



Workshop

Hematodinium Associated Diseases: Research Status and Future Directions
September 20 - 22, 2007 ~ Charlottetown, Prince Edward Island

Programme

Wednesday - September 19, 2007 19:00 - 21:00 ~ **MEET & GREET RECEPTION** ~ Provinces Room, Rodd Charlottetown Hotel

Thursday - September 20, 2007

8:30 - 8:45 **Honourable Allan Campbell**, Minister, PEI Department of Fisheries & Aquaculture - Introduction & Welcome (*confirmed*)
Mike Chadwick, Gulf Region, Oceans & Science Director, Fisheries & Oceans Canada - Introduction & Welcome (*confirmed*)

8:45 - 9:00 **Introduction Frank Morado & Rick Cawthorn, Co-Chairs**

Fisheries Session. Chairs: Doug Woodby & Bernard Sainte-Marie ~ Grafton/Richmond Room

1. What is the impact of disease on affected populations?
2. Is it possible to model this effect?
3. Can monitoring efforts be standardized?
4. Is a mechanism in place for reporting new affected species or dispersal of disease (e.g., OIE)?

9:00 - 9:30 **Jeff Davidson** Aquatic Invasive Species – Risk of Pathogen Transfer

9:30 - 10:00 **Doug Woodby** Bitter Crab Disease prevalence and detection in the Gulf of Alaska: recent findings.

-Health Break -

10:15- 10:45 **Elizabeth Davidson** What makes collaborations work - an example from amphibians.

10:45 - 11:15 **Martin Robinson** *Haematodinium* in Irish brown crab (*Cancer pagurus*) fisheries: management responses to minimise biological and economic impacts.

11:15 - 11:45 **Terrance Quinn** Using disease information in a fisheries population model: Pacific herring in Prince William Sound, Alaska

- Lunch -

Provinces Room, Rodd Charlottetown Hotel

13:30 - 14:00 **Hamish McCallum** Modeling marine diseases and control strategies.

14:00 - 14:30 **Fisheries Summary**

Parasite Ecology Session. Chairs: Wayne Coats & Jeff Shields

1. Are certain physical/environment factors associated with spread of the disease (e.g. global warming, sediment type)?
2. Do reservoirs exist?
3. The ecology of those differing species/clades/variants?
4. The life history of the parasite both within and outside of the host?
5. Does a common feature exist for *Hematodinium* associated diseases or what are the differences of disease progression with respect to host species, environment, geographic location?
6. Is global warming a factor?

14:30 - 15:00 **Wayne Coats** Ecological implications of dinoflagellate parasitism in the plankton.

15:00 - 15:30 **Richard Lee** Use of PCR and denaturing HPLC to detect *Hematodinium* and how this disease is associated with changing weather patterns.

- Health Break -

15:45 - 16:15 **David Taylor** Assessing mortality of snow crabs with bitter crab disease using tag-recapture data.

16:15 - 16:45 **Frank Morado** What patterns of distribution of *Hematodinium* sp. infections in North Pacific snow (*Chionoecetes opilio*) and Tanner (*C. bairdi*) crabs may tell us about parasite ecology.

16:45 - 17:00 **Parasite Ecology Summary**



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Friday - September 21, 2007

Host Biology Session. Chairs: Pam Jensen & Earl Dawe ~ Grafton/Richmond Room

1. Does a common factor exist between susceptible hosts?
2. Are all infections fatal in all species of susceptible hosts?
3. Do environmental factors exist that limit infections in susceptible hosts?

8:30 - 9:00	Bernard Sainte-Marie	Potential host factors in the acquisition and transmission of <i>Hematodinium</i> infection by the snow crab <i>Chionoecetes opilio</i> .
9:00 - 9:30	AnnDorte Burmeister	Bitter Crab Disease in snow crabs of west Greenland.
9:30 - 10:00	Earl Dawe	Abiotic and biologic effects on distribution and prevalence of <i>Hematodinium</i> spp. infections in snow crab (<i>Chionoecetes opilio</i>) on the Newfoundland-Labrador continental shelf.

-Health Break -

10:15- 10:45	Sherry Tamone	Endocrine and environmental regulation of growth in Crustacea.
10:45 - 11:15	Darrell Mallowney	Trends in prevalence of <i>Hematodinium</i> spp. infections in snow crab (<i>Chionoecetes opilio</i>) males from inshore northeast Newfoundland trap surveys.
11:15 - 11:45	Host Biology Summary	

- Lunch -

Provinces Room, Rodd Charlottetown Hotel

Molecular Biology Session. Chairs: Lorenz Hauser & Paul Shaw

1. How many species/clades/variants exist world wide?
2. Are the identified species/clades native to the areas where they are found?
3. Do they possess similar/different virulence factors?

13:30 - 14:00	Pamela Jensen	DNA-based bitter crab research in Alaskan <i>Chionoecetes</i> spp.
14:00 - 14:30	Lorenz Hauser	The molecular genetics of <i>Hematodinium</i> species, clades and populations: a review of molecular approaches with an outlook on emergent technologies
14:30 - 15:00	Paul Shaw	Seasonal prevalence and host specificity of <i>Hematodinium</i> , detected using DNA probes, in the crustacean benthic community of the Clyde Sea, Scotland.
15:00 - 15:30	Hamish Small	Molecular and biochemical differences between <i>Hematodinium</i> species.

- Health Break -

15:45 - 16:15	Eric Schott	Incorporation of <i>Hematodinium</i> sp. monitoring in blue crab hatchery production and assessments of potential release habitats.
16:15 - 16:45	Spencer Greenwood	The other BCD - Bumper Car Disease of lobsters: genomic approaches to <i>Anophryoides haemophila</i> and the relevance to <i>Hematodinium</i> spp.
16:45 - 17:00	Molecular Biology Summary	

19:00 - 21:00 Banquet Dinner ~ **Alan Buchanan** ~ Special Guest Speaker



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Saturday - September 22, 2007

Pathobiology Session. Chairs: Gretchen Messick, Ted Meyers & Grant Stentiford ~ Grafton/Richmond Room

1. Pathophysiological changes that occur over the course of disease?
2. What factors offer resistance to infection?
3. What are the factors that pre-dispose potential hosts to infection?
4. What is the mean time to death?
5. What is the method of infection and nature of the infective stage?
6. What pathophysiological changes are responsible for the bitter flavour?
7. How and at what rate are hemocytes removed from circulation?
8. Does *Hematodinium* associated disease affect molting?

8:30 - 9:00	Ted Meyers	<i>Hematodinium</i> sp.: Emergent Pathogens for Several Commercial Species of Marine Crustaceans.
9:00 - 9:30	Douglas Neil	The prevalence and pathobiology of <i>Hematodinium</i> infections in Norway lobsters (<i>Nephrops norvegicus</i>) in Scottish waters: implications for exploited stocks and for fishery products.
9:30 - 10:00	Jeff Shields	Epidemiological determinants in outbreaks of Bitter Crab Disease (<i>Hematodinium</i> sp.) in snow crabs, <i>Chionoecetes opilio</i> , from Conception Bay, Newfoundland, Canada.

-Health Break -

10:15- 10:45	Gretchen Messick	Pathobiology of <i>Hematodinium</i> sp. in the blue crab <i>Callinectes sapidus</i> : prevalence, mortality and ultra structural morphology.
10:45 - 11:15	Grant Stentiford	<i>Hematodinium</i> research in Europe.

- Lunch -

Impact of Disease on Commercial Crustacean Fisheries

Moderator: Jerry Amirault ~ Grafton/Richmond Room

12:15 - 12:35	Tony Doyle - Fish, Food and Allied Workers
12:35 - 12:55	Chris Daley - Chris Daley International
12:55 - 13:15	Steve Hughes - Bering Sea Fisheries Research Foundation
13:15 - 13:35	Lynn Fegley - Maryland Department of Natural Resources (USA)
13:35 - 13:55	Peter Kean - Notre Dame Seafoods
13:55 - 14:15	Pedro Quijon - Atlantic Veterinary College, University of PEI
14:15 - 14:30	Workshop Summary (Frank Morado & Rick Cawthorn)

