### SICB 2006 Orlando - Thursday, Jan. 5 - Contributed Presentations

#### BA (Room ) George A. Bartholomew Award Lecture

18:30 BA. Gillooly, J.; *The George A. Bartholomew Award Lecture*: Linking Biological Currencies in Ecology and Evolution

#### 1 (Room Diamond) Feeding Behavior: Predation and Predator Evasion

**Chair: J. Walker**

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<tr>
<td>08:00</td>
<td>1.1 (DNB) FERRER, R.P., ZIMMER, R.K.; When prey becomes predator: an ontogenetic shift in the role of olfaction</td>
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<td>08:20</td>
<td>1.2 (DAB) GRANT, Jacqueline B.; Ontogeny of defensive behavior and adaptive coloration in larvae of the panic moth, <em>Saucrobotys futilalis</em></td>
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<td>08:40</td>
<td>1.3 BASSETT, D.K., MONTGOMERY, J.C.; Ecological implications of different search strategies in nocturnal teleost predators</td>
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<td>09:00</td>
<td>1.4 (DVM) WALKER, JA, GHALAMBOR, CK, GRISET, OL, MCKENNEY, D, REZNICK, DN; Do Faster Starts Increase the Probability of Evading Predators?</td>
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<td>09:20</td>
<td>1.5 (DVM) GIBB, A. C., LIU, C., SWANSON, B. O.; Pre-hatching escape behavior in the rainbow trout</td>
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<td>09:40</td>
<td>1.6 (DIZ) DAVIS, E.C.; No differences in mucus-trail following was detected in <em>Euglandina rosea</em> predation on local versus non-local gastropods</td>
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#### 2 (Room Diamond) Feeding Behavior: Foraging Behavior

**Chair: J. Walker**

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<tr>
<td>10:20</td>
<td>2.1 GRAYSON, D. L., HARRISON, J. F., FEWELL, J. H.; Foraging Effort and Metabolism in European and African Honey Bees</td>
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<td>10:40</td>
<td>2.2 (DAB) BREELAND, T. B.*, STRAUSS, R. E.; School and Shool Distributions in a Freshwater Catfish Species, <em>Corydoras paleatus</em> (Callichthyidae)</td>
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<td>11:00</td>
<td>2.3 (DEE) KROCHMAL, A.R.; Theres no such thing as a free lunch: on the adaptive value of scavenging in snakes</td>
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<td>11:20</td>
<td>2.4 (DCPB) SHEEHY III, C. M., LILLYWHITE, H. B.; Foraging Behaviors of Insular Cottonmouth Snakes</td>
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<td>11:40</td>
<td>2.5 ENGESZER, RE, ALBERICI DA BARBIANO, L, RYAN, MJ, PARICHY, DM; An analysis of shoaling preference in the zebrafish, <em>Danio rerio</em></td>
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#### 3 (Room Sapphire) Effects of Metabolism on Performance I: High Altitude and Temperature Effects on Metabolism of Endotherms

**Chair: M. Chappell**

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<td>08:00</td>
<td>3.1 (DCPB) RUSSELL, GA, CHAPPELL, MA, HAMMOND, KA; Effects of high altitude development and</td>
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#### 4 (Room Diamond) Feeding Behavior: Predation and Predator Evasion

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<td>11:40</td>
<td>4.5 WESTERMAN, E.L., HARRIS, L.G.; Environmentally caused changes in asexual reproduction rates in two invasive sea squirts: <em>Botryllus schlosseri</em> and <em>Botryloides violaceus</em></td>
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#### 5 (Room Emerald) Regulatory Biology: Aggression

**Chair: W. Hopkins**

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<tr>
<td>08:00</td>
<td>5.1 GILL, S.A., ALFSON, E.D., HAU, M.; The myth of the passive sex: hormonal control of female aggression in a year-round territorial bird</td>
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<td>08:20</td>
<td>5.2 JAWOR, Jodie, RICHARDSON, Jennifer, KETTERTON, Ellen; Do hormones other than testosterone influence intrasexual aggression in female dark-eyed juncos (<em>Junco hyemalis</em>)?</td>
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<td>08:40</td>
<td>5.3 (DCE) LANDYS, M.M., GOYMANNN, W., SOMA, K.K., SLAGSVOLD, T.; Dehydroepiandrosterone (DHEA) and territorial aggression in the European nuthatch</td>
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<td>09:00</td>
<td>5.4 SCOTTI, M.L., DEMAS, G.E.; Seasonal aggression in female Siberian hamsters (<em>Phodopus sungorus</em>)</td>
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#### 6 (Room Emerald) Education, Policy, and Outreach

**Chair: D. Kelly**

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<tr>
<td>09:40</td>
<td>6.2 (DVM) KENNEDY, Natalia K., WORDEN, Kelly J., RUSSELL, Arlene A., FREKING, Fred F.; The GK-12 Program at the University of California, Los Angeles: Making Science Exciting for Students in Urban Schools</td>
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<td>10:20</td>
<td>6.3 (DIZ) TANKERSLEY, R.A., WINDSOR, J.G., HANSEMABN, J.A.; InSTEP: Enhancing Science Education Through Graduate Student-Teacher Partnerships</td>
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<td>10:40</td>
<td>6.4 (DEE) TIMMERMAN, BE, STRICKLAND, DC; Can peer review improve freshman lab reports and does experience with peer review improve students' scientific reasoning skills?</td>
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#### 7 (Room Emerald) Excretion and Acid Base

**Chair: M. Gosell**

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<td>11:00</td>
<td>7.1 (DCPB) GROSELL, M., TAYLOR, J.R., GENTZ, J.; Marine teleost osmoregulation involves highly acidic and hyperosmotic fluid absorption by the intestine</td>
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cold acclimation on summit metabolism and organ mass in the deer mouse, *Peromyscus maniculatus*

08:20 3.2 (DCPB) CHAPEL, M.A.*, RUSSELL, G.A., HAMMOND, K.A.; BMR is not repeatable over extended periods in deer mice

08:40 3.3 (DCPB) HAYES, J.P., SEARS, M.W., BANTA, M.R., O’CONNOR, CS; Out in the cold: Physiological performance affects behavior of deer mice

09:00 3.4 SZAFRANSKA, Paulina A., ZUB, Karol, KONARZEWSKI, Marek, SPEAKMAN, John R.; A positive association between resting and field metabolic rates in weasels

09:20 3.5 (DCPB) LIKNESS, E.T., GUGLIELMO, C.G., SWANSON, D.L.; Fuel Storage And Mobilization Strategies Associated With Seasonal Acclimatization Of Resident Passerines

09:40 3.6 (DCPB) WOODS, H.A.; Causes and consequences of temperature-oxygen interactions in metabolism

**4 (Room Sapphire) Growth and Form**

*Chair: K. Angelesczyk*

10:20 4.1 (DEE) ROBBINS, T.R., WARNER, D.A.; Fluctuations in the incubation environment: Does the pattern or magnitude influence egg survival and hatching phenotypes in a lizard?

10:40 4.2 (DEE) BUCKLEY, Christine R., ADOLPH, Steven C., IRSCHICK, Duncan J.; Persistence of incubation effects on the phenotypes of hatching western fence lizards, *Sceloporus occidentalis*

11:00 4.3 (DVM) ANGIELCZYK, K.D., PARHAM, J.F.; Geometric Morphometric Analysis of Plastron Shape in the Western Pond Turtle (*Emys marmorata*): Implications for Conservation and Paleontology

11:20 4.4 SCHMIDT, K., STARCK, J.M.; Developmental plasticity vs. phylotypic constraints during early embryogenesis of zebra fish, *Danio rerio*

**8 (Room Scotland A) Larval Ecology**

*Co-chairs: R. Strathmann & J. Allen*

08:20 8.1 (DIZ) RHYNE, A.L.*, JOHNSON, K.J., LIN, J.; Ontogenetic shift of spectral sensitivity in the larval phototaxis of two caridean shrimp, *Lysmata wurdemanni* and *L. boggessi*

08:40 8.2 (DIZ) STRATHMANN, R. R., HYSERT, A., FOLEY, R.; Food Limited Growth, Plasticity in Loss and Gain of Metamorphic Competence, and Recruitment of the Cyphonautes Larva of a Bryozoan

09:00 8.3 (DIZ) ALLEN, Jonathan D, MCALISTER, Justin S; Testing rates of planktonic versus benthic predation in the field

09:20 8.4 ROBERTSON, Bruce; A framework for understanding ecological traps and an evaluation of existing evidence

09:40 8.5 (DIZ) LÓPEZ-DUARTE, P.C., TANKERSLEY, R.A.; Endogenous Swimming Rhythms of Fiddler Crab Zoeae from Different Tidal Regimes

10:20 8.6 MAHON, B.C., NEIGEL, J.E.; A real-time PCR assay for detection and quantification of crustacean larvae in plankton samples


11:00 8.8 (DIZ) PERNET, B.; Feeding by larvae of two different developmental modes in the annelid *Streblospio benedicti*

11:20 8.9 (DIZ) MCALISTER, J/S; Environmental heterogeneity and the evolution of plasticity in Panamanian echinoid larvae

11:40 8.10 (DEE) OYARZUN, F.X., HALANYCH, K., SWALLA, B.; Molecular Phylogeography and Reproducitivion of the Poecilogonous Polychaetes ""*Boccardia proboscidea""* and ""*B. wellingtonensis""* (Polychaeta: Spionidae): Two worms and Two hemispheres

**9 (Room Scotland C) Development: Regulation of Development**

*Chair: S. Secor*

08:00 9.1 (DCPB) OLSON, Christopher R., VLECK, Carol M., VLECK, David; Temperature and metabolic rate: embryonic birds depart from an Arrhenius relationship
08:20 9.2 (DCPB) SECOR, Stephen M.; Heart position in snakes, ontogenetic shifts and correlation with other organs
08:40 9.3 (DCPB) SOTHERLAND, P.R., KILLPACK, T.L., SELBO, B.G., DZIALOWSKI, E.M.; A change of heart in developing birds at the onset of endothermy
09:00 9.4 (DIZ) THOMPSON, J.T., SZCZEPANSKI, J.A., BRODY, J.H., CRESCENTI, L.M.; Ontogeny of isometric force production by the circular mantle muscles of loliginid squids and cuttlefishes.
09:20 9.5 (DCPB) MENZE, M.A., HAND, S.C.; Lessons in Apoptosis from an Invertebrate Extremophile, Embryos of Artemia franciscana

10 (Room Scotland C) Regulatory Biology: Stress I
Chair: C. L. Buck

10:00 10.1 WHITMAN, B.A., BREUNER, C.W., DUFTY, A.M; Investigator Handling, Stress, and Nestlings: Should We be Concerned?
10:20 10.2 (DCE) HEIDINGER, Britt/J, NISBET, Ian/CT, KETTERSON, Ellen/D; Attenuation of the stress response may mediate an increase in reproductive performance with age in the common tern Sterna hirundo
10:40 10.3 WILLIAMS, C.T., KITAYSKY, A.S., BUCK, C.L.; Adrenocortical activity in tufted puffin nestlings varies with growth rates and fledging behavior
11:00 10.4 (DCE) DEMPSEY, T.D., ESMAILKA, L.R., HAGOOD, J.G., KITAYSKY, A.S.; Perception of food availability affects the adrenocortical stress response of Northern Shovelers

11 (Room Ireland A) Complementary Session to Biomechanics Symposium: Locomotion
Chair: M. Hyde

08:00 11.1 PARRA, Laura G., HYDE, Martha L.; Characterization of Bipedal Locomotion While Feeding in Kangaroo rats in the Natural Habitat
08:20 11.2 (DVM) HYDE, Martha L., PARRA, Laura G.; Theoretical Aspects of Bipedal Locomotion in Kangaroo Rats: Comparison of Field and Laboratory Locomotion with Respect to Neural Control Mechanisms
08:40 11.3 (DIZ) UYENO, T.A., KIER, W.M.; The muscle articulation in polychaetes and cephalopods: joints made of multifunction muscle
09:00 11.4 (DCPB) REVZEN, S., KODITSCHEK, D.E., FULL, R.J.; Testing Feedforward Control Models In Rapid Running Insects Using Large Perturbations
09:20 11.5 (DCPB) DUDEK, DM, DASTOOR, S, FULL,

08:40 13.3 (DVM) CARLSON, Kristian J.; Modelling arboreal locomotion: the effect of limb abduction on substrate reaction forces during lemurid quadrupedal locomotion.
09:00 13.4 (DVM) KENNEDY, Natalia K, FARTASH, Arian, VAN VALKENBURGH, Blaire ; Adaptations of the cervical spine to prey capture in canines
09:20 13.5 (DVM) MORENO, C.A., BIEWENER, A.A.; Mechanics and kinematics of 90° turns in goats
09:40 13.6 (DVM) LEE, David V.; Elasticity in the joints and whole legs of goats vs. dogs: trading economy for precision?

14 (Room Ireland C) Comparative Morphology I
Chair: M. McHenry

08:00 14.1 ELZEY, S.P.; Sexual Dental Dimorphism in Four Species of Skates From The Western Gulf Of Maine
08:20 14.2 (DVM) KAJIURA, Stephen M, FORNI, Jesica B, SUMMERS, Adam P, TYMINSKI, John P, WILLIAMS, Audrey T; Sexual dimorphism in elasmobranch fishes
08:40 14.3 (DDCB) BOND, C; Comparative Time-Lapse Studies of Two Different Sponge Designs
09:00 14.4 (DVM) KLEY, NJ; Form and function of the hyolingual apparatus in blindsnakes (Serpentes: Scolecodphia)
09:20 14.5 (DVM) RIVERA, G; Morphological variation in a species of freshwater turtle (Pseudemys concinna) inhabiting different flow regimes
09:40 14.6 (DVM) LANDRY, S.O.; Venous Drainage in Short- and Long-faced Mammals
10:20 14.7 (DVM) CORNETT, A.D.; Ecomorphology of Shark Electroreceptors
10:40 14.8 (DVM) MCHENRY, MJ, VAN NETTEN, SM; The mechanical design of the superficial neuromast in zebrafish
11:00 14.9 (DVM) JORDAN, L.K.; Ecomorphology of
RJ: RAPID RECOVERY FROM AN IMPULSE PERTURBATION TO A LEG IN RUNNING INSECTS
09:40 11.6 (DCPB) GOLDMAN, Daniel I., CHEN , Tao C., FULL, Robert J.; A Template for Rapid Vertical Climbing

12 (Room Ireland A) Complementary Session to Biomechanics Symposium: Flight and Navigation
Chair: T. Daniel

10:20 12.1 (DAB) SPRAYBERRY, J. D. H., DANIEL, T.; Control of left-right steering in Manduca sexta
11:00 12.3 (DCPB) MYHRVOLD, C., SANE, S., DANIEL, T.; The flexible halteres of the cranefly Holorusia rubiginosa
11:20 12.4 (DVM) HORISAWA, S., DUDLEY, R.; Three-Dimensional Wing Kinematics of Erratic Flight in Free-Flying Butterflies
11:40 12.5 (DCPB) SPONBERG, S., SPENCE, A., FULL, R.J.; Testing Neural Control Models for Antenna-based Tactile Navigation in Cockroaches

13 (Room Ireland B) Mammal Locomotion
Co-chairs: J. Bertram & D. Lee

08:00 13.1 (DVM) CARRIER, D/R; Lucy's diminutive legs.
08:20 13.2 (DVM) WALTER, RM, CARRIER, DR; Effects of fore-aft body mass distribution on acceleration

Stingray Mechanosensory and Electrosensory Systems (Elasmobranchii: Batoidea)
11:20 14.10 (DVM) FERRY-GRAHAM, L.A., GIBB, A.C.; Do teleost fishes with different mechanisms of premaxillary protrusion produce functionally similar behaviors?
11:40 14.11 (DVM) ADRIAENS, D, GEERINCKX, T, HUYLENTERUYT, F, SCHAEFER, SA, HERREL, A; Evolution of trophic specialisations in Neotropical catfishes: more than a mouthful

15 (Room Great Hall East) Life History Evolution I
Co-chairs: J. Kingsolver & A. Welch (10:20 am)

08:00 15.1 (DEE) DAVIDOWITZ, G., ROFF, D.A., NIJHOUT, H.F.; The physiological regulation of simultaneously selected life history traits.
08:20 15.2 (DEE) KINGSOLVER, J.G., MASSIE, K.R., RAGLAND, G.J., SMITH, M.H.; Breaking the temperature-size rule: Rapid population divergence in thermal reaction norms
08:40 15.3 (DCE) BOWDEN, R.M., JANZEN, F.J.; Growth and Reproduction During a Transitional Life History Stage
09:00 15.4 (DEE) COX, Robert, BARRETT, Michele, ZILBERMAN, Viktoriya, JOHN-ALDER, Henry; Effects of sex and castration on growth of Yarrows Spiny Lizards (Sceloporus jarrovii) are reduced or absent in laboratory common-garden experiments
09:20 15.5 (DVM) HEULIN, B., STEWART, J.R., SURGET-GROBA, Y., BELLAUD, P., JOUAN, F., LANCIEN, G.; Histology and histochemistry of the uterine glands and eggshell of the reproductively bimodal lizard, *Lacerta vivipara*

09:40 15.6 (DEE) MILLER, Christine W., EMLEN, Douglas J.; Maternal effects shift the allometry of a sexually selected trait in the heliconia bug

10:20 15.7 KINDSVATER, HK, BONSALL, MB, MANGEL, M; Physical and Ecological Correlates of Longevity in Pacific Rockfishes (*Sebastes*)

10:40 15.8 BOBACK, S.M., GUYER, C.; A test of reproductive power in snakes

11:00 15.9 (DAB) WELCH, A.M.; Heritability of lipid reserves in gray tree frog metamorphs

11:20 15.10 WALGUARNERY, J.W.; Nonrandom patterns of sex determination in *Anolis* lizards

11:40 15.11 FERRIS, M. T., BURCH, C. L.; Host range evolution of the bacteriophage &Phi 6: Are trade-offs required?

16 (Room Diamond) Development: Metamorphosis

13:00 16.1 (DVM) HANDRIGAN, G.R., HAAS, A., WASSERSUG, R.J.; Bony-tailed tadpoles: The form, function, and fate of supernumerary caudal vertebrae in anurans

13:20 16.2 KERNEY, Ryan; An unexpected role for the skeletal regulator Runx2 in anuran development

13:40 16.3 (DEDB) INFANTE, C.R.; Deiodinases and the control of metamorphosis in the carnivorous larvae of the anuran *Lepidobatrachus laevis*

14:00 16.4 (DAB) MACDOUGALL-SHACKLETON, SA, MACDONALD, IF, KEMPSTER, B, ZANETTE, L.; Nutritional stress, brain development and song repertoires in song sparrows

14:20 16.5 (DCE) HORTON, B.M., LONG, J.A., HOLBERTON, R.L.; A possible role of corticosterone in mediating transitions from migration to breeding in male White-throated Sparrows (*Zonotrichia albicollis*).

14:40 16.6 (DCE) WADA, H., HAHN, T.P., BREUNER, C.W.; Ontogenetic pattern of intracellular corticosteroid receptors in white-crowned sparrow nesting brain

15:00 16.7 (DIZ) BERKE, S.K., WOODIN, S.A.; Do energy-mortality tradeoffs drive sexual dimorphism in a crab's decoration? (*Oregonia gracilis*; Brachyura: Majidae)

15:20 16.8 (DIZ) COLLIN, R; Sex Ratio and Patterns of Sex Change in Calyptraeid Gastropods

15:40 16.9 (DIZ) HUTCHINSON, Deborah A., SCHROEDER, Frank C., SAVITZKY, Alan H., MORI, Akira, MEINWALD, Jerrold, BURGHARDT, Gordon M.; Dietary Toxin Sequestration in Two Populations of a Toad-Eating Snake, *Rhabdophis tigrinus*

16:00 16.10 (DIZ) HUANG, Y.M., MCCLINTOCK, J.B., WONG, T.; Evolution of reproductive mode in asterinid sea stars

20 (Room Scotland C) Regulatory Biology: Stress II

13:00 20.1 (DAB) MACDOUGALL-SHACKLETON, SA, MACDONALD, IF, KEMPSTER, B, ZANETTE, L.; Nutritional stress, brain development and song repertoires in song sparrows

13:20 20.2 (DCE) WADA, H., HAHN, T.P., BREUNER, C.W.; Ontogenetic pattern of intracellular corticosteroid receptors in white-crowned sparrow nesting brain

13:40 20.3 (DCE) WALKER, B.G., MATT, K.S.; Baseline and stress induced corticosterone levels in female and male Siberian hamsters depends on pairing type and parental status

14:00 20.4 (DCE) SHERMAN, HEATHER M., SIDDIQUI, SAMIRA, WALKER, B.G.; The effect of dietary copper on sexual differentiation and corticosterone levels in female Siberian hamsters


14:40 20.6 (DCE) BURGHARDT, G.M., MORI, A.K., MEINWALD, J.; Dietary Toxin Sequestration in Two Populations of a Toad-Eating Snake, *Rhabdophis tigrinus*

21 (Room Ireland A) Chemical Ecology

13:00 21.1 LEHMAN, E.M.; Tetrodotoxin as a maternally-endowed defense against egg predation in the rough-skinned newt, *Taricha granulosa*

13:20 21.2 (DNB) DERBY, C.D., KICKLIGHTER, C.E., SHABANI, S., JOHNSON, P.M., KO, K.-C., KAMIO, M.; Chemical defenses of sea hares: novel and adaptive strategies for escape and defense via inking


14:00 21.4 (DIZ) WONG, T., MCCLINTOCK, J.B., WONG, T.; Evolution of reproductive mode in asterinid sea stars
13:40 17.3 LEE, T., Ó FOIGHIL, D.; Placing the Floridian Marine Genetic Disjunction into a Regional Evolutionary Context Using the Scorched Mussel, *Brachidontes exustus*, Species Complex
14:00 17.4 (DIZ) MEYER, Christopher P., KOHN, Alan J.; Disparate evolutionary trajectories in two hyperdiverse tropical marine gastropod genera
14:20 17.5 (DIZ) ZARDUS, J.D., ETTER, R.J., CHASE, M.R., REX., M.A., BOYLE, E.E.; Genetic divergence with depth and distance in a Deep-Sea Bivalve, *Deminucula atacellana*
14:40 17.6 WARREN, D.L., YOUNG, C., IGLESIAS, T.; Reevaluating claims of Ecological Speciation in *Halichoeres bivittatus*

18 (Room Emerald) Evolution of Limbs  
*Chair: M. Davis*
13:40 18.1 ANGELINI, David R., JOCKUSCH, Elizabeth L.; Developmental mechanisms underlying divergent morphology in the antennae of *Tribolium* flour beetles (Coleoptera)
14:00 18.2 ROLIAN, C; Comparative growth plate kinetics in rodents: insights into the evolution and development of limb length allometry.
14:20 18.3 (DEDB) DAVIS, M.C., DAHN, R.D., SHUBIN, N.H.; Gene expression and function in the paired fins of basal actinopterygians
14:40 18.4 DAHN, Randall D., DAVIS, Marcus C., SHUBIN, Neil H.; Conserved Shh function and regulation in gnathostome appendage patterning

19 (Room Scotland A) Life History Evolution II  
*Chair: C. McFadden*
13:00 19.1 BASOLO, A.L.; The Effect of Predation on the Evolution of Genetically Linked Life History Traits

AMSler, C.D., Peters, K.J., Baker, B.J.; Feeding rates of common Antarctic gammarid amphipods on ecologically important sympatric macroalgae
14:20 21.5 Peters, K.J., AMSler, C.D., McCLINTock, J.B., Baker, B.J.; Palatability and chemical defenses of Antarctic Peninsula sponges
14:40 21.6 SotKA, E.E.; The evolution of herbivore offense in the sea: tropical versus temperate herbivores in feeding tolerance for chemically-rich seaweeds

22 (Room Ireland B) Behavioral Ecology  
*Chair: S. Schoech*
13:00 22.1 (DCE) SCHOECH, S.J., HAHN, T.P.; Timing of reproduction and food supplementation: Are high latitude species less responsive than low latitude species to non-photic cues?
13:20 22.2 (DEE) WARNE, R, LIGHTFOOT, D, WOLF, BO; Lizard life history strategies and population dynamics under a regime of pulsed resources
13:40 22.3 ALDREDGE, R.A., BOWMAN, R., BOUGHTON, R.K., SCHOECH, S.J., BRIDGE, E.; Increased ambient temperatures in an urban landscape affect hatching success of the threatened Florida scrub-jay *Aphelocoma coerulescens*
14:00 22.4 (DEE) HUYGHE, K., VANHOOYDONCK, B., HERREL, A., VAN DAMME, R.; Ecological and behavioural correlates of colour polymorphism in a lacertid lizard, *Podarcis melisellensis*
14:20 22.5 (DCPB) WOLCOTT, DL, WOLCOTT, TG, HINES, AH, MEDICI, DA; Migration of female blue crabs from mating areas to spawning grounds.
14:40 22.6 (DAB) MARTIN III, Arthur/L, MOORE, Paul/A; The effects of shelter occupation on crayfish agonistic interactions

23 (Room Ireland C) Metabolism and Performance II  
*Chair: C. R. Tracy*
13:00 23.1 DOWNS, C.J.*, HAYES, J.P., TRACY, C.R.; Temperature, Sampling Bias, and Scaling of BMR in Endotherms
### 13:20 23.2 JOST, JA, HELMUTH, BST; Thermal tolerance of *Geukensia demissa*: The effect of daily maximum temperatures on growth and mortality

### 13:40 23.3 (DVM) HERREL, A., JAMES, R.S., VAN DAMME, R.; Muscle physiology constrains behaviour in lizards: physiological basis for the fight vs. flight paradigm.

### 14:00 23.4 (DCPB) MCCLEARY, R. J. R., LILLYWHITE, H. B., MCCUE, M. D.; Foraging and Water Requirement in Terrestrial Cottonmouth Snakes

### 14:20 23.5 (DCPB) BLANK, J.M., FARWELL, C.J., MORRISSETTE, J.M., SCHALLERT, R.J., BLOCK, B.A.; Effects of temperature on metabolic rates of Pacific bluefin tuna, *Thunnus orientalis*

### 14:40 23.6 SEPULVEDA, C. A., GRAHAM, J.B., BERNAL, D.; Swimming performance studies of the mako shark, *Isurus oxyrinchus*

#### 24 (Room Great Hall West) Complementary to Zebrafish Symposium: Morphology  
*Chair: T. A. Franz-Odendaal*

### 13:00 24.1 (DSEB) SANTINI, F; Was the fish specific genome duplication the cause of the high diversity of teleost fishes?

### 13:20 24.2 (DEDB) BIRD, NC, HERNANDEZ, LC; Origin of complex structures: Zebrafish as the new model organism for investigating morphological innovation

### 13:40 24.3 ALBERTSON, R. Craig, STREELMAN, J. Todd, KOCHER, Thomas D., YELICK, Pamela C.; Integration and Evolution of the Teleost Mandible: The Molecular Basis of Alternate Feeding Strategies

### 14:00 24.4 (DVM) FRANZ-ODENDAAL, T.A.; Growth, development, constraint and variation of the skeletal elements within the teleost eye

### 14:20 24.5 (DNB) CROLL, RP, ROBERTSON, GN, MCGEE, CAS, SMITH, FM; Development of the swimbladder and its innervation in the zebrafish (*Danio rerio*)

### 14:40 24.6 (DVM) LIAO, James C., FETCHO, Joseph R.; Identification of sensory spinal interneurons by using optical, genetic, and electrophysiological techniques in larval zebrafish