

CURRICULUM VITAE

1. PERSONAL HISTORY

Name: **Bruce P. Smith**

Address: Home **DURING ACADEMIC YEAR**
45 Woodlane Road, Ithaca, New York,
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MAY 25th TO JULY 25th
Queen's University Biological Stn., Box 31,
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Work Biology Dept., Ithaca College, Ithaca,
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Birth: October 16, 1952, Toronto, Ontario, Canada

Citizenship/Status Canadian, U.S. Permanent Resident status

II. ACADEMIC BACKGROUND

UNIVERSITY	DEGREE	SUBJECT	GRADUATED
U. of Toronto	BSc.	Zoology	1975
U. British Columbia	MSc.	Zoology	1977
U. of Toronto	PhD.	Zoology	1983

Theses: MSc. Water mite parasitism of water boatmen.
Supervised by Dr. G.G.E. Scudder.

PhD. Water mite parasitism of mosquitoes.
Supervised by Dr. S.B. McIver.

III. EMPLOYMENT HISTORY

Summers, 1970-75:	Summer Student Assistant, Dept. of Entomology and Invertebrate Zoology, Royal Ontario Museum, Toronto, Canada
Feb. 1, 1983 to July 1, 1985:	Visiting Research Fellow (NSERC-NATO Postdoctoral Fellow), Cornell University, Dept. of Entomology
July 1, 1985 to July 1, 1990:	University Research Fellow/Assistant Professor, University of New Brunswick, Dept. of Biology
July 1, 1990 to July 1, 1994:	Honourary Research Fellow, University of New Brunswick, Dept. of Biology
Aug. 15, 1990 to Aug. 15, 1997:	Assistant Professor, Ithaca College, Biology Dept.
Aug. 15, 1997 to present:	Associate Professor, Ithaca College, Biology Dept.

IV. AWARDS, SCHOLARSHIPS, AND FELLOWSHIPS

Graduated BSc., with honours	1975
NRC Studentship	1975-77
MRC Studentship	1978-80
Gulf Canada Limited Fellowship	1980-82
Ramsay Wright Scholarship	1981
NSERC (NATO) Postdoctoral Fellowship	1983-84
NSERC University Research Fellowship	1985-90
Ithaca College Summer Faculty Award	1996, '98, 2000
Ithaca College Excellence in Scholarship Award	2003

22. GRANTS HELD

Sigma-Xi Research Grant	1984
U.N.B. University Research Grant	1986-7, '89
NSERC Operating Grant	1985-90
NSERC Infrastructure Grant (co-applicant; Queen's University Biological Station)	1986-91
NSF Instrumentation and Instrument Development Program (co-applicant; controlled-environment research facility)	1993

VI. TEACHING EXPERIENCE

1) Teaching Assistantships

University	Course Subject	Code	Year(s)
U. of Toronto	Advanced Invertebrate Zoology	Zoo 462	1974/75
U. of Toronto	Arthropods as Parasites and Vectors	Mpl 407	1977-82

b) Guest Instructor

University	Course Subject	Code	Year(s)
Cornell University	Aquatic Entomology (1 Lab. each on Aquatic Hemiptera, Aquatic Mites)	Ent 471	1984-85
Cornell University	Acarology (1 Lecture, 1 Lab. on Aquatic Mites)	Ent 621	1984, '94
Cornell University	Spider Biology: life on a silken thread (1 Lecture, on Mites)	Ent 215	1995
Ohio State University	Biology of the Parasitengona (3 two-hour lectures, + participation in field trips, discussions and labs for rest of 2 week summer course)		summer 1997

c) Instructor

University	Course Subject	Code	Year(s)
University of New Brunswick	Introductory Biology (team taught): Animal Biology (25 lecture hours)	Bio 1040	1990
University of New Brunswick	Human Parasitology (team taught): Medical Entomology (7 1/2 lecture hours)	Bio 3672	1987, '89
University of New Brunswick	General Parasitology (team taught): Parasitic Arthropods (2-6 lecture hours, 1 lab.)	Bio 3681	1985-89
University of New Brunswick	Wildlife Parasitology (team taught): Parasitic Insects and Acari (6 hours lecture hours, 3 labs.)	Bio 4691	1986, '88, '90
University of New Brunswick	Environmental Zoology (26 lecture hours, 36 seminar hours)	Bio 4861	1988
University of New Brunswick	Insect Behaviour (39 lecture hours, 24 seminar hours)	Bio 4812	1986-90

c) Instructor (continued)

University	Course Subject	Code	Year(s)
Ithaca College	Fundamentals of Biology I (laboratory instructor, 13 labs.)	Bio 11900	1990, '97
Ithaca College	Fundamentals of Biology II (laboratory instructor, 13 labs.) (instructor; 42 lecture hours, 13 labs.)	Bio 12000	1991, '99 1993-98
Ithaca College	Principles of Biology I (laboratory instructor; 13 labs.)	Bio 12100	1992, '94, '99, '00, '01
Ithaca College	Principles of Biology II (laboratory instructor; 13 labs.)	Bio 12200	1991-92, '00
Ithaca College	Insects and People (42 lecture hours)	Bio 11300	1991-92
Ithaca College	Invertebrate Zoology (42 lecture hours, 13 labs.)	Bio 20300	1990-91, '93, '95, '97, '99, '01, '03
Ithaca College	Parasitology (42 lecture hours, 13 labs.)	Bio 20700 / 30500	1992, '94, '96, '99, '00, '02
Ithaca College	Literature in Biology (14 hours lecture/seminar)	Bio 30100	1992-95, '99, '00, '02
Ithaca College	Animal Behavior (42 lecture hours, 13 labs.)	Bio 20400 / 20800	2000, '02, '04
Ithaca College	The Natural History of Sex (42 lecture hours)	Bio 10210	2001, '02, '03
Ithaca College	Aquatic Ecology [called Ecology of Aquatic Communities in 2001] (co- taught, 21 lecture hours, 6 1/2 labs.)	Bio 47900	2001, '03
Ithaca College	General Ecology (laboratory instructor; 13 labs.)	Bio 27300	2002

d) Supervision of undergraduate research projects

Student	Project	Year(s)
Lynn Scott	The seasonal distribution and success of egg rafts of the mosquito <i>Mansonia perturbans</i>	Summer 1980
Jacqui Shykoff	<i>Piona</i> spp. mites as predators of larval mosquitoes	Summer 1980
Wanda Cook	A comparison of expenditure of reproductive effort among species of <i>Arrenurus</i> (U. of Guelph Dept. of Zoology, Honours Thesis: official advisor was Dr. R. Brooks)	Summer 1986 - Spring 1987
Seth Ettenberg	Reproductive trade-offs and the loss of parasitism among sibling species in the genus <i>Arrenurus</i>	Spring 1992, Summer 1992
Jason Hagman	Chemical communication and courtship behavior of the mite <i>Arrenurus manubriator</i>	Spring 1992
James Lohr	The impact of predation by the mite <i>Arrenurus manubriator</i> on populations of ostracods	Spring 1992
Nolan Pickens	The influence of wing-morphs on mate selection by male and female <i>Gerris comatus</i> water striders	Summer 1992
Seth Ettenberg	Species-specificity of chemicals used as sex pheromones by <i>Arrenurus</i> spp. mites	Fall 1992
James Lohr	Morphometric correlation of larval and adult female characteristics among <i>Arrenurus</i> spp. mites	Fall 1992
Lisa Bovenzi	Size-related mate selection by male and female <i>Arrenurus manubriator</i>	Fall 1992
Seth Ettenberg	Identification and taxonomic description of sibling species within the genus <i>Arrenurus</i>	Spring 1993
Dave Shavell	Determining the chemical composition of the female sex-pheromone used by <i>Arrenurus manubriator</i>	Spring 1993
Jessica Morrow	Guild structure of dragonflies and their parasitic mites	Summer 1993
Michelle Black	Factors influencing rate of umbrellar contractions of mangrove jellyfish (<i>Cassiopea xamachana</i>)	Fall 1993
Eric Bran	Production of skewed sex-ratios in offspring of female <i>Arrenurus manubriator</i> mites	Fall 1993

d) **Supervision of undergraduate research projects** (continued)

Student	Project	Year(s)
Jessica Morrow	Sperm precedence in water mites of the genus <i>Arrenurus</i>	Fall 1993, Spring 1994
Todd Terran	Do male <i>Arrenurus</i> (<i>Megaluracarus</i>) <i>manubriator</i> prefer virgin or previously mated females?	Spring 1994
Julie Barlow	The effects of an overhead light source on the umbrellar pulse rate of (<i>Cassiopea xamachana</i>)	Spring 1994
Eric Field	Shared use of chemicals among water mite species for chemical communication	Fall 1994
Holly Falcone	Arthropod colonization and use of decomposing carrion: a baseline study for forensic analysis	Fall 1994
James Lawler	Morphometric comparison among larvae and adult female <i>Arrenurus</i> species (Acari: Prostigmata; Arrenuridae)	Spring 1995
Stacey Leibowitz	First descriptions of larvae for four species of <i>Arrenurus</i> (<i>Micruracrus</i>) (Acari: Prostigmata: Arrenuridae)	Spring 1995
Loire Temos	First descriptions of larvae and adult females of <i>Arrenurus</i> (<i>Megaluracarus</i>) <i>wardi</i> and <i>Arrenurus</i> (<i>Megaluracarus</i>) <i>pseudocylindratus</i> (Acari: Prostigmata: Arrenuridae)	Spring 1995
Melissa Thornton	Interpopulational variation in mites with and without parasitic associations: the consequences of host-mediated dispersal	Summer & Fall 1995, Spring & Summer 1996
Joy Florentino	Interspecies response to arrestant sex pheromones of <i>Arrenurus</i> species mites	Fall 1995
Michelle Armstrong	Darkness-induced reductions in rate of umbrellar contractions of mangrove jellyfish: startle-response or circadian rhythms?	Fall 1995
Christine Coleman	Speed and leg phase relationships during free swimming by <i>Arrenurus manubriator</i> water mites	Spring 1996
Michael Pietrak	Effect of temperature on development rates of <i>Arrenurus manubriator</i> water mites	Spring 1996

d) Supervision of undergraduate research projects (continued)

Student	Project	Year(s)
Christine Coleman	A pictorial index of South-eastern Ontario species of <i>Arrenurus</i>	Summer 1996
Rebecca Miller	Chemical characterization of the sex-attractant pheromone produced by female <i>Arrenurus manubriator</i> (note: joint supervision with Dr. Anatol Eberhard, Chemistry Dept.)	Summer 1996
Tim Lister	Drift dispersal behavior in stream dwelling mites: diurnal versus nocturnal activity	Fall 1996
Keira Costic	Non-lethal effects of predatory <i>Limnochares americana</i> mites on growth and development of larval midges	Spring 1997
Scott Doyle	Non-lethal effects of predatory <i>Limnochares americana</i> mites on behavior of larval midges	Spring 1997
James Sharp	Apparent differences in sex pheromone production between virgin and previously-mated female <i>Arrenurus manubriator</i> mites	Spring 1997
James Sharp	Development of a computer-based tutorial in Parasitology	Spring 1997
Derek Budman	Host-parasite community structure of <i>Arrenurus</i> spp. mites parasitizing damselflies	Summer 1997
Derek Budman	Influence of egg volume and parasitic larval feeding on size and shape of resultant deutonymphal mites	Fall 1997
Heather McNallie	Interspecific response to arrestant sex pheromones among closely related <i>Arrenurus</i> species mites	Fall 1997
Heather Page	Host searching behavior in parasitic larval mites	Fall 1997
Amy Cimminello	The male sex pheromone produced by the water mite <i>Arrenurus rufopyriformis</i> : evidence for its existence	Spring 1998
Sengdaian Rasichanh	The immune response of <i>Aedes aegypti</i> to parasitism by <i>Arrenurus novimarshallae</i>	Spring 1998
Chris Reilly	Evidence for chemical host selection by <i>Arrenurus</i> water mites: is there a chemical stimulus?	Spring 1998
Julie Rock	Prey size-selectivity among life history stages of <i>Arrenurus rufopyriformis</i> water mites	Spring 1998

d) Supervision of undergraduate research projects (continued)

Student	Project	Year(s)
Bryan Barbosa	Predation on eggs of <i>Arrenurus manubriator</i> water mites by ostracods and flatworms	Spring 1999
Brett Hollingshead	Chemical characterization of the male-attracting female-produced sex pheromone of <i>Arrenurus manubriator</i> water mites	Spring 1999, Fall 1999, Spring 2000
Brian Jackson	The role of oxygen depletion in delayed tritonymphal development in <i>Arrenurus manubriator</i> water mites	Spring 1999, Spring 2000, Fall 2001
Jennifer Moran	The detection of pheromone constituents produced by <i>Archegozetes longisetosus</i> (note: joint supervision with Dr. Anatol Eberhard, Chemistry Dept.)	Spring 1999
Jennifer Moran	An analysis of larval engorgement of <i>Arrenurus</i> spp. mites on dragonfly and damselfly species	Summer 1999
Jennifer Moran	Pheromone communication in the soil mite <i>Archegozetes longisetosus</i>	Fall 1999, Spring & Fall 2000, Spring 2001
Anthony Plunkett	Comparison of stylostomes of three species of <i>Arrenurus</i> mites parasitizing <i>Aedes aegypti</i> mosquitoes	Fall 1999
Meagan Kilbride	Effects of crowding on the production of male-attracting sex pheromone by female <i>Arrenurus manubriator</i>	Spring 2000
Alison Paratore	Factors influencing parasitism of mosquitoes: do larval <i>Arrenurus</i> mites prefer older pupal mosquitoes?	Spring 2000
Jennifer Moran	Use of behavioral traps in monitoring and potentially controlling horsefly and deerfly populations	Summer 2000
Fawn Stehlin	The role of choice in habitat partitioning between <i>Gerris comatus</i> and <i>Gerris alacris</i> water striders	Summer 2000
Sarah Pascoe	Influence of parasitism by <i>Arrenurus angustilimbatus</i> on survival of <i>Aedes aegypti</i>	Fall 2000
Valerie Kliesing	Quantifying environmentally determined morphological variation of <i>Arrenurus manubriator</i> mites	Fall 2000

d) Supervision of undergraduate research projects (continued)

Student	Project	Year(s)
Andy Dusel	The host-parasite interface: the localization of stylostomes (feeding tubes) of <i>Arrenurus danbyensis</i> mites within <i>Coquillettidia perturbans</i> mosquitoes	Spring 2001
Tatum McNierney	Life-history related variation in the predatory functional response of water mites preying on ostracod crustaceans	Spring 2001
Nathan Sylvester	Behavioral evidence that <i>Arrenurus pollictus</i> use short-distance chemical cues to find potential odonate hosts	Summer 2001
Melissa Abramson	Patterns of drift behavior in stream-dwelling water mites	Fall 2001
Carlene Syracuse	Of mites and midges: differential predation of <i>Limnochoares americana</i> mites on two midge species	Fall 2001
Kerri Stanley	Predation by <i>Limnochoares americana</i> mites: the effect of different substrates on success	Fall 2001
Colin Freas	The effect of prey density on hunting efficiency of <i>Limnochoares americana</i> mites feeding on <i>Chironomus tentans</i> midges	Spring 2002
Jessica Raymond	The effects of population density on sex pheromone production in female water mites <i>Arrenurus manubriator</i>	Spring 2002
Kerri Stanley	Predation by <i>Rhyncholimnochoares kitattinniana</i> mites: the effect of different substrates on success	Spring 2002
Nathan Sylvester	Divergent life history strategies in the mite <i>Arrenurus manubriator</i> : viability of hybrids between forms with parasitic and nonfeeding larvae	Spring 2002
Kristin Weaver	Can biased sex ratios in <i>Arrenurus</i> mites be removed by tetracycline treatments?	Fall 2002, Spring 2003
Chris Lynch	Timing is everything: are female mites that reproduce early biased to producing male offspring?	Fall 2002, Spring 2003
Kerri Stanley	Determining sperm precedence in <i>Arrenurus manubriator</i> water mites: interbreeding experiments with two distinctly colored populations.	Fall 2002, Spring 2003
Amanda Popielski	Female mate choice among populations of <i>Arrenurus manubriator</i> (Acari: Hydrachnida, Arrenuridae)	Spring 2003

d) Supervision of undergraduate research projects (continued)

Student	Project	Year(s)
Brandeis Brown	A comparison among activity traps, light traps, and net sampling as methods of collecting water mites.	Fall 2003
Alyson Follenius	A comparison of the screened versus unscreened bulking agent and its effects on fauna and decomposition.	Fall 2003
Ke Ke	The effect of distance on response to female sex pheromones by male <i>Arrenurus manubriator</i> mites.	Fall 2003
Kara Sharp	Photopositive responses: evaluating the effectiveness of underwater Light Traps for collecting water mites.	Fall 2003

e) Undergraduate and Graduate Thesis Supervision

Laughland, L.A. 1988. Stimuli inducing detachment of larval *Arrenurus danbyensis* Mullen mites from adult *Coquillettidia perturbans* (Walker) mosquitoes. BSc. Honours Thesis, Dept. of Biology, U.N.B.

Cook, W.J. 1991. A study of parasitism of dragonflies by larval *Limnochares americana* mites. MSc. Thesis, Dept. of Biology, U.N.B.

Craft, S. 1994. Structure of water mite communities in relation to physiochemical environmental characteristics of springs. MSc. Thesis, Dept. of Biology, U.N.B.

f) Graduate Thesis Committees

Bohonak, A. 1998. Dispersal and gene flow in freshwater invertebrates. Ph.D. Thesis, Dept. of Ecology and Systematics, Cornell University.

VII. MEMBERSHIP IN SCIENTIFIC ORGANIZATIONS

Acarological Society of America (board of governors, 1987-89)

American Microscopical Society

North American Benthological Society

American Society of Parasitologists

VIII. SUBMITTED PAPERS PRESENTED AT MEETINGS AND SYMPOSIA (presenter in boldface, students in italics)

1977. **Smith, B.P.** The role of parasitism in the coexistence of two *Cenocorixa* species (Hemiptera: Corixidae). Annual Meeting, Entomological Society of America. Washington, D.C.
1978. **Smith, B.P.**, Barr, D.W. Locomotion of the water mite *Limnochares americana* Lundblad (Parasitengona: Limnocharidae). 5th International Congress of Acarology. East Lansing, Mich.
- 1979a. **Barr, D.W.**, Smith, B.P. Stable swimming by arthropods using diagonal phase synchrony. Annual Meeting, Canadian Society of Zoologists. Quebec City, Quebec.
- 1979b. **Smith, B.P.**, Barr, D.W. Mechanics of water mite swimming: Evidence for two independently evolved strategies. Annual Meeting, Entomological Society of Canada. Vancouver, British Columbia.
- 1979c. **Smith, B.P.**, McIver, S.B. Factors influencing apparent host preference of mites parasitic on mosquitoes (Acari: Hydrachnellae; *Arrenurus*) (Culicidae: *Aedes*). Annual Meeting, Entomological Society of America. Denver, Colorado.
- 1979d. **Barr, D.W.**, Smith, B.P. Comparative swimming behaviour in water mites: Hydrachnoidea, Eylaiodea, Hydryphantoidea (Acari: Prostigmata). Annual Meeting, American Society of Zoologists. Tampa, Florida.
- 1980a. **Smith, B.P.**, McIver, S.B. Factors that determine and limit host association of *Arrenurus angustilimbatus* parasitic of *Aedes* spp. mosquitoes. Annual Meeting, Entomological Society of Canada. Quebec City, Quebec.
- 1980b. **Smith, B.P.**, McIver, S.B. Water mite parasitism of insects: a discussion of factors limiting detriment to host populations. Annual Meeting, Entomological Society of Ontario. London, Ontario.
- 1980c. **Scott, L.**, Smith, B.P. The seasonal distribution and success of egg rafts of the mosquito *Mansonia perturbans*. Annual Meeting, Entomological Society of Ontario. London, Ontario.
- 1980d. **Shykoff, J.**, Smith, B.P. *Piona* species mites as predators of larval mosquitoes. Annual Meeting, Entomological Society of Ontario. London, Ontario.
- 1980e. **Smith, B.P.**, McIver, S.B. The impact of parasitic mites on mosquito populations (Arrenuridae: *Arrenurus danbyensis*; Culicidae: *Mansonia perturbans*). Annual Meeting, Entomological Society of America. Atlanta, Georgia.
1981. **Smith, B.P.**, McIver, S.B. Parasitism of *Aedes* mosquitoes by *Arrenurus* mites: selection of hosts, and host defences. Annual Meeting, Entomological Society of America. San Diego, California.

1986. **Smith, B.P.** The comparative impact of parasitic mites on two species of water strider. 4th. International Congress of Ecology, Syracuse, N.Y., U.S.A.
- 1987a. **Smith, B.P.** Morphology and host utilization of larval *Rhyncholimnochares* sp., a divergent lineage within the Limnocharidae. Annual Meeting, Entomological Society of America. Boston, Mass.
- 1987b. **Cook, W.J.**, Smith, B.P., Brooks, R.J. Reproductive strategies of *Arrenurus* water mites (Acari: Arrenuridae). Annual Meeting, Entomological Society of America. Boston, Mass.
- 1988a. **Smith, B.P.** The subgeneric classification of the genus *Arrenurus* (Acari: Hydrachnidia: Arrenuridae): new insight from larval characters. Annual Meeting, Entomological Society of America, Louisville, Kentucky.
- 1988b. **Cook, W.J.**, Smith, B.P. Parasitism of dragonflies by limnocharid water mites - consequence of holding territories. Annual Meeting, Entomological Society of America, Louisville, Kentucky.
- 1989a. **Lanciani, C.**, Smith, B.P. Stylostome form as a characteristic of water mite species parasitizing mosquitoes. 55th Annual Meeting, American Mosquito Control Association, Cambridge, Mass.
- 1989b. **Cook, W.J.**, Smith, B.P. Interaction of parasitic larval mites (Acari: Hydrachnidia; *Limnochares americana*) with a dragonfly community. 25th International Symposium on Odonatology, Johnston City, Tennessee.
- 1989c. **Smith, B.P.** A descriptive model for distribution patterns of parasitic mites. Annual Meeting, Entomological Society of America, San Antonio, Texas.
1992. **Smith, B.P.** Offshore habitats for *Gerris comatus* water striders: refuge from parasitic mites or from competition with other gerrid species? Annual Meeting, North American Benthological Society, Louisville, Kentucky.
1993. **Smith, B.P.**, *Ettenberg, S.* Allocation of reproductive effort: comparisons among *Arrenurus* spp. mites with and without parasitic larvae. Annual Meeting, Entomological Society of America, Indianapolis, Indiana.
- 1995a. **Baker, R.L.**, Smith, B.P. Antiparasite and antipredator behaviour of larval damselflies. Annual Meeting, North American Benthological Society, Keystone, Colorado.
- 1995b. **Rousch, J.**, Smith, B.P., Simmons, T.W. Relative effect of pH on survival of a water mite and chironomid species. Annual Meeting, North American Benthological Society, Keystone, Colorado.
- 1995c. **Smith, B.P.** Evolutionary loss of parasitism: Hybridization among lineages of mites with and without parasitic larval associations. Annual Meeting, Entomological Society of America, Las Vegas Nevada.

- 1995d. Bohonak, A.J.,** Smith, B.P. Population genetic consequences of dispersal via insects in the water mite genus *Arrenurus* (Hydrachnidia: Arrenuridae). Annual Meeting, Entomological Society of America, Las Vegas Nevada.
- 1996a. Florentino, J.,** Smith, B.P. Female sex pheromones: cross-reactivity and specificity among species of *Arrenurus* water mites. Eastern College Science Conference, Lycoming College, Williamsport, PA.
- 1996b. Miller, R.,** Eberhard, A., Smith, B.P. Love potion no. 9: water mites and their pheromones. Eastern College Science Conference, Lycoming College, Williamsport, PA.
- 1996c. Thornton, M.,** Smith, B.P. Interpopulational variation in morphology with and without parasitic associations: the consequences of host-mediated dispersal. Eastern College Science Conference, Lycoming College, Williamsport, PA.
- 1996d. Baker, R.L.,** Smith, B.P. Between a rock and a hard place: whether to avoid parasitism by mites or predation by fish. Ontario Ecology and Ethology Colloquium, Ottawa, Ontario.
- 1997. Bohonak, A.J.,** Smith, B.P. The influence of dispersal on genetic and morphological differentiation in *Arrenurus* water mites (Acari: Arrenuridae). paper 020, Annual National Meeting of the Entomological Society of America, Nashville, Tenn., Dec. 14-18, 1997.
- 1999a. Smith, B.P.** Changes in life-history traits associated with the loss of larval parasitism in parasitengonine mites. 23rd Annual Ecology and Evolutionary Biology Symposium, Cornell University, Ithaca, New York, Jan. 20-21, 1999
- 1999b. Smith, B.P.,** Muma, K.E., Forbes, M.R. Rooting for the underdog: do parasitic mites afford an advantage to a less common species of potentially competing dragonfly host? International Congress of Odonatology and 1st Symposium of the Worldwide Dragonfly Association, Hamilton, New York, July 11-16, 1999.
- 1999c. Smith, B.P.** Changes in life-history traits associated with the loss of larval parasitism in parasitengonine mites. XIV Annual Biological Sciences Research Symposium SUNY Binghamton, Nov. 6, 1999.
- 1999d. Moran, J.,** Smith, B.P. Grow 'til you blow: an analysis of larval engorgement of *Arrenurus* spp. mites on dragonfly and damselfly species. XIV Annual Biological Sciences Research Symposium, SUNY Binghamton, Nov. 6, 1999.
- 2000a. Moran, J.,** Smith, B.P. An analysis of larval engorgement of *Arrenurus* spp. mites on dragonfly and damselfly species. The National Conference on Undergraduate Research (NCUR), in Montana, April 29th, 2000.
- 2000b. Smith, B.P.** The diversity of stylostome (feeding tube) structure among parasitic larval water mites (Prostigmata: Hydrachnida). Paper 0047, Joint Annual National Meeting of the Entomological Society of America/Canada/Société d'entomologie du Québec. Montreal, Quebec, Dec. 3-6, 2000.

- 2000c. Moran, J.** The identification of 2-hydroxy-6-methylbenzaldehyde in *Archezogetes longisetosus* mites: What is a parthenogenetic species doing with a sex pheromone? Paper 0042, Joint Annual National Meetings of the Entomological Society of America/Canada/Société d'Entomologie du Québec. Montreal, Quebec, Dec. 3-6, 2000. [sponsored student paper]
- 2001. Sylvester, N.,** Smith, B.P. Behavioral evidence that *Arrenurus pollictus* mites use short-distance chemical cues to detect potential hosts. 28th Annual Meeting of the Rochester Academy of Science, Nazareth College, Nov. 3-4, 2001.
- 2002a. Smith, B.P.,** Muma, K.E., Forbes, M.R. "To have and to hold, or, life history adaptations of *Arrenurus planus*, an ephemeral pool mite." Ontario Ecology and Ethology and Conference, Kingston, Ontario, Canada, April 21-23, 2002.
- 2002b. Sylvester, N.B.,** Smith, B.P.. Divergent life history strategies in the mite, *Arrenurus manubriator*: viability of hybrids between forms with parasitic and nonfeeding larvae. Ontario Ecology and Ethology and Conference. Kingston, Ontario, April 21-23, 2002.

IX. INVITED PAPERS AND SEMINARS (presenter in boldface, students in italics)

- 1981a. Smith, B.P.** Water mite parasitism of insects: A study of detriment and its limits. Ecology, Evolution and Bionomics Group, Dept. of Biology, Queen's University. Kingston, Ontario.
- 1981b. Smith, B.P.** Mite parasitism of mosquitoes. Annual Meeting, Ontario Mosquito Control Association. Waterloo, Ontario.
- 1982. Smith, B.P.** The potential of mites as biological control agents of mosquitoes. Work-Conference, Research Needs for Development of Biological Control of Pests by Mites. University of California, Berkeley, California.
- 1983. Smith, B.P.** The impact of water mite parasitism on insect populations. Acarology Formal Conference, Annual Meeting, Entomological Society of America. Detroit, Michigan.
- 1985. Smith, B.P.** Parasitism of *Gerris comatus* and *Gerris alacris* by the mite, *Limnochares aquatica*. Heteropterists' Informal Conference, Annual Meeting, Entomological Society of America. Hollywood, Florida.
- 1986. Smith, B.P.** The influence of water mite parasitism on communities of aquatic insects. Acarology Formal Conference, Annual Meeting, Entomological Society of America. Reno, Nevada.
- 1988. Smith, B.P.** Abundance and co-occurrence of *Gerris comatus* and *Gerris alacris* in relation to parasitism by larval *Limnochares aquatica*. XVIII International Congress of Entomology. Vancouver, B.C.

1989. **Smith, B.P.** Interactions between water mites and their insect hosts - an ecological approach to parasitism. Departmental Seminar for Biology Department, Erindale Campus, University of Toronto, Toronto, Canada, March 2, 1989.
1990. **Smith, B.P.** Dispersal of water boatmen and their parasitic mites - the great equalizer. Acarology Formal Conference, Annual Meeting, Entomological Society of America. New Orleans, Louisiana.
1991. **Smith, B.P.** Larval limnocharid mites and their insect hosts - an ecological study of parasitism. Departmental Seminar for Entomology Department (Jugatae series), Cornell University, Ithaca, New York, USA, Feb. 28, 1991.
1992. **Smith, B.P.** Ecology and behaviour of larval water mites. Workshop on water mites, Annual Meeting, North American Benthological Society, Louisville, Kentucky.
1994. **Smith, B.P.** Larval Hydrachnida and their hosts: biological inference from population and community structure. Ninth International Congress of Acarology, Columbus, Ohio.
1996. **Smith, B.P.** Loss of larval parasitism in parasitengonine mites. Third Symposium of the European Association of Acarologists, July 1-5, Amsterdam, Netherlands.
1997. **Smith, B.P.** Does competition matter to water mite larvae? paper 003, Annual National Meeting of the Entomological Society of America, Nashville, Tenn., Dec. 14-18, 1997.
- 1998a. **Smith, B.P.** There's no free lunch, OR, repeated evolutionary loss of larval parasitic feeding among water mite species. University of Toronto at Mississauga Biology Seminar series, Toronto, Ontario, Canada, January 16, 1998.
- 1998b. **Smith, B.P.** There's no free lunch, OR, why do some larval water mites lose the parasitic habit? Queen's University Biological Station, Chaffey's Locks, Ontario, Canada, June 29, 1998.
- 1998c. **Smith, B.P.** Shifts in post-larval life-history traits associated with loss of larval parasitism in parasitengone mites. 10th International Congress of Acarology, Canberra, Australia, July 5-10, 1998.
- 1998d. **Smith, B.P., Bohonak, A.** Innovative approaches to measuring dispersal in water mites. 10th International Congress of Acarology, Canberra, Australia, July 5-10, 1998.
- 1998e. **Smith, B.P.** There's no free lunch, OR, repeated evolutionary loss of larval parasitic feeding among water mite species. Dept. Zoology, University of Hawaii, Honolulu, Hawaii, USA, Sept. 18, 1998.
- 1998f. **Smith, B.P.** There's no free lunch, OR, repeated evolutionary loss of larval parasitic feeding among water mite species. Dept. of Entomology, University of Queensland, Brisbane, Queensland, Australia, Oct. 21, 1998.
1999. **Smith, B.P.** Get a new life! OR, evolution of life history traits in *Arrenurus* spp. water mites. Biology Dept., Ithaca College, Feb. 25, 1999.

2001. **Bohonak, A.J.**, Smith, B.P., *Thornton, M.* Distributional, morphological and genetic consequences of dispersal for temporary pool water mites (Acari: Arrenuridae: *Arrenurus*). SS45 Temporary Aquatic Ecosystems: Here Today, Gone Tomorrow (Spatial and Temporal Connections), American Society of Limnology and Oceanography, Annual Meeting, Albuquerque, New Mexico, February 12-16, 2001
2001. **Bohonak, A.J.**, Smith, B.P., Villasenor, J.J. Origin and consequences of direct development in water mites (Acari: Hydrachnida). Paper 0490, Formal Conference--Aquatic Insects: Trends in Aquatic Insect Research in the Western United States, Entomological Society of America Annual Meeting, San Diego, Dec. 9-12, 2001

X. POSTERS AT SCIENTIFIC MEETINGS (Students in italics)

- 2003a. **Charlton, C.L., Smith, B.P., Bohonak, A.J.** Morphological discontinuity in sister species of water mites: strong natural selection or recent speciation? Paper 211, Evolution 2003 (joint meeting of The Society for the Study of Evolution, Society of Systematic Biologists, and American Society of Naturalists), Calif. State Univ. Chico, California, June 20-24, 2003.
- 2003b. **Muma, K.E., Smith, B.P., Forbes, M.R.** Patterns of parasitism: crowding of *Arrenurus planus* water mites on *Sympetrum internum* and *Sympetrum obtrusum* dragonflies. Paper 153, American Society of Parasitologists, Annual Meeting, Halifax, Nova Scotia, Aug. 1-5, 2003.
- 2003c **Smith, B.P.** Loss of Larval Parasitism in *Arrenurus* spp. mites: comparing forms with and without parasitic larval feeding. Paper 154, American Society of Parasitologists, Annual Meeting, Halifax, Nova Scotia, Aug. 1-5, 2003.

XI. REFERREED PUBLICATIONS (students in italics)

1977. **Smith, B.P., Barr, D.W.** Swimming by the water mite, *Limnochares americana* Lundblad (Acari, Parasitengona, Limnocharidae). Canadian Journal of Zoology, 55: 2050-2059.
1979. **Barr, D.W., Smith, B.P.** The contribution of setal blades to effective swimming in the aquatic mite *Limnochares americana* (Acari: Prostigmata: Limnocharidae). Zoological Journal of the Linnean Society, 65: 55-69.
1980. **Barr, D.W., Smith, B.P.** Stable swimming by diagonal phase synchrony in arthropods. Canadian Journal of Zoology, 58: 782-795.
1983. **Smith, B.P.** The potential of mites as biological control agents of mosquitoes. *in* Research Needs for Development of Biological Control of Pests by Mites. Edited by Drs. M. Hoy, G. Cunningham, and L. Knutson. Special publication 3304, pp 79-85, Agricultural Experimental Station, Division of Agriculture and Natural Resources, University of California.

- 1984a. Smith, B.P., McIver, S.** The patterns of mosquito emergence (Diptera: Culicidae; *Aedes* spp.): their influence on host selection by parasitic mites (Acari: Arrenuridae; *Arrenurus* spp.). Canadian Journal of Zoology, 62: 1106-1113.
- 1984b. Smith, B.P., McIver, S.** Factors influencing host selection and successful parasitism of *Aedes* spp. mosquitoes by *Arrenurus* spp. mites. Canadian Journal of Zoology, 62: 1114-1120.
- 1984c. Smith, B.P., McIver, S.** The impact of *Arrenurus danbyensis* Mullen (Acari: Prostigmata; Arrenuridae) on a population of *Coquillettidia perturbans* (Walker) (Diptera: Culicidae). Canadian Journal of Zoology, 62: 1121-1134.
- 1986. Smith, B.P.** New species of *Eylais* (Acari: Hydrachnellae; Eylaidae) parasitic on water boatmen (Insecta: Hemiptera; Corixidae) and a key to North American larvae of the subgenus *Syneylais*. Canadian Journal of Zoology, 64: 2363-2369.
- 1987. Smith, B.P.** New species of *Hydrachna* (Acari: Hydrachnidia; Hydrachnidae) parasitic on water boatmen (Insecta: Hemiptera; Corixidae). Canadian Journal of Zoology, 65: 2630-2639.
- 1988. Smith, B.P.** Host-Parasite Interaction and Impact of Larval Water Mites on Insects. Annual Review of Entomology 33: 487-507.
- 1989a. Smith, B.P.** Impact of parasitism by larval *Limnochares aquatica* on juvenile *Gerris comatus*, *Gerris alacris*, and *Gerris buenoi* (Insecta: Hemiptera; Gerridae). Can. J. Zool., 67: 2238-2243.
- 1989b. Cook, W.J., Smith, B.P., Brooks, R.** Allocation of reproductive effort by female *Arrenurus* spp. (Acari: Hydrachnidia; Arrenuridae). Oecologia 79 :184-189.
- 1989c. Smith, B.P.** A description of the larva of *Rhyncholimnochares kittatinniana* Habeeb (Acari: Hydrachnidia; Limnocharidae). Canadian Entomologist 121: 445-452.
- 1989d. Lanciani, C.A., Smith, B.P.** Constancy of stylostome form in two water mite species. Canadian Entomologist 121: 439-443.
- 1990a. Smith, B.P.** Hydrachnidia. in Freshwater Macroinvertebrates of Northeastern North America, Chapter 16, pp 290-334. by B. L. Peckarsky, P.R. Fraissinet, M.A. Penton, and D.J. Conklin. Cornell University Press. 442 pp.
- 1990b. Smith, B.P.** Descriptions of larval *Arrenurus bartonensis*, *Arrenurus birgei*, *Arrenurus neobirgei*, and *Arrenurus rotundus* (Acari: Hydrachnidia; Arrenuridae). Canadian Entomologist, 122: 77-91.
- 1990c. Smith, B.P., Laughland, L.A.** Stimuli inducing detachment of larval *Arrenurus danbyensis* Mullen (Hydrachnidia: Arrenuridae) from adult *Coquillettidia perturbans* (Walker) (Diptera: Culicidae). Experimental and Applied Acarology, 9: 51-62.

1991. **Smith, B.P., Cook, W.J.** Negative covariance between larval *Arrenurus* sp. and *Limnochares americana* (Acari: Hydrachnidia) on male *Leucorrhinia frigida* (Odonata: Libellulidae) and its relationship to the host's age. *Canadian Journal of Zoology*, 69:226-231.
1994. **Proctor, H.C., Smith, B.P.** Mating behaviour of the water mite *Arrenurus manubriator* Marshall (Acari: Arrenuridae). *Journal of Zoology, London* 232:473-483.
- 1997a. **Baker, R.L., Smith, B.P.** Conflict between antipredator and antiparasite behaviour in larval damselflies. *Oecologia* 109:622-628.
- 1997b. **Rousch, J.M., Simmons, T.W., Kerans, B.L., Smith, B.P.** Relative acute effects of low pH and high iron on the hatching and survival of the water mite, *Arrenurus manubriator* and aquatic insect, *Chironomus riparius*. *Environmental Toxicology and Chemistry*, 16(10) 2144-2150.
1998. **Smith, B.P.** Loss of larval parasitism in parasitengonine mites. *Experimental and Applied Acarology* 22:187-199.
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- 1999b. **Forbes, M.R., Muma, K.E., Smith, B.P.** Parasitism of *Sympetrum* dragonflies by *Arrenurus planus* mites: host coexistence and maintenance of species resistance. *International Journal for Parasitology*. 29:991-999.
- 1999c. **Smith, B.P.** Larval Hydrachnidia and their hosts: biological inference and population structure. in *Acarology IX, Volume 2, Symposia*. pp. 139-144, edited by G. R. Needham, R. Mitchell, D. J. Horn, and W. C. Welbourn. Ohio Biological Survey, Columbus.
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- 2001b. **Yourth, C.P., Forbes, M.R., Smith, B.P.** On understanding variation in immune expression of *Lestes* spp. damselflies. *Canadian Journal of Zoology*. 79: 815-821.
- 2002a. **Yourth, C.P., Forbes, M.R., Smith, B.P.** Immune expression in a damselfly is related to time of season, not to fluctuating asymmetry or host size. *Ecological Entomology* 27: 123-128.
- 2002b. **Forbes, M.R., Muma, K.E., Smith, B.P.** Diffuse coevolution: constraints on a generalist parasite favor use of a dead-end host. *Ecography* 25: 345- 351.
- 2002c. **Smith, B.P., Hagman, J.** Experimental evidence for a female sex pheromone in *Arrenurus manbriator* (Acari: Hydrachnida; Arrenuridae). *Experimental and Applied Acarology* 27: 257-263.

- 2003. Smith, B.P.** Diversity of stylostome structure among parasitic larval water mites (Acari: Hydrachnida), pp. 243-259. *In* From Yankee Springs to Wheeny Creek: An Acarological Tribute to David R. Cook, edited by I.M. Smith. Indira Publishing House. IN PRESS
- 2004a. Bohonak, A.J., Smith, B.P., Thornton, M.** Distributional, morphological and genetic consequences of dispersal for temporary pool water mites (Acari: Arrenuridae: *Arrenurus*). *Freshwater Biology* 49: 170-180
- 2004b. Smith, B.P., Florentino, J.** Communication via sex pheromones within and among *Arrenurus* spp. mites (Acari: Hydrachnida; Arrenuridae). *Experimental and Applied Acarology*. **ACCEPTED**, pending minor revision.
- 2004c. Forbes, M.R., Muma, K.E., Smith, B.P.** Recapture of male and female dragonflies in relation to parasitism by mites, time of season, wing length and wing cell symmetry. *Experimental and Applied Acarology*. **ACCEPTED**, pending minor revision.
- 2004d. Lajeunesse, M.J., Forbes, M.R., Smith, B.P.** Species and sex biases in ectoparasitism of dragonflies by mites. *Oikos*. **ACCEPTED**, pending minor revision