

# Curriculum Vitae of John J. Gilbert

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Born July 18, 1937, Southampton, New York.

B.A. with Honors in Biology, June 1959, Williams College.

Ph.D. in Biology, June 1963, Yale University.

NIH Postdoctoral Fellow, 1963-64, Department of Zoology, University of Washington.

Assistant Professor, 1964-1966, Department of Biology, Princeton University.

Assistant Professor, 1966-1969, Department of Biological Sciences, Dartmouth College.

Associate Professor, 1969-1974, Department of Biological Sciences, Dartmouth College.

Professor, 1974-2004, Department of Biological Sciences, Dartmouth College.

Professor Emeritus, 2004-present, Department of Biological Sciences, Dartmouth College.

## Fellowships and Awards

1963-1964. NIH Postdoctoral Fellowship F2 GM-20, 171-01, to study environmental controls of rotifer development with W.T. Edmondson, Department of Zoology, University of Washington.

1973-1978. NIH Career Development Award K04 GM 70557, Vitamin E: new bioassay, role in rotifers, new compound.

1997. William Evans Visiting Fellowship, Department of Zoology, University of Otago, New Zealand.

2003. Lifetime Achievement Award, American Society of Limnology and Oceanography.

## Editorial Activities

Editorial Board of *Oecologia* (1968-1977, 1989-1992).

Editor of *Rotifer News*, an international newsletter for rotifer investigators with a circulation of about 300 (1973-1981).

Editor, with E. Lubzens and M.R. Miracle, Proceedings of the sixth rotifer symposium, Banyoles, Spain, 1991. *Hydrobiologia* **255/256** (1993).

Editor, with V. Alekseev and B. De Stasio, *Diapause in aquatic invertebrates: role for ecology, physiology, and human uses*. Kluwer Academic Publishers, Dordrecht, The Netherlands. (2006).

Editor, with N. Walz, R. Adrian, M.T. Monaghan, G. Weithoff and H. Zimmermann-Timm, Proceedings of the twelfth rotifer symposium, Berlin, Germany, 2009. *Hydrobiologia* **662** (2011).

## Publications: Research Papers

Gilbert, J.J. 1963. Mictic female production in the rotifer *Brachionus calyciflorus*. *J. Exp. Zool.* **153**: 113-124.

- Gilbert, J.J. 1963. Contact chemoreception, mating behaviour, and sexual isolation in the rotifer genus *Brachionus*. *J. Exp. Biol.* **40**: 625-641.
- Gilbert, J.J. 1966. Rotifer ecology and embryological induction. *Science* **151**: 1234-1237.
- Gilbert, J.J. 1967. Control of sexuality in the rotifer *Asplanchna brightwelli* by dietary lipids of plant origin. *Proc. Natl. Acad. Sci. USA* **57**: 1218-1225.
- Gilbert, J.J. 1967. *Asplanchna* and posterolateral spine production in *Brachionus calyciflorus*. *Arch. Hydrobiol.* **64**: 1-62.
- Gilbert, J.J. and J.K. Waage. 1967. *Asplanchna*, *Asplanchna*-substance and posterolateral spine length variation of the rotifer *Brachionus calyciflorus* in a natural environment. *Ecology* **48**: 1027-1031.
- Gilbert, J.J. 1968. Dietary control of sexuality in the rotifer *Asplanchna brightwelli* Gosse. *Physiol. Zool.* **41**: 14-43.
- Gilbert, J.J. and G.A. Thompson, Jr. 1968. Alpha-tocopherol control of sexuality and polymorphism in the rotifer *Asplanchna*. *Science* **159**: 734-736.
- Gilbert, J.J. 1970. Monoxenic cultivation of the rotifer *Brachionus calyciflorus* in a defined medium. *Oecologia* **4**: 89-101.
- Likens, G.E. and J.J. Gilbert. 1970. Notes on quantitative sampling of natural populations of planktonic rotifers. *Limnol. Oceanogr.* **15**: 816-820.
- Gilbert, J.J. 1971. Some notes on the control of sexuality in the rotifer *Asplanchna sieboldi*. *Limnol. Oceanogr.* **16**: 309-319.
- Gilbert, J.J. and C.W. Birky, Jr. 1971. Sensitivity and specificity of the *Asplanchna* response to dietary  $\alpha$ -tocopherol. *J. Nutrition* **101**: 113-126.
- Birky, C.W., Jr. and J.J. Gilbert. 1972. Vitamin E as an extrinsic and intrinsic signal controlling development in the rotifer *Asplanchna*: uptake, transmission, and localization of [<sup>3</sup>H]  $\alpha$ -tocopherol. *J. Embryol. exp. Morphol.* **27**: 103-120.
- Gilbert, J.J. 1972.  $\alpha$ -Tocopherol in males of the rotifer *Asplanchna sieboldi*: its metabolism and its distribution in the testis and rudimentary gut. *J. Exp. Zool.* **181**: 117-128.
- Riggs, L.A. and J.J. Gilbert. 1972. The labile period for  $\alpha$ -tocopherol-induced mictic female and body wall outgrowth responses in embryos of the rotifer *Asplanchna sieboldi*. *Int. Rev. ges. Hydrobiol.* **57**: 675-683.

- Simpson, T.L. and J.J. Gilbert. 1973. Gemmulation, gemmule hatching, and sexual reproduction in fresh-water sponges. I. The life cycles of *Spongilla lacustris* and *Tubella pennsylvanica*. Trans. Amer. Micros. Soc. **92**: 422-433.
- Gilbert, J.J. and H.L. Allen. 1973. Studies on the physiology of the green freshwater sponge *Spongilla lacustris*: primary productivity, organic matter, and chlorophyll content. Verh. Int. Ver. Limnol. **18**: 1413-1420.
- Gilbert, J.J. and H.L. Allen. 1973. Chlorophyll and primary productivity of some green, freshwater sponges. Int. Rev. ges. Hydrobiol. **58**: 633-658.
- Gilbert, J.J. 1973. The significance of polymorphism in the rotifer *Asplanchna*. Humps in males and females. Oecologia **13**: 135-146.
- Gilbert, J.J. 1973. The induction and ecological significance of gigantism in the rotifer *Asplanchna sieboldi*. Science **181**: 63-66.
- Simpson, T.L. and J.J. Gilbert. 1973. Gemmulation, gemmule hatching and sexual reproduction in fresh-water sponges. II. Life cycle events in young, larvae-produced sponges of *Spongilla lacustris* and an unidentified species. Trans. Amer. Micros. Soc. **93**: 39-45.
- Gilbert, J.J. 1974. Effect of tocopherol on the growth and development of rotifers. Amer. J. Clin. Nutr. **27**: 1005-1016.
- Gilbert, J.J. 1974. Field experiments on sexuality in the freshwater sponge *Spongilla lacustris*. The control of oocyte production and the fate of unfertilized oocytes. J. Exp. Zool. **188**: 165-178.
- Gilbert, J.J. 1974. Polymorphism in the rotifer *Asplanchna sieboldi*. Variability in the body-wall-outgrowth response to dietary tocopherol. Physiol. Zool. **48**: 404-419.
- Gilbert, J.J., T.L. Simpson, and G. de Nagy. 1975. Field experiments on egg production in the freshwater sponge *Spongilla lacustris*. Hydrobiologia **46**: 17-27.
- Gilbert, J.J. 1975. Polymorphism and sexuality in the rotifer *Asplanchna*, with special reference to the effects of prey-type and clonal variation. Arch. Hydrobiol. **75**: 442-483.
- Gilbert, J.J. 1975. Field experiments on gemmulation in the freshwater sponge *Spongilla lacustris*. Trans. Amer. Micros. Soc. **94**: 347-356.
- Gilbert, J.J. and S.D. Hadžišče. 1975. Sexual reproduction in the freshwater sponge *Ochridaspongia rotunda*. Verh. Int. Ver. Limnol. **19**: 2785-2792.
- Gilbert, J.J. and J.R. Litton, Jr. 1975. Dietary tocopherol and sexual reproduction in the rotifers *Brachionus calyciflorus* and *Asplanchna sieboldi*. J. Exp. Zool. **194**: 485-494.

- Litton, J.R., Jr. and J.J. Gilbert. 1975. Analysis of tocopherol in *Rhodotorula glutinis*, *Agaricus campestris*, and *Euglena gracilis* using spectrofluorometry and rotifer bioassay. *J. Gen. Appl. Microbiol.* **21**: 345-354.
- Gilbert, J.J. and T.L. Simpson. 1976. Sex reversal in a freshwater sponge. *J. Exp. Zool.* **195**: 145-151.
- Gilbert, J.J. and T.L. Simpson. 1976. Gemmule polymorphism in the freshwater sponge *Spongilla lacustris*. *Arch. Hydrobiol.* **78**: 268-277.
- Gilbert, J.J. 1976. Polymorphism in the rotifer *Asplanchna sieboldi*: biomass, growth and reproductive rate of the saccate and campanulate morphotypes. *Ecology* **57**: 542-551.
- Wurdak, E.S. and J.J. Gilbert. 1976. Polymorphism in the rotifer *Asplanchna sieboldi*. Fine structure of saccate, cruciform and campanulate females. *Cell Tiss. Res.* **169**: 435-448.
- Litton, J.R., Jr. and J.J. Gilbert. 1976. Polymorphism in the rotifer *Asplanchna sieboldi*: some chemical constituents of the saccate and campanulate morphotypes. *Experientia* **32**: 1408-1409.
- Litton, J.R., Jr. and J.J. Gilbert. 1976. Assimilation and retention of tocopherol and chlorophylls in the rotifers *Brachionus calyciflorus* and *Asplanchna sieboldi*. *Experientia* **32**: 1520-1532.
- Gilbert, J.J. 1976. Selective cannibalism in the rotifer *Asplanchna sieboldi*: contact recognition of morphotype and clone. *Proc. Natl. Acad. Sci. USA* **73**: 3233-3237.
- Gilbert, J.J. 1976. Sex-specific cannibalism in the rotifer *Asplanchna sieboldi*. *Science* **194**: 730-732.
- Jones, P.A. and J.J. Gilbert. 1976. Male haploidy in rotifers: relative DNA content of nuclei from male and female *Asplanchna*. *J. Exp. Zool.* **198**: 281-285.
- Gilbert, J.J. and S.D. Hadžišče. 1977. Life cycle of the freshwater sponge *Ochridaspongia rotunda* Arndt. *Arch. Hydrobiol.* **79**: 285-318.
- Gilbert, J.J. 1977. Effect of the non-tocopherol component of the diet on polymorphism, sexuality, biomass, and reproductive rate of the rotifer *Asplanchna sieboldi*. *Arch. Hydrobiol.* **80**: 375-397.
- Gilbert, J.J. 1977. A note on mictic-female production in monoxenic cultures of *Brachionus calyciflorus*. *Arch. Hydrobiol. Beih. Ergebn. Limnol.* **8**: 156-157.
- Gilbert, J.J. 1977. A note on the effect of cold shock on mictic-female production in *Brachionus calyciflorus*. *Arch. Hydrobiol. Beih. Ergebn. Limnol.* **8**: 158-160.

- Gilbert, J.J. 1977. A note on the relationship between polymorphism and mictic-female production in *Brachionus calyciflorus*. Arch. Hydrobiol. Beih. Ergebn. Limnol. **8**: 161-162.
- Gilbert, J.J. 1977. Selective cannibalism in the rotifer *Asplanchna sieboldi*. Arch. Hydrobiol. Beih. Ergebn. Limnol. **8**: 267-269.
- Wurdak, E., Gilbert, J.J. and R. Jagels. 1977. Resting egg ultrastructure and formation of the shell in *Asplanchna sieboldi* and *Brachionus calyciflorus*. Arch. Hydrobiol. Beih. Ergebn. Limnol. **8**: 298-302.
- Starkweather, P.L. and J.J. Gilbert. 1977. Radiotracer determination of feeding in *Brachionus calyciflorus*: the importance of gut passage times. Arch. Hydrobiol. Beih. Ergebn. Limnol. **8**: 261-263.
- Gilbert, J.J. 1977. Control of feeding behaviour and selective cannibalism in the rotifer *Asplanchna*. Freshwat. Biol. **7**: 337-341.
- Kabay, M.E. and J.J. Gilbert. 1977. Polymorphism and reproductive mode in the rotifer, *Asplanchna sieboldi*: relationship between meiotic oogenesis and shape of body-wall outgrowths. J. Exp. Zool. **201**: 21-28.
- Jones, P.A. and J.J. Gilbert. 1977. Polymorphism and polyploidy in the rotifer *Asplanchna sieboldi*: relative nuclear DNA contents in tissues of saccate and campanulate females. J. Exp. Zool. **201**: 163-168.
- Gilbert, J.J. and P.L. Starkweather. 1977. Feeding in the rotifer *Brachionus calyciflorus*. I. Regulatory mechanisms. Oecologia **28**: 125-131.
- Starkweather, P.L. and J.J. Gilbert. 1977. Feeding in the rotifer *Brachionus calyciflorus*. II. Effect of food density on feeding rates using *Euglena gracilis* and *Rhodotorula glutinis*. Oecologia **28**: 133-139.
- Gilbert, J.J. 1977. Defenses of males against cannibalism in the rotifer *Asplanchna*: size, shape, and failure to elicit tactile feeding responses. Ecology **58**: 1128-1135.
- Kabay, M.E. and J.J. Gilbert. 1977. A new rotifer-based assay for tocopherol. Lipids **12**: 875-878.
- Wurdak, E.S., Gilbert, J.J., and R. Jagels. 1978. Fine structure of the resting eggs of the rotifers, *Brachionus calyciflorus* and *Asplanchna sieboldi*. Trans. Amer. Micros. Soc. **97**: 49-72.
- Gilbert, J.J. 1978. Selective feeding and its effect on polymorphism and sexuality in the rotifer *Asplanchna sieboldi*. Freshwat. Biol. **8**: 43-50.

- Kabay, M.E. and J.J. Gilbert. 1978. Polymorphism in the rotifer, *Asplanchna sieboldi*: insensitivity of the body-wall-outgrowth response to temperature, food density, pH and osmolarity differences. Arch. Hydrobiol. **83**: 377-390.
- Gilbert, J.J. and J.R. Litton, Jr. 1978. Sexual reproduction in the rotifer *Asplanchna girodi*: effects of tocopherol and population density. J. Exp. Zool. **204**: 113-122.
- Gilbert, J.J. and P.L. Starkweather. 1978. Feeding in the rotifer *Brachionus calyciflorus*. III. Direct observations on the effects of food type, food density, change in food type, and starvation on the incidence of pseudotrochal screening. Verh. Int. Ver. Limnol. **20**: 2382-2388.
- Starkweather, P.L. and J.J. Gilbert. 1978. Feeding in the rotifer *Brachionus calyciflorus*. IV. Selective feeding on tracer particles as a factor in trophic ecology and in situ technique. Verh. Int. Ver. Limnol. **20**: 2389-2394.
- Gilbert, J.J. and E.S. Wurdak. 1978. Species-specific morphology of resting eggs in the rotifer *Asplanchna*. Trans. Amer. Micros. Soc. **97**: 330-339.
- Gilbert, J.J. and C.E. Williamson. 1978. Predator-prey behavior and its effect on rotifer survival in associations of *Mesocyclops edax*, *Asplanchna girodi*, *Polyarthra vulgaris*, and *Keratella cochlearis*. Oecologia **37**: 13-22.
- Gilbert, J.J., Birky, C.W., Jr. and E.S. Wurdak. 1979. Taxonomic relationships of *Asplanchna brightwelli*, *A. intermedia*, and *A. sieboldi*. Arch. Hydrobiol. **87**: 224-242.
- Starkweather, P.L., Gilbert, J.J., and T.M. Frost. 1979. Bacterial feeding by the rotifer *Brachionus calyciflorus*: clearance and ingestion rates, behavior and population dynamics. Oecologia **44**: 26-30.
- Gilbert, J.J. 1980. Female polymorphism and sexual reproduction in the rotifer *Asplanchna*: evolution of their relationship and control by dietary tocopherol. Am. Nat. **116**: 409-431.
- Gilbert, J.J. 1980. Further observations on developmental polymorphism and its evolution in *Brachionus calyciflorus*. Freshwat. Biol. **10**: 281-294.
- Bogdan, K.G., Gilbert, J.J., and P.L. Starkweather. 1980. *In situ* clearance rates of planktonic rotifers. Hydrobiologia **73**: 73-77.
- Gilbert, J.J. 1980. Observations on the susceptibility of some protists and rotifers to predation by *Asplanchna girodi*. Hydrobiologia **73**: 87-91.
- Wurdak, E.S. and J.J. Gilbert. 1980. Ultrastructure and histochemistry of the rudimentary gut of male *Asplanchna sieboldi* (Rotifera). Hydrobiologia **73**: 123-126.

- Gilbert, J.J. 1980. Some effects of diet on the biology of the rotifers *Asplanchna* and *Brachionus*. **In:** Nutrition in the lower Metazoa (D.C. Smith and Y. Tiffon, eds.). Pergamon Press. pp. 57-71.
- Gilbert, J.J. 1980. Feeding in the rotifer *Asplanchna*: behavior, cannibalism, selectivity, prey defenses, and impact on rotifer communities. **In:** Evolution and ecology of zooplankton communities (W.C. Kerfoot, ed.). Univ. Press of New England. pp. 158-172.
- Williamson, C.E. and J.J. Gilbert. 1980. Variation among zooplankton predators: the potential of *Asplanchna*, *Mesocyclops*, and *Cyclops* to attack, capture, and eat various rotifer prey. **In:** Evolution and ecology of zooplankton communities (W.C. Kerfoot, ed.). Univ. Press of New England. pp. 509-517.
- Gilbert, J.J. and K.G. Bogdan. 1981. Selectivity of *Polyarthra* and *Keratella* for flagellate and aflagellate cells. Verh. Int. Ver. Limnol. **21**: 1515-1521.
- Gilbert, J.J. 1981. Control of morphotype frequency distributions in populations of the rotifer *Asplanchna sieboldi*: factors influencing the production of the tocopherol-dependent cruciform and campanulate morphotypes. Ecology **62**: 1299-1310.
- Frost, T.M., de Nagy, G.S., and J.J. Gilbert. 1982. Population dynamics and standing biomass of the freshwater sponge *Spongilla lacustris*. Ecology **63**: 1203-1210.
- Bogdan, K.G. and J.J. Gilbert. 1982. The effects of posterolateral spine length and body length on feeding rate in the rotifer, *Brachionus calyciflorus*. Hydrobiologia **89**: 263-268.
- Bogdan, K.G. and J.J. Gilbert. 1982. Seasonal patterns of feeding by natural populations of *Keratella*, *Polyarthra*, and *Bosmina*: clearance rates, selectivities and contributions to community grazing. Limnol. Oceanogr. **27**: 918-934.
- Magnien, R.E. and J.J. Gilbert. 1983. Diel cycles of reproduction and vertical migration in the rotifer *Keratella crassa* and their influence on the estimation of population dynamics. Limnol. Oceanogr. **28**: 957-969.
- Gilbert, J.J. 1983. Control of sexuality in *Asplanchna brightwelli*: threshold levels of dietary tocopherol and modification of tocopherol response by exogenous and endogenous factors. Hydrobiologia **104**: 167-173.
- Gilbert, J.J. and S. Hadžišće. 1984. Taxonomic notes on the shallow-water endemic sponges of Lake Ohrid, Yugoslavia, with a description of two new species and a redescription of *Spongilla stankovici*. Arch. Hydrobiol. **99**: 331-339.
- Gilbert, J.J. and R.S. Stemberger. 1984. *Asplanchna*-induced polymorphism in the rotifer *Keratella slacki*. Limnol. Oceanogr. **29**: 1309-1316.

- Stemberger, R.S. and J.J. Gilbert. 1984. Spine development in the rotifer *Keratella cochlearis*: induction by cyclopoid copepods and *Asplanchna*. *Freshwat. Biol.* **14**: 639-647.
- Bogdan, K.G. and J.J. Gilbert. 1984. Body size and food size in freshwater zooplankton. *Proc. Natl. Acad. Sci. USA.* **81**: 6427-6431.
- Stemberger, R.S. and J.J. Gilbert. 1984. Body size, ration level, and population growth in *Asplanchna*. *Oecologia.* **64**: 355-359.
- Gilbert, J.J. and K.G. Bogdan. 1984. Rotifer grazing: *in situ* studies on selectivity and rates. **In:** *Trophic interactions within aquatic ecosystems* (D.G. Meyers and J.R. Strickler, eds.). AAAS Selected Symposium Volume 85, Westview Press, Inc. pp. 97-133.
- Stemberger, R.S. and J.J. Gilbert. 1985. Assessment of threshold food levels and population growth in planktonic rotifers. *Arch. Hydrobiol. Beih. Ergebn. Limnol.* **21**: 269-275.
- Gilbert, J.J. and R.S. Stemberger. 1985. Prey capture in the rotifer *Asplanchna girodi*. *Verh. Int. Ver. Limnol.* **22**: 2997-3000.
- Gilbert, J.J. and R.S. Stemberger. 1985. Control of *Keratella* populations by interference competition from *Daphnia*. *Limnol. Oceanogr.* **30**: 180-188.
- Stemberger, R.S. and J.J. Gilbert. 1985. Body size, food concentration, and population growth in planktonic rotifers. *Ecology* **66**: 1151-1159.
- Gilbert, J.J. 1985. Competition between rotifers and *Daphnia*. *Ecology* **66**: 1943-1950.
- Gilbert, J.J. 1985. Escape response of the rotifer *Polyarthra*: a high-speed cinematographic analysis. *Oecologia* **66**: 322-331.
- Gilbert, J.J. and R.S. Stemberger. 1985. The costs and benefits of gigantism in polymorphic species of *Asplanchna*. *Arch. Hydrobiol. Beih. Ergebn. Limnol.* **21**: 185-192.
- Gilbert, J.J. and J.L. Confer. 1986. Gigantism and the potential for interference competition in the rotifer genus *Asplanchna*. *Oecologia* **70**: 549-554.
- Burns, C.W. and J.J. Gilbert. 1986. Effects of daphnid size and density on interference between *Daphnia* and *Keratella cochlearis*. *Limnol. Oceanogr.* **31**: 848-858.
- Burns, C.W. and J.J. Gilbert. 1986. Direct observations of the mechanisms of interference between *Daphnia* and *Keratella cochlearis*. *Limnol. Oceanogr.* **31**: 859-866.
- Stemberger, R.S. and J.J. Gilbert. 1987. Multiple species induction of morphological defenses in the rotifer *Keratella testudo*. *Ecology* **68**: 370-378.



- Gilbert, J.J. 1987. The *Polyarthra* escape response: defense against interference from *Daphnia*. *Hydrobiologia* **147**: 235-238.
- Moore, M.V. and J.J. Gilbert. 1987. Age-specific *Chaoborus* predation on rotifer prey. *Freshwat. Biol.* **17**: 223-236.
- Stemberger, R.S. and J.J. Gilbert. 1987. Rotifer threshold food concentrations and the size-efficiency hypothesis. *Ecology* **68**: 181-187.
- Bogdan, K.G. and J.J. Gilbert. 1987. Quantitative comparison of food niches in some freshwater zooplankton: a multi-tracer-cell approach. *Oecologia* **72**: 331-340.
- Kirk, K.L. and J.J. Gilbert. 1988. The escape behavior of *Polyarthra* in response to artificial flow stimuli. *Bull. Mar. Sci.* **43**: 551-560.
- Gilbert, J.J. 1988. Susceptibilities of ten rotifer species to interference from *Daphnia pulex*. *Ecology* **69**: 1826-1838.
- Gilbert, J.J. and K.L. Kirk. 1988. Escape response of the rotifer *Keratella*: description, stimulation, fluid dynamics, and ecological significance. *Limnol. Oceanogr.* **33**: 1440-1450.
- Gilbert, J.J. 1989. Competitive interactions between the rotifer *Synchaeta oblonga* and the cladoceran *Scapholeberis kingi* Sars. *Hydrobiologia* **186/187**: 75-80.
- Gilbert, J.J. 1989. The effect of *Daphnia* interference on a natural rotifer and ciliate community: short-term bottle experiments. *Limnol. Oceanogr.* **34**: 606-617.
- Gilbert, J.J. and H.J. MacIsaac. 1989. The susceptibility of *Keratella cochlearis* to interference from small cladocerans. *Freshwat. Biol.* **22**: 333-339.
- MacIsaac, H.J. and J.J. Gilbert. 1989. Competition between rotifers and cladocerans of different body sizes. *Oecologia* **81**: 295-301.
- Gilbert, J.J. 1990. Differential effects of *Anabaena affinis* on cladocerans and rotifers: mechanisms and implications. *Ecology* **71**: 1727-1740.
- Kirk, K.L. and J.J. Gilbert. 1990. Suspended clay and the population dynamics of planktonic rotifers and cladocerans. *Ecology* **71**: 1741-1755.
- Gilbert, J.J. and M.W. Durand. 1990. Effects of the filamentous cyanobacterium *Anabaena flos-aquae* on feeding and reproduction in *Keratella* and *Daphnia*. *Freshwat. Biol.* **24**: 577-596.

- MacIsaac, H.J. and J.J. Gilbert. 1990. Does exploitative or interference competition from *Daphnia* limit the abundance of *Keratella* in Loch Leven? A reassessment of May and Jones (1989). *J. Plankton Res.* **12**: 1315-1320.
- MacIsaac, H.J. and J.J. Gilbert. 1991. Competition between *Keratella cochlearis* and *Daphnia ambigua*: effects of temporal patterns of food availability. *Freshwat. Biol.* **25**: 189-198.
- MacIsaac, H.J. and J.J. Gilbert. 1991. Discrimination between exploitative and interference competition between Cladocera and *Keratella cochlearis*. *Ecology* **72**: 924-937.
- Wickham, S.A. and J.J. Gilbert. 1991. Relative vulnerabilities of natural rotifer and ciliate communities to cladocerans: laboratory and field experiments. *Freshwat. Biol.* **26**: 77-86.
- Kirk, K.L. and J.J. Gilbert. 1992. Variation in herbivore response to chemical defenses: zooplankton foraging on toxic cyanobacteria. *Ecology* **73**: 2208-2217.
- Gilbert, J.J. and J.D. Jack. 1993. Rotifers as predators on small ciliates. *Hydrobiologia* **255/256**: 247-253.
- Wickham, S.A. and J.J. Gilbert. 1993. The comparative importance of competition and predation by *Daphnia* on ciliated protists. *Arch. Hydrobiol.* **126**: 289-313.
- Wickham, S.A., Gilbert, J.J. and U.-G. Berninger. 1993. Effects of rotifers and ciliates on the growth and survival of *Daphnia*. *J. Plankton Res.* **15**: 317-334.
- Jack, J.D. and J.J. Gilbert. 1993. Susceptibilities of different-sized ciliates to direct suppression by small and large cladocerans. *Freshwat. Biol.* **29**: 19-29.
- Jack, J.D. and J.J. Gilbert. 1993. The effect of suspended clay on ciliate population growth rates. *Freshwat. Biol.* **29**: 385-394.
- Jack, J.D., Wickham, S.A., Toalson, S. and J.J. Gilbert. 1993. The effect of clays on a freshwater plankton community: an enclosure experiment. *Arch. Hydrobiol.* **127**: 257-270.
- Burns, C.W. and J.J. Gilbert. 1993. Predation on ciliates by freshwater calanoid copepods: rates of predation and relative vulnerabilities of prey. *Freshwat. Biol.* **30**: 377-393.
- Gilbert, J.J. 1994. Jumping behavior in the oligotrich ciliates *Strobilidium velox* and *Halteria grandinella*, and its significance as a defense against rotifer predators. *Microb. Ecol.* **27**: 189-200.
- Gilbert, J.J. 1994. Susceptibility of planktonic rotifers to a toxic strain of *Anabaena flos-aquae*. *Limnol. Oceanogr.* **39**: 1286-1297.

- Jack, J.D. and J.J. Gilbert. 1994. Effects of *Daphnia* on microzooplankton communities. J. Plankton Res. **16**: 1499-1512.
- Smith, A.D. and J.J. Gilbert. 1995. Spatial and temporal variability in filament length of a toxic cyanobacterium (*Anabaena affinis*). Freshwat. Biol. **33**: 1-11.
- Smith, A.D. and J.J. Gilbert. 1995. Relative susceptibilities of rotifers and cladocerans to *Microcystis aeruginosa*. Arch. Hydrobiol. **132**: 309-336.
- Gilbert, J.J. and D.K. Schreiber. 1995. Induction of diapausing amictic eggs in *Synchaeta pectinata*. Hydrobiologia **313/314**: 345-350.
- Gilbert, J.J. 1995. Structure, development and induction of a new diapause stage in rotifers. Freshwat. Biol. **34**: 263-270.
- Gilbert, J.J. 1996. Effect of temperature on the response of planktonic rotifers to a toxic cyanobacterium. Ecology **77**: 1174-1180.
- Gilbert, J.J. 1996. Effect of food availability on the response of planktonic rotifers to a toxic strain of the cyanobacterium *Anabaena flos-aquae*. Limnol. Oceanogr. **41**: 1565-1572.
- Fradkin, S.C. and J.J. Gilbert. 1996. *Daphnia* vertical distribution and the presence of toxic cyanobacteria. Hydrobiologia **339**: 7-12.
- Claska, M.E. and J.J. Gilbert. 1998. The effect of temperature on the response of *Daphnia* to toxic cyanobacteria. Freshwat. Biol. **39**: 221-232.
- Gilbert, J.J. and D.K. Schreiber. 1998. Asexual diapause induced by food limitation in the rotifer *Synchaeta pectinata*. Ecology **79**: 1371-1381.
- Gilbert, J.J. 1998. Differential sensitivity of *Synchaeta* and *Daphnia* to nucleosides from *Anabaena affinis*. Hydrobiologia **387/388**: 277- 281.
- Gilbert, J.J. 1998. Asexual diapause in the rotifer *Synchaeta*: diversified bet-hedging, energetic cost and age effects. Arch. Hydrobiol. Spec. Issues Advanc. Limnol. **52**: 97-107.
- Couch, K.M., Burns, C.W. and J.J. Gilbert. 1999. Contribution of rotifers to the diet and fitness of *Boeckella* (Copepoda: Calanoida). Freshwat. Biol. **41**: 107-118.
- Gilbert, J.J., Burns, C.W. and C.C. Gilbert. 1999. Summer distribution patterns of the backswimmer, *Anisops wakefieldi* (Hemiptera: Notonectidae), in a New Zealand pond. New Zealand J. Mar. Freshwat. Res. **33**: 661-672.
- Gilbert, J.J. and C.W. Burns. 1999. Some observations on the diet of the backswimmer, *Anisops wakefieldi* (Hemiptera: Notonectidae). Hydrobiologia **412**: 111-118.

- Hampton, S.E., Gilbert, J.J. and C.W. Burns. 2000. Direct and indirect effects of juvenile *Buenoa macrotibialis* (Hemiptera: Notonectidae) on the zooplankton of a shallow pond. *Limnol. Oceanogr.* **45**: 1006-1012.
- Twining, B.S., Gilbert, J.J. and N.S. Fisher. 2000. Evidence of homing behavior in the coral reef mysid *Mysidium gracile*. *Limnol. Oceanogr.* **45**: 1845-1849.
- Gilbert, J.J. and C.W. Burns. 2000. Day and night vertical distributions of *Conochilus* and other zooplankton in a New Zealand reservoir. *Verh. Int. Ver. Limnol.* **27**: 1909-1914.
- Gilbert, J.J. 2001. Spine development in *Brachionus quadridentatus* from an Australian billabong: genetic variation and induction by *Asplanchna*. *Hydrobiologia* **446/447**: 19-28.
- Hampton, S.E. and J.J. Gilbert. 2001. Observations of insect predation on rotifers. *Hydrobiologia* **446/447**: 115-121.
- Gilbert, J.J. and S.E. Hampton. 2001. Diel vertical migrations of zooplankton in a shallow, fishless pond: a possible avoidance-response cascade induced by notonectids. *Freshwat. Biol.* **46**: 611-621.
- Diéguez, M.C. and J.J. Gilbert. 2002. Suppression of the rotifer *Polyarthra remata* by the omnivorous copepod *Tropocyclops extensus*: predation or competition. *J. Plankton Res.* **24**: 359-369.
- Gilbert, J.J. 2002. Endogenous regulation of environmentally-induced sexuality in a rotifer: a multi-generational parental effect induced by fertilization. *Freshwat. Biol.* **47**: 1633-1641.
- Gilbert, J.J. 2003. Specificity of crowding response that induces sexuality in the rotifer *Brachionus*. *Limnol. Oceanogr.* **48**: 1297-1303.
- Gilbert, J.J. and T. Schröder. 2003. The ciliate epibiont *Epistylis pygmaeum*: selection for zooplankton hosts, reproduction and effect on two rotifer hosts. *Freshwat. Biol.* **48**: 878-893.
- Diéguez, M.C. and J.J. Gilbert. 2003. Predation by *Buenoa macrotibialis* (Insecta, Hemiptera) on zooplankton: effect of light on selection and consumption of prey. *J. Plankton Res.* **25**: 759-769.
- Schröder, T. and J.J. Gilbert. 2004. Transgenerational plasticity for sexual reproduction and diapause in the life cycle of monogonont rotifers: intracolonial, intraspecific and interspecific variation in the response to crowding. *Functional Ecology* **18**: 458-466.

- Gilbert, J.J. 2004. Population density, sexual reproduction and diapause in monogonont rotifers: new data for *Brachionus* and a review. *Journal of Limnology* **63** (Suppl.1): 32-36.
- Gilbert, J.J. 2004. Females from resting eggs and parthenogenetic eggs in the rotifer *Brachionus calyciflorus*: lipid droplets, starvation resistance and reproduction. *Freshwat. Biol.* **49**: 1505-1515.
- Serra, M., Snell, T.W. and J.J. Gilbert. 2005. Delayed mixis in rotifers: an adaptive response to the effects of density-dependent sex on population growth. *J. Plankton Res.* **27**: 37-45.
- Kehas, A.J., Theoharides, K.A. and J.J. Gilbert. 2005. Effect of sunlight intensity and albinism on the covering response of the Caribbean sea urchin *Tripneustes ventricosus*. *Mar. Biol.* **146**: 1111-1117.
- Gilbert, J.J. and E.J. Walsh. 2005. *Brachionus calyciflorus* is a species complex: mating behavior and genetic differentiation among four geographically isolated strains. *Hydrobiologia* **546**: 257-265.
- Gilbert, J.J. and T. Schröder. 2007. Intraclonal variation in propensity for mixis in rotifers: variation among females and with maternal age. *Hydrobiologia* **593**: 121-128.
- Gilbert, J.J. 2007. Induction of mictic females in the rotifer *Brachionus*: oocytes of amictic females respond individually to population-density signal only during oogenesis shortly before oviposition. *Freshwat. Biol.* **52**: 1417-1426.
- Amato, K.R., Emel, S.L., Lindgren, C.A., Sullan, K.M., Wright, P.R., and J.J. Gilbert. 2008. Covering behavior of two co-occurring Jamaican sea urchins: differences in the amount of covering and selection of covering material. *Bull. Mar. Sci.* **82**: 255-261.
- Schröder, T and J.J. Gilbert. 2009. Maternal age and spine development in the rotifer *Brachionus calyciflorus*: increase of spine length with birth order. *Freshwat. Biol.* **54**: 1054-1065.
- Gilbert, J.J. 2009. Predator-specific inducible defenses in the rotifer *Keratella tropica*. *Freshwat. Biol.* **54**: 1933-1946.
- Gilbert, J.J. and M.C. Diéguez. 2010. Low crowding threshold for induction of sexual reproduction and diapause in a Patagonian rotifer. *Freshwat. Biol.* **55**: 1705-1718.
- Gilbert, J.J. 2010. Effect of food concentration on the production and viability of resting eggs of the rotifer *Brachionus*: implications for the timing of sexual reproduction. *Freshwat. Biol.* **55**: 2437-2446.

- Diéguez, M.C. and J.J. Gilbert. 2011. *Daphnia*-rotifer interactions in Patagonian communities. *Hydrobiologia* **662**: 189-195.
- Gilbert, J.J. 2011. Induction of different defenses by two enemies in the rotifer *Keratella tropica*: response priority and sensitivity to enemy density. *Freshwat. Biol.* **56**: 926-938.
- Gilbert, J.J. 2011. Temperature, kairomones, and phenotypic plasticity in the rotifer *Keratella tropica* (Apstein, 1907). *Hydrobiologia* **678**: 179-190.
- Gilbert, J.J. 2012. Effects of an ostracod (*Cypris pubera*) on the rotifer *Keratella tropica*: predation and reduced spine development. *Internat. Rev. Hydrobiol.* **97**: 445-453.
- Gilbert, J.J. 2012. Predator-induced defense in rotifers: developmental lags for morph transformations, and effect on population growth. *Aquatic Ecol.* **46**: 475-486.
- Gilbert, J.J. and M.A. McPeck. 2013. Maternal age and spine development in a rotifer: ecological implications and evolution. *Ecology* **94**: 2166-2172.
- Gilbert, J.J. 2014. Morphological and behavioral responses of a rotifer to the predator *Asplanchna*. *J. Plankton Res.* **36**: 1576-1584.
- Gilbert, J. J. 2017. Spine development in two taxa of *Brachionus calyciflorus* from Lake Littra, Australia: constitutive and induced defenses against *Asplanchna*. *J. Plankton Res.* **39**: 962-971.

### **Publications: Reviews and Book Chapters**

- Birky, C.W., Jr. and J.J. Gilbert. 1971. Parthenogenesis in rotifers: the control of sexual and asexual reproduction. *Amer. Zool.* **11**: 245-266.
- Gilbert, J.J. 1974. Dormancy in rotifers. *Trans. Amer. Micros. Soc.* **93**: 490-513.
- Gilbert, J.J. 1977. Mictic-female production in monogonont rotifers. *Arch. Hydrobiol. Beih. Ergebn. Limnol.* **8**: 142-155.
- Gilbert, J.J. 1980. Developmental polymorphism in the rotifer *Asplanchna sieboldi*. *Am. Sci.* **68**: 636-646.
- Gilbert, J.J. and C.E. Williamson. 1983. Sexual dimorphism in zooplankton (Copepoda, Cladocera, and Rotifera). *Annual Rev. Ecol. Syst.* **14**: 1-33.

- Gilbert, J.J. 1983. Rotifera. **In:** Reproductive biology of invertebrates. Vol. I. Oogenesis, oviposition, and oosorption (K.G. Adiyodi and R.G. Adiyodi, eds.). John Wiley and Sons. pp. 181-209.
- Gilbert, J.J. 1983. Rotifera. **In:** Reproductive biology of invertebrates. Vol. II. Spermatogenesis and sperm function (K.G. Adiyodi and R.G. Adiyodi, eds.). John Wiley and Sons. pp. 183-193.
- Stemberger, R.S. and J.J. Gilbert. 1987. Defenses of planktonic rotifers against predators. **In:** Predation: direct and indirect impacts on aquatic communities (W.C. Kerfoot and A. Sih, eds.). Univ. Press of New England. pp. 227-239.
- Gilbert, J.J. 1988. Suppression of rotifer populations by *Daphnia*: a review of the evidence, the mechanisms, and the effects on zooplankton community structure. *Limnol. Oceanogr.* **33**: 1286-1303.
- Gilbert, J.J. 1988. Rotifera. **In:** Reproductive biology of invertebrates. Vol. III. Accessory sex glands (K.G. Adiyodi and R.G. Adiyodi, eds.). Oxford and IBH Publishing Co., New Delhi. pp. 73-80.
- Gilbert, J.J. 1989. Rotifera. **In:** Reproductive biology of invertebrates. Vol. IV, Part A. Fertilization, development, and parental care. (K.G. Adiyodi and R.G. Adiyodi, eds.). Oxford and IBH Publishing Co., New Delhi. pp.179-199.
- Gilbert, J.J. 1992. Rotifera. **In:** Reproductive biology of invertebrates. Vol. V. Sexual differentiation and behaviour (K.G. Adiyodi and R.G. Adiyodi, eds.). Oxford and IBH Publishing Co., New Delhi. pp. 115-136.
- Gilbert, J.J. 1993. Rotifera. **In:** Reproductive biology of invertebrates. Vol. VI, Part A. Asexual propagation and reproductive strategies (K.G. Adiyodi and R.G. Adiyodi, eds.). Oxford and IBH Publishing Co., New Delhi. pp. 231-263.
- Jack, J.D. and J.J. Gilbert. 1997. Effects of metazoan predators on ciliates in freshwater plankton communities. *J. Euk. Microbiol.* **44**: 194-199.
- Gilbert, J.J. 1999. Kairomone-induced morphological defenses in rotifers. **In:** The ecology and evolution of inducible defenses (R. Tollrian and C.D. Harvell, eds.). Princeton University Press. pp. 127-141.
- Gilbert, J.J. 2003. Environmental and endogenous control of sexuality in a rotifer life cycle: developmental and population biology. *Evolution & Development* **5**: 19-24.
- Gilbert, J. J. and T. Schröder. 2004. Rotifers from diapausing, fertilized eggs: unique features and emergence. *Limnol. Oceanogr.* **49**: 1341-1354.

- Gilbert, J.J. 2007. Timing of diapause in monogonont rotifers. **In:** Diapause in aquatic invertebrates: theory and human use (V. Alekseev, J. J. Gilbert and B. De Stasio, eds.). Springer, Dordrecht, The Netherlands. pp. 11-27.
- Gilbert, J.J. 2013. The cost of predator-induced morphological defense in rotifers: experimental studies and synthesis. *J. Plankton Res.* **35**: 461-472.
- Gilbert, J.J. 2017. Non-genetic polymorphisms in rotifers: environmental and endogenous controls, development, and features for predictable or unpredictable environments. *Biological Reviews* **92**: 964-992.
- Gilbert, J.J. 2017. Resting-egg hatching and early population development in rotifers: a review and a hypothesis for differences between shallow and deep waters. *Hydrobiologia* **796**: 235-243.
- Gilbert, J. J. 2018. Morphological variation and its significance in a polymorphic rotifer: environmental, endogenous, and genetic controls. *BioScience* **68**: 169-181.