

DAVID A. CARON
Professor, Dept. of Biological Sciences
University of Southern California
3616 Trousdale Ave., AHF 301
Los Angeles, CA 90089-0371
Phone: (213) 740-0203
Fax: (213) 740-6720
Email: dcaron@usc.edu

1975 B.S. University of Rhode Island, Microbiology
1977 M.S. University of Rhode Island, Oceanography
1984 Ph.D. Massachusetts Inst. of Technology and Woods Hole
Oceanographic Inst., Joint Program in Biological Oceanography

Education and Professional Experience

1984 - 1985 Associate Research Scientist, Lamont-Doherty Geological Observatory
of Columbia University.
1985 - 1989 Assistant Scientist, Woods Hole Oceanographic Institution.
1989 - 1993 Associate Scientist, Woods Hole Oceanographic Institution.
1993 - 1997 Associate Scientist with tenure, WHOI.
1997 - 1999 Senior Scientist, WHOI.
1975 - 1999 Participation on 24 major research cruises.
1975 - present Field research at field stations in Bermuda (BBSR), Jamaica (DBRS),
Barbados (BRI), Catalina Island (USC marine station), Caribbean
Marine Research Center (LSI, Bahamas).
1999 - present Professor, University of Southern California
2003 -present Chair of the Department of Biological Sciences, USC

Recent Awards and Honors

Mary Sears Endowed Chair for Excellence in Biological Oceanography (Woods
Hole Oceanographic Institution)
Seymour Hutner Award (Society of Protozoologists)
President, International Society of Protistologists, 2004-2005

Research Interests

Marine and freshwater microbial ecology, with emphasis on the trophic relationships
between protists (microalgae and protozoa) and other planktonic and benthic
microorganisms. Recent research programs have focused on the distribution, feeding
ecology, respiration and nutrient regeneration of bacterivorous and herbivorous protozoa,
the ecology of harmful algae, the physiology of Antarctic protists, feeding and growth of
phagotrophic (mixotrophic) microalgae, and the development of molecular biological
approaches for studying the ecology of free-living microorganisms.

Editorial Advisorship/Reviewer Board Service (Past & Present)

Journal of Eukaryotic Microbiology (present)
Aquatic Microbial Ecology (past: Deputy Managing Editor; North America)
Marine Ecology Progress Series (past)
Microbial Ecology (past)
Applied & Environmental Microbiology (past)
Limnology & Oceanography (past)
Presently ad hoc reviewer for approximately 15-20 other journals

Participation on National Funding Panels

NSF - Polar Programs,
NSF - Biological Oceanography
NSF - Life in Extreme Environments
NOAA – Ecology of Harmful Algal Blooms

Scientific Publications

- 1 Sieburth, J. McN., P. Willis, K. M. Johnson, C. M. Burney, D. M. Lavoie, K. R. Hinga, D. A. Caron, F. W. French III, P. W. Johnson and P. G. Davis. 1976. Dissolved organic matter and heterotrophic microneuston in the surface microlayers of the North Atlantic. *Science* 194: 1415-1418.
- 2 Davis, P. G., D. A. Caron and J. McN. Sieburth. 1978. Oceanic amoebae from the North Atlantic: culture, distribution, and taxonomy. *Trans. Amer. Micros. Soc.* 97: 73-88.
- 3 Caron, D. A. and J. McN. Sieburth. 1981. Disruption of the primary fouling sequence on fiberglass reinforced plastic submerged in the marine environment. *J. Appl. Environ. Microbiol.* 41: 268-273.
- 4 Caron, D. A. and J. McN. Sieburth. 1981. Response of peritrichous ciliates in fouling communities to seawater-accommodated hydrocarbons. *Trans. Amer. Micros. Soc.* 100: 183-203.
- 5 Bé, A. W. H., D. A. Caron and O. R. Anderson. 1981. Effects of feeding frequency on life processes of the planktonic foraminifer *Globigerinoides sacculifer* (Brady) in laboratory culture. *J. Mar. Biol. Ass. U. K.* 61: 257-277.
- 6 Caron, D. A., A. W. H. Bé and O. R. Anderson. 1982. Effects of variations in light intensity on life processes of the planktonic foraminifer *Globigerinoides sacculifer* in laboratory culture. *J. Mar. Biol. Ass. U. K.* 62: 435-451.

- 7 Caron, D. A., P. G. Davis, L. P. Madin and J. McN. Sieburth. 1982. Enrichment of heterotrophic bacteria and bacterivorous protozoa in oceanic macroaggregates. *Science* 218: 795-796.
- 8 Bé, A. W. H., O. R. Anderson, W. W. Faber, Jr. and D. A. Caron. 1983. Sequence of morphological and cytological changes during gametogenesis in the planktonic foraminifer *Globigerinoides sacculifer* (Brady). *Micropaleontol.* 29: 310-325.
- 9 Caron, D. A. 1983. A technique for the enumeration of photosynthetic and heterotrophic nanoplankton using epifluorescence microscopy, and a comparison with other procedures. *Appl. Environ. Microbiol.* 46: 491-498.
- 10 Caron, D. A. and A. W. H. Bé. 1984. Predicted and observed feeding rates of the spinose planktonic foraminifer *Globigerinoides sacculifer*. *Bull. Mar. Sci.* 35: 1-10.
- 11 Davis, P. G., D. A. Caron, P. W. Johnson and J. McN. Sieburth. 1985. Phototrophic and apochlorotic components of the picoplankton and nanoplankton in the North Atlantic: geographic, vertical, seasonal and diel distributions. *Mar. Ecol. Prog. Ser.* 21: 15-26.
- 12 Caron, D. A. F. R. Pick and D. R. S. Lean. 1985. Chroococcoid cyanobacteria in Lake Ontario: vertical and seasonal distributions during 1982. *J. Phycol.* 21: 171-175.
- 13 Goldman, J. C., D. A. Caron, O. K. Andersen and M. R. Dennett. 1985. Nutrient cycling in a microflagellate food chain: I. Nitrogen dynamics. *Mar. Ecol. Prog. Ser.* 24: 231-242.
- 14 Caron, D. A., J. C. Goldman, O. K. Andersen and M. R. Dennett. 1985. Nutrient cycling in a microflagellate food chain: II. Population dynamics and carbon cycling. *Mar. Ecol. Prog. Ser.* 24: 243-254.
- 15 Goldman, J. C. and D. A. Caron. 1985. Experimental studies on an omnivorous microflagellate: implications for grazing and nutrient regeneration in the marine microbial food chain. *Deep-Sea Res.* 32: 899-915.
- 16 Alldredge, A. L., J. J. Cole and D. A. Caron. 1986. Production of bacteria inhabiting macroscopic organic aggregates (marine snow) from surface waters. *Limnol. Oceanogr.* 31: 68-78.
- 17 Caron, D. A., P. G. Davis, L. P. Madin and J. McN. Sieburth. 1986. Enrichment of microbial populations in macroaggregates (marine snow) from surface waters of the North Atlantic. *J. Mar. Res.* 44: 543-565.
- 18 Andersen, O. K., J. C. Goldman, D. A. Caron and M. R. Dennett. 1986. Nutrient cycling in a microflagellate food chain. III. Phosphorus dynamics. *Mar. Ecol. Prog. Ser.* 31: 47-55.

- 19 Caron, D. A., J. C. Goldman and M. R. Dennett. 1986. Effect of temperature on growth, respiration and nutrient regeneration by an omnivorous microflagellate. *Appl. Environ. Microbiol.* 52: 1340-1347.
- 20 Wiebe, P. H., E. H. Backus, P. H. Backus, D. A. Caron, P. M. Glibert, J. F. Grassle, K. Powers and J. B. Waterbury. 1987. Biological Oceanography. *In: Milliman, J. D. and W. Wright (eds.). The marine environment of the U.S. Atlantic Continental Slope and Rise.* Jones and Bartlett Publ., Inc. Boston, pp. 140-201.
- 21 Caron, D. A. 1987. Grazing of attached bacteria by heterotrophic microflagellates. *Microb. Ecol.* 13: 203-218.
- 22 Caron, D. A., W. W. Faber, Jr. and A. W. H. Bé. 1987. Effects of temperature and salinity on the growth and survival of the planktonic foraminifer *Globigerinoides sacculifer*. *J. Mar. Biol. Ass. U. K.* 67: 323-341.
- 23 Caron, D. A., W. W. Faber, Jr. and A. W. H. Bé. 1987. Growth of the spinose planktonic foraminifer *Orbulina universa* in laboratory culture and the effect of temperature on life processes. *J. Mar. Biol. Ass. U. K.* 67: 343-358.
- 24 Sieracki, M. E., L. W. Haas, D. A. Caron and E. J. Lessard. 1987. The effect of fixation on particle retention by microflagellates: underestimation of grazing rates. *Mar. Ecol. Prog. Ser.* 38: 251-258.
- 25 Goldman, J. C., D. A. Caron and M. R. Dennett. 1987. Nutrient cycling in a microflagellate food chain: IV. Phytoplankton-microflagellate interactions. *Mar. Ecol. Prog. Ser.* 38: 75-87.
- 26 Goldman, J. C., D. A. Caron and M. R. Dennett. 1987. Regulation of gross growth efficiency and ammonium regeneration in bacteria by substrate C:N ratio. *Limnol. Oceanogr.* 32: 1239-1252.
- 27 Pick, F. R. and D. A. Caron. 1987. Pico- and nanoplankton biomass in Lake Ontario: relative contribution of phototrophic and heterotrophic assemblages. *Can. J. Fish. Aquat. Sci.* 44: 2164-2172.
- 28 Caron, D. A., J. C. Goldman and M. R. Dennett. 1988. Experimental demonstration of the roles of bacteria and bacterivorous protozoa in plankton nutrient cycles. *Hydrobiologia* 159: 27-40.
- 29 Caron, D. A. and J. C. Goldman. 1988. Dynamics of protistan carbon and nutrient cycling. *J. Protozool.* 35: 247-249.
- 30 Faber, W. W., Jr., O. R. Anderson, J. L. Lindsey and D. A. Caron. 1988. Algal-foraminiferal symbiosis in the planktonic foraminifer *Globigerinella aequilateralis*: I.

- Stability of association and morphological differences between two endosymbiotic species. *J. Foram. Res.* 18: 334-343.
- 31 Glibert, P. M., M. R. Dennett and D. A. Caron. 1988. Carbon and nitrogen uptake and NH_4^+ regeneration by pelagic microplankton and marine snow from the North Atlantic. *J. Mar. Res.* 46: 837-852.
- 32 Faber, W. W., Jr., D. A. Caron and O. R. Anderson. 1989. Algal-foraminiferal symbiosis in the planktonic foraminifer *Globigerinella aequilateralis*: II. Effects of two symbiont species on foraminiferal growth and longevity. *J. Foram. Res.* 19: 185-193.
- 33 Caron, D. A., P. G. Davis and J. McN. Sieburth. 1989. Factors responsible for the differences in cultural estimates and direct microscopical counts of populations of bacterivorous microflagellates. *Microb. Ecol.* 18: 89-104.
- 34 Caron, D. A., L. P. Madin and J. J. Cole. 1989. Composition and degradation of salp fecal pellets: implications for vertical flux in oceanic environments. *J. Mar. Res.* 47: 829-850.
- 35 Caron, D. A., E. L. Lim, H. Kunze, E. M. Cosper and D. M. Anderson. 1989. Trophic interactions between nano- and microzooplankton and the "Brown Tide". *In: Cosper, E. M., V. M. Bricelj and E. J. Carpenter (eds.). Novel phytoplankton blooms: causes and impacts of recurrent brown tides and other unusual blooms*, Springer-Verlag, Berlin, pp. 265-294.
- 36 Caron, D. A., J. C. Goldman and M. R. Dennett. 1990. Carbon utilization by the omnivorous flagellate *Paraphysomonas imperforata*. *Limnol. Oceanogr.* 35: 192-201.
- 37 Sanders, R. W., K. G. Porter and D. A. Caron. 1990. Relationship between phototrophy and phagotrophy in the mixotrophic chrysophyte *Poterioochromonas malhamensis*. *Microb. Ecol.* 19: 97-109.
- 38 Lewitus, A. J. and D. A. Caron. 1990. The relative effects of nitrogen or phosphorus depletion, and light intensity on the pigmentation, chemical composition, and volume of *Pyremononas salina*. *Mar. Ecol. Prog. Ser.* 61: 171-181.
- 39 Caron, D. A., K. G. Porter and R. W. Sanders. 1990. Carbon, nitrogen and phosphorus budgets for the mixotrophic phytoflagellate *Poterioochromonas malhamensis* (Chrysophyceae) during bacterial ingestion. *Limnol. Oceanogr.* 35: 433-443.
- 40 Caron, D. A. and J. C. Goldman. 1990. Nutrient regeneration. *In: Capriulo, G.M. (ed.). Ecology of marine protozoa*. Oxford Univ. Press, New York, pp. 283-306.
- 41 Caron, D. A., J. C. Goldman and T. Fenchel. 1990. Protozoan respiration and metabolism. *In: Capriulo, G.M. (ed.). Ecology of marine protozoa*. Oxford Univ. Press, New York, pp. 307-322.

- 42 Caron, D. A., O. R. Anderson, J. L. Lindsey, W. W. Faber, Jr. and E. L. Lim. 1990. Effects of gametogenesis on test structure and dissolution of some spinose planktonic foraminifera and implications for test preservation. *Mar. Micropaleontol.* 16: 93-116.
- 43 Caron, D. A. 1990. Growth of two species of bacterivorous microflagellates in batch and continuous culture, and implications for their planktonic existence. *Mar. Microb. Food Webs.* 4: 143-159.
- 44 Caron, D. A. 1990. Evolving role of protozoa in aquatic nutrient cycles. *In: Reid, P.C., C.M. Turley and P.H. Burkill. Protozoa and their role in marine processes*, NATO Advanced Study Institute Series, Springer-Verlag, Berlin, p. 387-415.
- 45 Caron, D. A. and N. R. Swanberg. 1990. The ecology of planktonic sarcodines. *Rev. Aq. Sci.* 3: 147-180.
- 46 Swanberg, N.R. and D.A. Caron. 1991. Patterns of sarcodine feeding in epipelagic oceanic plankton. *J. Plankton Res.* 13: 287-312.
- 47 Caron, D.A. 1991. Heterotrophic flagellates associated with sedimenting detritus. *In: Patterson, D.J. and J. Larsen. The biology of free-living heterotrophic flagellates.* Systematics Association Special Volume No. 43, Clarendon Press, Oxford, pp. 77-92.
- 48 Berninger, U.-G., D.A. Caron, B.J. Findlay and R.W. Sanders. 1991. Flagellates of planktonic communities, their communities and methods of study. *In: Patterson, D.J. and J. Larsen. The biology of free-living heterotrophic flagellates.* Systematics Association Special Volume No. 43, Clarendon Press, Oxford, pp. 39-56.
- 49 Lewitus. A.J. and D.A. Caron. 1991. Physiological responses of phytoflagellates to dissolved organic substrate additions. 1. Dominant role of heterotrophic nutrition in *Poterioochromonas malhamensis* (Chrysophyceae). *Plant Cell Physiol.* 32: 671-680.
- 50 Caron, D.A., E.L. Lim, G. Miceli, J.B. Waterbury and F.W. Valois. 1991. Grazing and utilization of chroococcoid cyanobacteria and heterotrophic bacteria by protozoa in laboratory cultures and a coastal plankton community. *Mar. Ecol. Prog. Ser.* 76: 205-217.
- 51 Lewitus. A.J., D.A. Caron and K.R. Miller. 1991. Effects of light and glycerol on the organization of the photosynthetic apparatus in the facultative heterotroph *Pyrenomonas salina* (Cryptophyceae). *J. Phycol.* 27: 578-587.
- 52 Lewitus. A.J. and D.A. Caron. 1991. Physiological responses of phytoflagellates to dissolved organic substrate additions. 2. Dominant role of autotrophic nutrition in *Pyrenomonas salina* (Cryptophyceae). *Plant Cell Physiol.* 32: 791-801.

- 53 Marrasé, C., E.L. Lim and D.A. Caron. 1992. Seasonal and daily changes in bacterivory in a coastal plankton community. *Mar. Ecol. Progr. Ser.* 82: 281-289.
- 54 Sanders, R.W., D.A. Caron and U.-G. Berninger. 1992. Relationships between bacteria and heterotrophic nanoplankton in marine and fresh waters: an inter-ecosystem comparison. *Mar. Ecol. Progr. Ser.* 86: 1-14.
- 55 Caron, D.A. An introduction to biological oceanography. 1992. *Oceanus* 35: 10-17.
- 56 Berninger, U.-G., D.A. Caron and R.W. Sanders. 1992. Mixotrophic algae in three ice-covered lakes of the Pocono Mountains, USA. *Freshwater Biology* 28: 263-272.
- 57 Caron, D.A., R. W. Sanders, E.L. Lim, C. Marrasé, L. A. Amaral, S. Whitney, R.B. Aoki and K.G. Porter. 1993. Light-dependent phagotrophy in the freshwater mixotrophic chrysophyte *Dinobryon cylindricum*. *Microb. Ecol.* 25: 93-111.
- 58 Caron, D.A. and J.C. Goldman. 1993. Predicting excretion rates of protozoa: reply to the comment by Landry. *Limnol. Oceanogr.* 38: 472-474.
- 59 Lim, E.L., L.A. Amaral, D.A. Caron and E.F. DeLong. 1993. Application of ribosomal RNA-based probes for observing marine nanoplanktonic protists. *Appl. Environ. Microbiol.* 59: 1647-1655.
- 60 Caron, D.A. 1993. Enrichment, isolation and culture of free-living heterotrophic flagellates. In: Kemp, P., E.B. Sherr, B.F. Sherr and J.J. Cole. *Handbook of methods in aquatic microbial ecology*, Lewis Publishers, Boca Raton, pp. 77-89.
- 61 Sherr, E.B., D.A. Caron and B.F. Sherr. 1993. Staining of heterotrophic protists for visualization via epifluorescence microscopy. In: Kemp, P., E.B. Sherr, B.F. Sherr and J.J. Cole. *Handbook of methods in aquatic microbial ecology*, Lewis Publishers, pp. 213-227.
- 62 Kiddon, J., M. Bender, J. Orchard, J. Goldman, D.A. Caron and M.R. Dennett. 1993. Isotopic fractionation of oxygen by respiring marine organisms. *Global Biogeochem. Cycles.* 7: 679-694.
- 63 Caron, D.A., E.J. Lessard, M. Voytek and M.R. Dennett. 1993. Use of tritiated thymidine (Tdr) to estimate rates of bacterivory: implications of label retention and release by bacterivores. *Mar. Microb. Food Webs.* 7: 177-196.
- 64 Caron, D. A. 1994. Protozoan links in food webs. In: Hausmann, K., Hülsmann, N. *Progress in protozoology. Proceedings of the IX International Congress of Protozoology, Berlin 1993.* Gustav Fischer Verlag, Stuttgart, pp. 125-130.
- 65 Caron, D.A. 1994. Inorganic nutrients, bacteria and the microbial loop. *Microb. Ecol.* 28: 295-298

- 66 Caron, D.A., A.F. Michaels, N.R. Swanberg and F.A. Howse. 1995. Primary productivity of symbiont-bearing planktonic sarcodines (Acantharia, Radiolaria, Foraminifera) in surface waters near Bermuda. *J. Plankton Res.* 17: 103-129.
- 67 Michaels, A.F., D.A. Caron, N.R. Swanberg, F.A. Howse and C.M. Michaels. 1995. Planktonic sarcodines (Acantharia, Radiolaria, Foraminifera) in surface waters near Bermuda: abundance, biomass and vertical flux. *J. Plankton Res.* 17: 131-163.
- 68 Arenovski, A.L., E.L. Lim and D.A. Caron. 1995. Mixotrophic nanoplankton in oligotrophic surface waters of the Sargasso Sea may employ phagotrophy to obtain major nutrients. *J. Plankton Res.* 17: 801-820.
- 69 Caron, D.A., H.G. Dam, P. Kremer, E.J. Lessard, L.P. Madin, T.C. Malone, J.M. Napp, E.R. Peele, M.R. Roman and M.J. Youngbluth. 1995. The contribution of microorganisms to particulate carbon and nitrogen in surface waters of the Sargasso Sea near Bermuda. *Deep-Sea Res.* 42: 943-972.
- 70 Roman, M.R., D.A. Caron, P. Kremer, E.J. Lessard, L.P. Madin, T.C. Malone, J.M. Napp, E.R. Peele and M.J. Youngbluth. 1995. Spatial and temporal changes in the partitioning of organic carbon in the plankton community of the Sargasso Sea off Bermuda. *Deep-Sea Res.* 42: 973-992.
- 71 Caron, D.A. and R.J. Gast. 1995. Probing biodiversity: molecular techniques offer powerful new tools. *Oceanus.* 38: 11-15.
- 72 Caron, D.A. 1996. Symposium introductory remarks: protistan molecular ecology and systematics. *J. Euk. Microbiol.* 43: 87-88.
- 73 Lim, E.L., D.A. Caron and E.F. DeLong. 1996. Development and field application of a quantitative method for examining natural assemblages of protists using oligonucleotide probes. *Appl. Environ. Microbiol.* 62: 1416-1423.
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- 77 Caron, D.A. Protistan community structure. In: Hurst, C.J., Knudsen, G.R., McInerney, M.J., Stetzenbach, L.D. and M.V. Walter (eds.). 1997. *Manual of Environmental Microbiology, Section IV*, ASM Press, Washington, D.C., pp. 284-294.

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- 84 Amaral Zettler, L.A., O.R. Anderson and D.A. Caron. 1999. Towards a molecular phylogeny of colonial Spumellarian Radiolaria. *Mar. Micropaleontol.* 36: 67-79.
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- 86 Caron, D.A. and M.R. Dennett. 1999. Phytoplankton growth and mortality during the 1995 Northeast Monsoon and Spring Intermonsoon in the Arabian Sea. *Deep-Sea Res.* 46: 1665-1690.
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- 90 Gifford, D.J. and D.A. Caron. 1999. Sampling, preservation, enumeration and biomass of marine protozooplankton. In: *ICES zooplankton methodology manual*. Academic Press, London, pp. 193-221.
- 91 Gast, R.J., T.A. McDonnell and D.A. Caron. 1999. srDNA-based taxonomic affinities of algal symbionts from a planktonic foraminifer and a solitary radiolarian. *J. Phycol.* 36: 172-177.
- 92 Caron, D.A. 2000. Symbiosis and mixotrophy among pelagic microorganisms. In: Kirchman, D.L. (Ed.), *Microbial ecology of the oceans*, John Wiley & Sons, Inc., New York, pp. 495-523.
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- 95 Nigam, R. and D.A. Caron. 2000. Does temperature affect dimorphic reproduction in benthic foraminifera? A culture experiment on *Rosalina leei*. *Current Sci.* 79: 105-106.
- 96 Caron, D.A. 2000. Protistan Herbivory and Bacterivory. In: Paul, J. (ed.) *Marine Microbiology*, vol. 30, *Methods in Microbiology*, Academic Press, London, pp. 289-315.
- 97 Caron, D.A. M.R. Dennett, D.J. Lonsdale, D.M. Moran and L. Shalapyonok. 2000. Microzooplankton herbivory in the Ross Sea, Antarctica, during the U.S. JGOFS Program (October, 1996 - December, 1997). *Deep-Sea Res. II.* 47: 3249-3272.
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- 103 Boissonneault Cellineri, K.R., M. Mehta, D.J. Lonsdale and D.A. Caron. 2001. Microbial food web interactions in two Long Island embayments. *Aq. Microb. Ecol.* 26: 139-155.
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