophyte algae are robbed of their organelles by the marine ciliate *Mesodinium rubrum*. *Nature* 405: 1049-1052.
- 2000 Skovgaard A, Hansen, PJ and DK Stoecker. Physiology of the mixotrophic dinoflagellate *Fragilidium subglobosum*. I. Effects of phagotrophy and irradiance on photosynthesis and carbon content. *Mar. Ecol. Prog. Ser.* 201: 137-146.
- 2000 Hansen, PJ, Skovgaard A, Glud RN, and DK Stoecker. Physiology of the mixotrophic dinoflagellate *Fragilidium subglobosum*. II. Effects of time scale and prey concentration on photosynthetic performance. *Mar. Ecol. Prog. Ser.* 201: 137-146.
- 2000 Li, A, Stoecker, DK, Coats, DW. 2000. Spatial and temporal aspects of *Gyrodinium galatheanum* in Chesapeake Bay: distribution and mixotrophy. *J Plankton Res.* 22: 2105-2124.
- 2000 Stoecker, DK, Stevens, K, and DE Gustafson. Predation on *Pfiesteria piscicida* (Dinamoebiales, Pyrrhophyta) by Microzooplankton. *Aquat. Microb. Ecol.* 22: 261-270.

- 2001 Li, A, Stoecker, DK, Coats, DW. Use of the “food vacuole content” method to estimate grazing by the mixotrophic dinoflagellate *Gyrodinium galatheanum* on cryptophytes. J Plankton Res. 23: 303-318.
- 2001 Tengs, T, Bowers, HA, Ziman, AP, Stoecker, DK, Oldach DW. Genetic polymorphism in *Gymnodinium galatheanum* chloroplast DNA sequences and development of a molecular detection assay. Molecular Ecology. 10: 515-523.
- 2002 Stoecker, DK, Parrow, MW, Burkholder JM, Glasgow Jr. HB. Grazing by microzooplankton on *Pfiesteria piscicida* cultures with different histories of toxicity. Aquat Microbial Ecol 28: 79-85.
- 2002 Stoecker, DK, Gustafson Jr, DE. Predicting grazing mortality of an estuarine dinoflagellate, *Pfiesteria piscicida*. Mar Ecol Prog Ser 233: 31-38.
- 2002 Deeds, JR, Terlizzi DE, Adolf, JE, Stoecker DK, Place AR. Toxic activity from cultures of *Karlodinium micrum* (= *Karlodinium micrum*) (Dinophyceae)---a dinoflagellate associated with fish mortalities in an estuarine aquaculture facility. Harmful Algae 1: 169-189.
- 2003 Anderson, JT, Stoecker, DK, Hood RR. Formation of two types of cysts by a mixotrophic dinoflagellate, *Pfiesteria piscicida*. Mar. Ecol. Prog. Ser. 246: 105-113.
- 2003 Stoecker, DK, Gustafson Jr., DE. Cell-surface proteolytic activity of photosynthetic dinoflagellates. Aquat Microb Ecol 30: 175-183.
- 2003 Johnson, MD, Rome, M, Stoecker, DK. Microzooplankton grazing on *Prorocentrum minimum* and *Karlodinium micrum* in Chesapeake Bay. Limnol. Oceanogr. 48: 238-248.
- 2003 Adolf, JE, Stoecker, DK, Harding Jr., LW. Autotrophic growth and photoacclimation in *Karlodinium micrum* (Dinophyceae) and *Storeatula major* (Cryptophyceae). J Phycol. 39: 1101-1108.
- 2003 Smalley, GW, Coats DW, Stoecker, DK. Feeding in the mixotrophic dinoflagellate *Ceratium furca* is influenced by intracellular nutrient concentrations. Mar. Ecol. Prog. Ser. 262:153-162
- 2004 Johnson MD, Tengs T, Oldach DW, Delwiche CF, Stoecker, DK. Highly divergent SSU rRNA genes found in the marine ciliates *Myrionecta rubra* and *Mesodinium pulex*. Protist. 155: 347-359.
- 2004 Zhang, X, Hood RR, Roman, MR, Glibert PM, Stoecker, DK. *Pfiesteria piscicida* population dynamics: A modeling study. Pp 528-530 in Steidinger KA, Lansberg

- JH, Tomas CR and Vargo GA (Eds) Harmful Algae 2002. Proceedings of the Xth International Conference on Harmful Algae. Florida Fish and Wildlife Conservation Commission and Intergovernmental Commission of UNESCO, St Petersburg, Florida, USA
- 2005 Johnson MD, Stoecker DK. Role of feeding in growth and photophysiology of *Myrionecta rubra*. Aquatic Microbial Ecology 39: 303-312
- 2005 Stoecker DK, Autio R, Rintala J-M, Kuosa H. Ecto-cellular enzyme activity associated with filamentous cyanobacteria. Aquatic Microbial Ecology 40: 151-161
- 2006 Stoecker DK, Long A, Suttles SE, Sanford LP. Effect of small-scale shear on grazing and growth of the dinoflagellate *Pfiesteria piscicida*. Harmful Algae 5: 407-418
- 2006 Stoecker DK, Tillman U, Granéli E. Chapter 18. Phagotrophic Harmful Algae. Pp. 177-187 in Granéli E and Turner J (eds) Ecology of Harmful Algae, Springer-Verlag, Berlin.
- 2006 Adolf JE, Stoecker DK, Harding LW. The balance of autotrophy and heterotrophy during mixotrophic growth of *Karlodinium micrum* (Dinophyceae). J Plankton Res 28: 737-751
- 2006 Hood, RR, Zhang X, Glibert PM, Roman MR, Stoecker, DK. Modeling the influence of nutrients, turbulence and grazing on *Pfiesteria* population dynamics. Harmful Algae 5: 459-479
- 2006 Johnson MD, Tengs T, Oldach D, Stoecker DK. Sequestration, performance and functional control of cryptophyte plastids in the ciliate *Myrionecta rubra* (Ciliophora). J Phycol 42: 1235-1246
- 2007 Johnson MD, Oldach D, Delwiche CF, Stoecker DK. Retention of transcriptionally active cryptophyte nuclei by the ciliate *Myrionecta rubra*. Nature. 445: 426-428
- 2007 Reaugh, ML, Roman M.R., Stoecker D.K. Changes in plankton community structure and function in response to variable freshwater flow in two tributaries of the Chesapeake Bay, USA. Estuaries and Coasts. 30(3): 403-417.
- 2007 Fehling J, Stoecker D, Baldauf S.L. Photosynthesis and the Eukaryote Tree of Life. Pp 76-107 in Falkowski P.G. & Knoll A.H. (eds) The Evolution of Primary Producers in the Sea. Elsevier, Academic Press. NY.

- 2007 Adolf JE, Place AR, Stoecker DK, Harding Jr., LW. Modulation of polyunsaturated fatty acids in mixotrophic *Karlodinium veneficum* (Dinophyceae) and prey *Storeatula major* (Cryptophyceae). J Phycol 43: 1259-1270.
- 2007 Glibert PM, Alexander J, Meritt DW, North EW, Stoecker DK. Harmful algae May Pose Additional Challenges for Oyster Restoration: Impacts of the Harmful Algae *Karlodinium veneficum* and *Prorocentrum minimum* on early life history stages of the oysters *Crassostrea virginica* and *Crassostrea ariakensis*. J Shellfish Res. 26: 919-925.
- 2008 Stoecker DK, Adolf JE, Place AR, Glibert PM, Meritt D. Effects of the dinoflagellates *Karlodinium veneficum* and *Prorocentrum minimum* on early life history stages of the Eastern Oyster, *Crassostrea virginica*. Marine Biology. 154: 81-90.
- 2008 Thessen AE, Stoecker DK. 2008. Distribution, abundance and domoic acid analysis of the toxic diatom genus *Pseudo-nitzschia* from the Chesapeake Bay. Estuaries and Coasts. 31: 664-672.
- 2008 Alexander JA, Stoecker DK, Meritt DW, Alexander ST, Padeletti A, Johns D, Van Heukelem L, Glibert PM. Differential feces and pseudofeces production by the oyster *Crassostrea ariakensis* when exposed to diets containing harmful dinoflagellate and raphidophyte species. J Shellfish Res 27: 567-579.
- 2008 Stoecker, DK, Thessen AE, Gustafson, DE. "Windows of opportunity" for dinoflagellate blooms: Reduced microzooplankton net growth coupled to eutrophication. Harmful Algae 8: 158-166.
- 2008 Heisler J, Glibert P, Burkholder J, Anderson D, Cochlan W, Dennison W, Gobler C, Dortch Q, Heil C, Humphries E, Lewitus A, Magnien R, Marshall H, Sellner K, Stockwell D, Stoecker D, Suddleson M. Eutrophication and harmful algal blooms: A scientific consensus. Harmful Algae doi 10.1016/j.hal.2008.08.006
- 2009 Salerno M, Stoecker DK. Ectocellular glucosidase and peptidase activity of the mixotrophic dinoflagellate *Prorocentrum minimum* (Dinophyceae). J. Phycol. 45: 34-45.
- 2009 Thessen AE, Bowers HA, Stoecker DK Intra- and Interspecies differences in *Pseudo-nitzschia* growth and toxicity while utilizing different nitrogen sources. Harmful Algae. 8: 792-810.
- 2009 Stoecker, DK, Johnson MD, de Vargas C, Not, F. Acquired phototrophy in aquatic protists. Aquat Microb Ecol 57: 279-310.

- 2012 Gao, Y, Cornwell JC, Stoecker DK, Owens, M. Effects of cyanobacterial driven pH increases on sediment nutrient fluxes and coupled nitrification-denitrification in a shallow fresh water estuary. *Biogeosciences*: 9:2697-2710.
- 2012 Stoecker, DK. Chapter 5, Predators of Tintinnids, pp. 123-144 in Dolan, JR, Montagnes, DS, Agatha, S, Coats, DW and Stoecker, D (eds) *The Biology and Ecology of Tintinnid Ciliates: Models for Marine Plankton*. John Wiley & Sons, Ltd.
- 2012 Smalley, GW, Coats DW, Stoecker, DK. Influence of inorganic nutrients, irradiance, and time of day on food uptake by the mixotrophic dinoflagellate *Neoceratium furca*. *Aquat Microb Ecol* 68: 29-41.
- 2013 Flynn, K.J., D.K. Stoecker, A. Mitra, J.A. Raven, P.M. Glibert, P.J. Hansen, E. Graneli, and J.M. Burkholder. 2012. Misuse of the phytoplankton-zooplankton dichotomy: the need to assign organisms as mixotrophs within plankton functional types. *Journal of Plankton Research* 35: 3-11.
- 2013 Johnson, MD, Stoecker, DK, Marshall HG.) Seasonal dynamics of *Mesodinium rubrum* in Chesapeake Bay. *J Plankton Res.* 35: 877-893.
- 2013 Mitra, A, Flynn, K.J., Burkholder, J.M., Berge, T., Calbet, A., Raven, J.A., Granéli, E, Glibert PM, Hansen PJ, Stoecker, DK, Thingstad F, Tillman U, Våge S, Wilken S, Zubkov, MV. The role of mixotrophic protists in the biological carbon pump. *Biogeosciences* 10: 1-28.
- 2014 Stoecker, D, Weigel, A, Stockwell, D, Lomas, M. Microzooplankton: Abundance, biomass and contribution to chlorophyll in the Eastern Bering Sea in summer. *Deep Sea Res. II* 109: 134-144.
- 2014 Stoecker, D, Weigel A, Goes J. Microzooplankton Grazing in the Eastern Bering Sea in Summer. *DeepSea Res. II* 109:145-156.
- 2014 Goes JI, Gomes H do R, Haugen EM, McKee KT, D'Sa EJ, Chekalyuk AM, Stoecker DK, Stabenho PJ, Saitoh S-I, Sambrotto RN. Fluorescence, pigment and microscopic characterization of Bering Sea phytoplankton community structure and photosynthetic competency in the presence of a Cold Pool during summer. *Deep-Sea Res II* 109: 84-99.
- 2014 Gao Y, Cornwell, JC, Stoecker, DK, Owens, MS. Influence of cyanobacteria blooms on sediment biogeochemistry and nutrient fluxes. *Limnol. Oceanogr.* 59: 959-971
- 2014 Gao, Y, O'Neil J, Stoecker, DK, Cornwell, JC. Photosynthesis and nitrogen fixation during cyanobacteria blooms in an oligohaline and tidal freshwater estuary. *Aquat Microb Ecology* 72: 129-144

- 2015 Flynn KJ, Clark DR, Mitra A, Fabian H, Hansen PJ, Glibert PM, Wheeler GL, Stoecker DK, Blackford JC, Brownlee, C. Ocean acidification with (de)eutrophication will alter future phytoplankton growth and succession. *Proc. R. Soc. B* 282: 20142604
- 2015 Stoecker, DK, Nejstgaard JC, Madhusoodhanan R, Pohnert, G, Wolfram S, Jakobsen HH, Sulcius S, Larsen, A. Under-estimation of microzooplankton grazing in dilution experiments due to inhibition of phytoplankton growth. *Limnol. Oceanogr.* 60: 1426-1438. doi: 10.1002/lno.10106.
- 2015 Lavrentyev. PJ, Franzè G, Pierson JJ, Stoecker, DK. The effect of dissolved polyunsaturated aldehydes on microzooplankton growth rates in the Chesapeake Bay and Atlantic coastal waters. *Marine Drugs* 13(5): 2834-2856. doi: 10.3390/md13052834
- 2015 Millette NC, Stoecker DK, Pierson JJ. Top-down control of micro- and mesozooplankton on winter dinoflagellate blooms of *Heterocapsa rotundata*. *Aquat. Microb. Ecol.* 76: 15-25. doi: 10.3354/ame01763
- 2015 Dunthorn M, Lipps JH, Dolan JR et al. Ciliates – Protists with complex morphologies and ambiguous early fossil record. *Marine Micropaleontology* 119: 1-6.
- 2015 Pree, B, Kulisch C, Pohnert G, Sazhin AF, Jakobsen HH, Paulsen ML, Frischer ME, Stoecker D, Nejstgaard JC, Larsen A. A simple adjustment to test reliability of bacterivory rates derived from the dilution method. *Limnol Oceanogr. Methods.* doi: 10.1002/lom3.10076
- 2016 Mitra A, Flynn KJ, Tillman U, Raven J, Caron D, Stoecker D, Not F, Hansen P, Hallegraeff G, Sanders, R., Wilken S, McManus G., Johnson M, Pitta P, Vage S, Berge T, Calbet A, Thingstad F, Jeong HJ, Burkholder J, Gilbert PM, Graneli E, Lundgren V. Refining planktonic protist functional groups on mechanisms for energy and nutrient acquisition: Incorporation of diverse mixotrophic strategies. *Protist* 167: 106-120.
- 2016 Banas NS, Zhang J, Campbell RG, Sambretto RN, Lomas MW, Sherr E, Sherr B, Ashjian C, Stoecker D, Lessard EJ. Spring plankton dynamics in the Eastern Bering Sea, 1971-2050: Mechanisms of interannual variability diagnosed with a numerical model. *J Geophysical Res. – Oceans* 121: 1476-1501.
- 2016 Lundgren VM, Glibert PM, Graneli E, Vidyarthna NK, Fiori E, Ou L, Flynn KJ, Mitra A, Stoecker DK, Hansen PJ. Metabolic and physiological changes in *Prymnesium parvum* when grown under, and grazing prey of, variable nitrogen:phosphorus stoichiometry. *Harmful Algae.* 55: 1-12.
- 2016 Ray JL, Althammer J, Skaar KS, Simonelli P, Larsen A, Stoecker D, Sazhin A, Ijaz UZ, Quince C, Nejstgaard JC, Frischer M, Pohnert G, Troedsson C. Metabarcoding

- analysis of copepod grazing reveals feeding preference and link to microbial plankton metabolites. *Molecular Ecology*. 25: 5585-5602.
- 2016 Johnson MD, Beaudoin DJ, Laza-Martinez A, Dyhrman ST, Fensin E, Lin S, Mercuri A, Nagai S, Pompeu M, Setälä O, Stoecker DK. The genetic diversity of *Mesodinium* and associated cryptophytes. *Frontiers in Microbiology* 7: Article 2017. Doi: 10.3389/fmicb.2016.02017
- 2017 Stoecker DK, Hansen PJ, Caron DA, Mitra A. Mixotrophy in the Marine Plankton. *Annual Review of Marine Science*. 9:311-335.
- 2017 Millette NC, Aceves A, Pierson JJ, Stoecker DK. 2017. Mixotrophy in *Heterocapsa rotundatata*: a mechanism for dominating the winter phytoplankton. *Limnol. Oceanogr.* doi. 10.1002/lno.10470
- 2017 Leles S, Mitra A, Flynn K, Stoecker D, Hansen P, Calbet A, McManus G, Sanders R, Caron D, Not F, Hallegraeff G, Pitta P, Raven JA, Johnson M, Glibert PM, Våge S. Oceanic protists with different forms of acquired phototrophy display contrasting biogeographies and abundance. *Proceedings of the Royal Society B*. 284(1860) doi. 10.1098/rspb.2017.0664.
- 2017 Franzè G, Pierson JJ, Stoecker DK, Lavrentyev PJ. Diatom-produced allelochemicals trigger trophic cascades in the planktonic food web. *Limnol. Oceanogr.* doi: 10.1002/lno.10756.
- 2018 Johnson MD, Beaudoin DJ, Frada M, Brownlee EF, Stoecker D. High grazing rates on cryptophyte algae in Chesapeake Bay” *Frontiers in Marine Science*, section Marine Ecosystem Ecology, Research Topic “Mixotrophy in Protists: from Model Systems to Mathematical Models. doi: 10.3389/fmars.2018.00241
- 2018 Stoecker DK, Lavrentyev PJ. Mixotrophic plankton in the Polar Seas: a Pan-Arctic Review. *Frontiers in Marine Science*, section Marine Ecosystem Ecology, Research Topic “Mixotrophy in Protists: from Model Systems to Mathematical Models. doi: 10.3389/fmars.2018.00292
- 2019 Leles SG, Mitra A, Flynn KA, Tillmann U, Stoecker D, Jeong HJ, Burkholder J, Hansen PJ, Caron D, Glibert P, Hallegraeff G, Raven J, Sanders R, Zubhov M. Sampling bias misrepresents the biogeographic significance of constitutive mixotrophs across global oceans. *Global Ecology and Biogeography*. 28: 418-428. doi: 10.1111/geb.12853
- 2019 Hansen PJ, Anderson R, Stoecker DK, Decelle J, Altenburger A, Blossom H, Drumm K, Mitra A, Flynn KJ. Mixotrophy among freshwater and marine protists. *Encyclopedia of Microbiology*, 4th edition. doi:10.1016/B978-0-12-809633-8.20685-7

- 2019 Stoecker, D, Pierson J. Predation on protozoa: its importance to zooplankton revisited. JPR Classic Guest Editorial. Journal of Plankton Research 41: 367-373.  
doi:10.1093/plankt/fbz027
- 2020 Maselli, M., Altenburger, A., Stoecker, D.K., Hansen, P.J. Ecological traits of mixotrophic *Strombidium* spp. J. Plankton Res. 42: 485-496.
- 2022 Li, M., Chen Y., Zhang F, Song Y, Glibert PM, Stoecker DK. A three-dimensional mixotrophic model of *Karlodinium veneficum* blooms for a eutrophic estuary. Harmful Algae 113: 102203.
- 2023 Mitra, A., Caron D.A., Faure E., Flynn K.J., Leles, S.G., Hansen P.J., McManus G.B., Not, F., Gomes, H d R, Santoferrara L.F., Stoecker, D.K., Tillmann U. 2023. The Mixoplankton Database (MDB): Diversity of photo-phago-trophic plankton in form, function, and distribution across the global ocean. J. Eukaryoti Microbiol. e12972.  
<https://doi.org/10.1111/jeu.12972>.
- 2023 Mitra M, Flynn K.J., Stoecker D.K., Raven, J.A. Trait trade-offs in phagotrophic microalgae – the mixoplankton conundrum. European Journal of Phycology. DOI: 10.1080/09670262.2023.2216259
- 2024 Mitra, A., Flynn K.J. Stoecker D., Raven J.A. Chapter 12, Trait trade-offs in Mixoplankton – An Analysis. pp. 227-251 in Giordano, M., Beardall, J., Raven J.J. and Maberly, S.C. (eds) Evolutionary Physiology of Algae and Aquatic Plants, Part II Physiology of Photosynthetic Autotrophs in Present-Day Environments. Cambridge Univ. Press. DOI: 10.1017/9781139049979.015

2025? Flynn K.J. et al. (31 coauthors in alphabetical order). More realistic plankton simulation models will improve projections of responses of ocean ecosystems to global change. Nature Ecology & Evolution.....

#### Other Contributions:

- 2023 Mitra, A., Caron D.A., Faure E., Flynn K.J., Leles, S.G., Hansen P.J., McManus G.B., Not, F., Gomes, H d R, Santoferrara L.F., Stoecker, D.K., Tillmann U. 2023. The Mixoplankton Database (MDB). Zenodo, <https://doi.org/10.5281/zenodo.7560583>.
- 2024 Flynn. K.J., Sherr E., Stoecker D.K, Thingstad T.F., Atkinson A., Beardall J., Boersma M., Bowler, C., Calbet A., Dam H., Glibert P.M., Hansen P.J., Jin P., Lomas M.W., Lønberg C., Menden-Deuer S., Mock T., Needham D., Robinson C., Rokitta S., Rost B., Saiz E., Schmidt K., Thiele S, & Våge S. Simulating Plankton – getting it right in the era of digital twins of the ocean; building and challenging perceptions. Zenodo  
<https://doi.org/10.5281/zenodo.10952555>.

- 2024 Flynn, K.J., Sherr E., Stoecker D.K, Atkinson A., Boersma M., Beardall J., Bowler, C., Brunet, C., Lomas M.W., Lønberg C., Millette N.C., Mock T., Needham D., Robinson C. & Rokitta S. Simulating Plankton – getting it right in the era of digital twins of the ocean; data to support plankton model construction. Zenodo <https://doi.org/10.5281/zenodo.10953276>.
- 2024 Flynn, K.J., Sherr E., Atkinson A., Lønberg C., Mulholland M., Rokitta S., Rost B., Schmidt K., Stoecker D.K, Thiele S., & Thingstad T.F. Simulating Plankton – getting it right in the era of digital twins of the ocean; simplicity vs complexity. Zenodo <https://doi.org/10.5281/zenodo.10953197>.
- 2024 Flynn, K.J., Atkinson A., Beardall J., Berges J.A., Boersma M., Brunet C., Calbet A., Caron D., Dam H., Glibert P.M., Hansen P.J., Jin P., Lomas M.W., Lønberg C., Mayor D., Meyer B., Millette N., Mock T., Mulholland M., Poulton A., Robinson C., Rokitta S., Rost B., Saiz E., Scanlan D., Schmidt K., Sherr E., Stoecker D.K., Svensen C., Thiele S, Thingstad T.F., Unrein F., & Våge S. Simulating Plankton – getting it right in the era of digital twins of the ocean; core features of plankton digital twins. Zenodo <https://doi.org/10.5281/zenodo.10952868>.
- 2024 Mitra, A., Flynn K.J., Stoecker, D., & Raven, J.A. Trait trade-offs in Mixoplankton: An Analysis. Ch. 12 , Part II – Physiology of Photosynthetic Autotrophs in Present-Day Environments, Giordano, M., Beardall, J., Raven, J.A. & Maberly, S.C. (eds), Cambridge University Press. <https://doi.org/10.1017/9781139099979/>
- 2025 Flynn, K.J. and 31 coauthors in alphabetical order including Stoecker, D.K. More realistic plankton simulation models will improve projections of ocean ecosystem responses to global change. Nat Ecol Evol, <https://doi.org/10.1038/s41559-025-02788-3>

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