

**ICIRD 2007**  
**Smithsonian Tropical Research Institute**  
**Meeting Overview**

**Sunday, August 5**

- Field Trips - Meet buses at Hotel Panama Lobby
  - BCI - (12 participants)
  - PMN – (12 participants)

**Monday, August 6**

- Field Trips - Meet at Hotel Panama Lobby
  - ED - 7AM (18 participants)
- 5:00 Buses leave Hotel Panama for reception
- 5:30-7:00 Welcome Reception and Registration – Punta Culebra Nature Center
- 7:00-9:00 Dinner on your own on “The Causeway”
- 9:00 Buses return to Hotel Panama

**Tuesday, August 7**

- 8:00 AM Buses leave Hotel Panama
- 8:30 AM Welcome from Smithsonian Tropical Research Institute
- 8:40 – 1:00 Symposium: **The Environmental Signals Controlling Invertebrate Reproduction and the Impacts of Pollution**
  - 2:00-3:20 Session A: Reproductive Morphology
  - 2:00-3:20 Session B: Pheromones and Hormones
  - 3:30-5:30 Poster Session
- 5:30 Buses return to Hotel Panama

### **Wednesday, August 8**

8:00 AM      Buses leave Hotel Panama  
8:30-2:30      **Symposium: Mechanisms of Sexual Selection in Invertebrates**  
3:20 – 5:00      Session A: Fertilization and Gametogenesis  
3:20 – 5:00      Session B: Life Histories  
5:00      Buses return to Hotel Panama

### **Thursday, August 9**

8:00 AM      Buses leave Hotel Panama  
8:30-11:50      **Symposium: Parasite Manipulation of Invertebrate Reproduction & Development**  
1:00 - 4:20      Session A: Reproductive Cycles and Patterns  
1:00 - 2:40      Session B: Genetics and Reproduction of Invertebrates  
3:20-4:40      Session B: Larval Biology  
4:50-5:50      General Meeting  
7-10 PM      BANQUET at Miraflores locks, overlooking the Panama Canal

### **Friday, August 10**

Field Trips -      Meet at Hotel Panama Lobby  
ED - (7 participants)  
Snork - (10 participants)

### **Saturday, August 11**

Field Trips -      Meet at Hotel Panama Lobby  
BCI - (11 participants)

## **Meeting Schedule**

**Tuesday, August 7**

8:30-8:40 Welcome from Dr. R. Collin and STRI administration

### **Symposium: The Environmental Signals Controlling Invertebrate Reproduction and the Impacts of Pollution**

**Organizers and session chairs: Gordon Watson, Gary Caldwell, and Matt Bentley**

- 8:40 A.N. Jha. Linking genotoxicity with ecotoxicological response in aquatic invertebrates with different reproductive strategies: an overview
- 9:10 C. Lewis & T. Galloway. Inheriting the effects of paternal exposure: Linking adult genotoxic exposures to reproductive effects using the comet assay.
- 9:40 G. J. Watson & A. Leach. The effects of copper and other heavy metals on fertilization, embryo development, larval survival and settlement in the polychaete *Nereis* (*Neanthes*) *virens* (Sars).
- 10:10 M.G. Bentley, W. Quesne & D.J. Whitaker. Ocean acidification and marine invertebrate development: problems and dissolution?

**Coffee 10:40-11:00 [Poster set-up]**

- 11:00 J.S. Pearse. Lunar reproductive cycles of two sympatric species of *Diadema* in the tropical Pacific: When in synchrony, hybrids occur.
- 11:30 S. Tanaka & S. Wakamura. Control of two diapauses in a subtropical scarab beetle in Japan
- 12:00 V.P. Syama, N.T. Supriya, K. Sudha & G. Anilkumar. Reproductive investment in two Brachyuran species inhabiting diverse ecosystems of North Malabar (India)
- 12:30 G.S. Caldwell. Can diatom-derived infochemicals affect reproductive success in aquatic invertebrates?

**Lunch 1:00-2:00**

**Tuesday, August 7**

## **Session A- Reproductive Morphology**

**Session Chair: Chris Tudge**

- 2:00 C. Tudge & R. Lemaitre. Functional morphology of the hermit crab male sexual tube (Decapoda, Anomura, Paguridae & Coenobitidae)
- 2:20 C. Becker, D. Brandis, M. Tuerkay & V. Storch. The secret love life of a Pea Crab - reproductive morphology of European Pinnotheridae (Brachyura, Pinnotheridae)
- 2:40 S.C. García, G. Rotllant & E. Ribes. The vas deferens of the spider crab *Maja brachydactyla* (Crustacea: Decapoda): Morphology and Function.

## **Session B – Pheromones and Hormones**

**Session Chair: Jeffrey Ram**

- 2:00 J.L. Ram, X. Fei, S. Lu et al. Handicaps and helps: Costs and benefits of pheromones as sexual attractants in *Nereis succinea*
- 2:20 M. Aoki, K. Kobayashi, M. Hoshi & M. Matsumoto. Identification of the sexualizing-substance from sexual planarian
- 2:40 H. Laufer, X. Pan, M. Johnson, U. Koehn & J.S. Stuart Alkylphenols Appear to Contribute to Shell Disease in the American Lobster
- 3:00 H.J. Ferenz, K. Seidelmann & N. Reichenbach. Egg foam formation in the desert locust *Schistocerca gregaria*

**3:20-5:30 Poster session**

**Wednesday, August 8**

**Symposium: Mechanisms of Sexual Selection in Invertebrates**

**Organizers and Session Chairs: Janet Leonard and John Christy**  
**Supported by: SENACYT and NSF**

- 8:30 John Christy, Introduction
- 8:40 J.H. Christy. Behavioral mechanism of mate choice and the design of fiddler crab courtship signals
- 9:10 R. Rodriguez & R.B. Crocroft. Vibrational signals in treehoppers
- 9:40 O.M. Fincke. Female-specific color polymorphisms: does sexual conflict spur speciation in *Enallagma* damselflies?

**Coffee 10:10-10:30**

- 10:30 W.B. Eberhard. Copulatory courtship: who signals to whom and why
- 11:00 H. J. Brockmann. Sexual Selection and Alternative Tactics in the Horseshoe Crab, *Limulus polyphemus*
- 11:30 L. Scharer, D.T.J. Littlewood, G. Rieger & D.B. Vizoso. Patterns of covariation between male and female reproductive morphology in the free-living flatworm genus *Macrostomum*
- 12:00 J.A. Baeza. Sexual Selection and Sex Allocation in a Protandric-Simultaneous Hermaphroditic Shrimp.

**Lunch 12:30-1:30**

- 1:30 M. Thiel. Sexual selection and alternative male mating tactics the role of female tactics in rendering strategies evolutionary stable
- 2:00 J.L. Leonard, J.S. Pearse, M.Q. Turner, T. Backeljau & K. Breugelmans. Sexual Selection and Evolution in *Ariolimax* species (Stylommatophora: Arionidae)
- 2:30 J.T. Hoeg. The evolution of reproductive systems in Cirripede Crustacea: Proximate adaptation or large scale phylogenetic constraints?

**Coffee 3:00-3:20**

**Wednesday, August 8**

**3:20 – 5:00 Session A - Fertilization and Gametogenesis**

**Session Chair: John Buckland-Nicks**

- 3:20 J.K. Zograf. Male reproductive system and spermatozoa of chromadorid nematodes (Nematoda, Chromadorida)
- 3:40 V.V. Yushin. Spermatogenesis in the araeolamid nematodes (Nematoda, Araeolaimida)
- 4:00 J.A. Buckland-Nicks. Fertilization biology elucidates chiton phylogeny
- 4:20 U. Hoeger, B. Felber & S. Schenk. Lipoprotein mediated lipid uptake in gametes of nereidid polychaetes.
- 4:40 Enríquez, M., D. Valdez Lozano, E. Real & D. Aldana-Aranda. Gametogenesis and reproductive investment of American oyster, *Crassostrea virginica* in Tabasco lagoons, Mexico

**3:20 – 5:00 Session B - Life Histories**

**Session Chair: Pablo Ribeiro**

- 3:20 V. Zupo, P. Messina, A. Carcaterra, E. Aflalo & A. Sagi. Experimental evidence of a sex reversal process in the shrimp *Hippolyte inermis*
- 3:40 E.A. Delgado & O. Defeo. Reproductive strategies in sandy beaches invertebrates: An ecological approach
- 4:00 T. Watanabe & Y. Henmi. Life history of the commensal pea crab *Arcotheres alcocki* living in the bivalve *Barbatia virescens*
- 4:20 N. Méndez. Life cycle of the polychaete *Capitella* sp. Y from Estero del Yugo, Mazatlan, Mexico
- 4:40 P.D. Ribeiro, O.O. Iribarne & P. Daleo. Switching between mating tactics in the fiddler crab *Uca uruguayensis*
- 5:00 Return to the hotel for dinner on your own

**Thursday, August 9**

## **Symposium: Parasite Manipulation of Invertebrate Reproduction and Development**

**Organizer and session chair: J. J. Werren**

- 8:30 J. Werren. Wolbachia: Reproductive Parasites of Arthropods
- 9:00 E.A. Hornett. The biology of male-killing bacteria: a case study in the butterfly *Hypolimnas bolina*.
- 9:30 H. Hurd. Effects of malaria parasites on mosquito reproductive biology

**Coffee 10:00-10:20**

- 10:20 J. Varaldi. Influential microbes in host parasitoid communities
- 10:50 H. Frydman & E. Wieschaus. *Wolbachia*, a Bacteria Hitching a Ride in the *Drosophila* Stem Cell Niche
- 11:20 G.M. Tulgetske & R. Stouthamer. Characterization of gynandromorph production and sex ratio variation in *Wolbachia*-infected parasitoid wasps.

**Lunch 11:50-1:00**

### **1:00 – 4:20 Session A- Reproductive cycles and patterns**

**Session Chair:** Alan N Hodgson

- 1:00 A. Burmeister & B. Sainte-Marie. Reproductive traits of mature female snow crab (*Chionoecetes opilio*) in West Greenland coastal waters
- 1:20 M.P. Miglietta. Hydromedusae bloom in the Bay of Panama.
- 1:40 L.F. Skinner, H.K.L Macharet, R. Coutinho & L. Cavalcante da Silva. Comparative reproductive cycle of *Tetraclita stalactifera* (Lamarck, 1818) on Cabo Frio region (Brazil) at sites under upwelling and tropical influence.
- 2:00 D. Aldana Aranda, L. Frenkiel, E. Baqueiro & T. Brule. Reproductive patterns of the Queen Conch *Strombus gigas* (Mollusk, Gastropoda) in different sites in the Caribbean

## **Thursday, August 9**

- 2:20 K. Del Rosario & D. Windsor. Reproduction and Dispersal of *Grandiella spp.* (Arachnida, Acari, Astigmata, Cansestriniidae) on their Tortoise Beetles Hosts.
- 2:40 C. Schloeder, Patterns of reproduction and recruitment of the Caribbean coral *Porites furcata* in Bocas del Toro, Panama.

### **Coffee 3:00-3:20**

- 3:20 C. Simon & A.J. Booth. Population structure and growth of polydorid polychaetes that infest the cultured abalone, *Haliotis midae*
- 3:40 A.N. Hodgson, T.O. Henninger & P.W. Froneman. Population dynamics of *Exosphaeroma hylocoetes* (Crustacea: Isopoda) in temporarily open/closed estuaries of the Eastern Cape, South Africa.
- 4:00 D. Aldana Aranda, E. Baquero, A. Zetina Zarate & T. Brule. Variations of reproductive cycle pattern of the oyster *Crassostrea virginica* (Gmelin, 1791) from different localities along the Gulf of Mexico.

## **1:00 – 2:40 Session B - Genetics and Reproduction of Invertebrates**

### **Session Chair: Amir Sagi**

- 1:00 A. Sagi, A. Shechter, E. Mor, S. Raviv, L. Glazer & R. Ramachandra. Silencing of an ecdysone-responsive gene during crayfish molt cycle.
- 1:20 A.S. Martinez, A. Naimi, A. Mrac, B. Diss, M. Mathieu & P. Sourdaine. Identification of factors of the DM family in the pacific oyster *Crassostrea gigas*
- 1:40 C.Garcia, K.B. Andree & G. Rotllant. Identification an dinvestigation of VASA-like gene expression in the spider crab, *Maja brachydactyla* (Crustacea: Decapoda)
- 2:00 L.B. Geyer, K.S. Zigler & H.A. Lessios. A re-examination of the reinforcement hypothesis in sea urchins
- 2:20 A.Schulze & M.E. Rice. Matching larvae and adults in sipunculans using three molecular markers and morphology
- 2:40 C. De Gracia. Effects caused by the glyphosate in the embryonic development of *Crepidula onyx*.

### **Coffee 3:00-3:20**

**Thursday, August 9**

**3:20-4:40 Session B - Larval Biology**

**Session Chair: Rachel Collin**

- 3:20 M.G. Hadfield. Where did larval apical sensory organs come from?
- 3:40 A.S. Maiorova & A.V. Adrianov. The development of two common species of peanut worms (*Sipuncula*) from the Sea of Japan.
- 4:00 G.D. Gibson, K. MacDonald & M. Coxhead. Heterochrony in larval development in a polychaete with dimorphic young.
- 4:20 D. Windsor, S. Lanckowsky, F. Frieiro Costa & G. Keller. Extended maternal care of offspring by Leaf beetles; three new cases and evidence of independent origins in the Chrysomelinae subfamily.

**General Meeting 4:50-5:50**

**Banquet – 7:00-10:00**