

**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*

**08:00 1.1 (DNB)** FERRER, R.P., ZIMMER, R.K.; When prey becomes predator: an ontogenetic shift in the role of olfaction.

**08:20 1.2 (DAB)** GRANT, Jacqueline B.; Ontogeny of defensive behavior and adaptive coloration in larvae of the panic moth, *Saucrobotys futilalis*

**08:40 1.3** BASSETT, D.K., MONTGOMERY, J.C.; Ecological implications of different search strategies in nocturnal teleost predators

**09:00 1.4 (DVM)** WALKER, JA, GHALAMBOR, CK, GRISET, OL, MCKENNEY, D, REZNICK, DN; Do Faster Starts Increase the Probability of Evading Predators?

**09:20 1.5 (DVM)** GIBB, A. C., LIU, C., SWANSON, B. O.; Pre-hatching escape behavior in the rainbow trout

**09:40 1.6 (DIZ)** DAVIS, E.C.; No differences in mucus-trail following was detected in *Euglandina rosea* predation on local versus non-local gastropods

**2 (Room Diamond) Feeding Behavior: Foraging Behavior**

*Chair: J. Walker*

**10:20 2.1** GRAYSON, D. L., HARRISON, J. F., FEWELL, J. H.; Foraging Effort and Metabolism in European and African Honey Bees

**10:40 2.2 (DAB)** BREELAND, T. B.\*, STRAUSS, R. E.; School and Shoal Distributions in a Freshwater Catfish Species, *Corydoras Paleatus* (Callichthyidae)

**11:00 2.3 (DEE)** KROCHMAL, A.R.; Theres no such thing as a free lunch: on the adaptive value of scavenging in snakes

**11:20 2.4 (DCPB)** SHEEHY III, C. M., LILLYWHITE, H. B.; Foraging Behaviors of Insular Cottonmouth Snakes

**11:40 2.5** ENGESZER, RE, ALBERICI DA BARBIANO, L, RYAN, MJ, PARICHY, DM; An analysis of shoaling preference in the zebrafish, *Danio rerio*

**3 (Room Sapphire) Effects of Metabolism on Performance I: High Altitude and Temperature Effects on Metabolism of Endotherms**

*Chair: M. Chappell*

**08:00 3.1 (DCPB)** RUSSELL, GA, CHAPPELL, MA, HAMMOND, KA; Effects of high altitude development and

**11:40 4.5** WESTERMAN, E.L., HARRIS, L.G.; Environmentally caused changes in asexual reproduction rates in two invasive sea squirts: *Botryllus schlosseri* and *Botrylloides violaceus*

**5 (Room Emerald) Regulatory Biology: Aggression**

*Chair: W. Hopkins*

**08:00 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

**08:20 5.2** JAWOR, Jodie, RICHARDSON, Jennifer, KETTERSON, Ellen; Do hormones other than testosterone influence intrasexual aggression in female dark-eyed juncos (*Junco hyemalis*)?

**08:40 5.3 (DCE)** LANDYS, M.M., GOYMANN, W., SOMA, K.K., SLAGSVOLD, T.; Dehydroepiandrosterone (DHEA) and territorial aggression in the European nuthatch

**09:00 5.4** SCOTTI, M.L., DEMAS, G.E.; Seasonal aggression in female Siberian hamsters (*Phodopus sungorus*)

**6 (Room Emerald) Education, Policy, and Outreach**

*Chair: D. Kelly*

**09:20 6.1 (DVM)** KELLY, D. A.; Using Games to Reinforce Facts and Concepts in the Biological Sciences

**09:40 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

**10:20 6.3 (DIZ)** TANKERSLEY, R.A., WINDSOR, J.G., HANSELMAN, J.A.; InSTEP: Enhancing Science Education Through Graduate Student-Teacher Partnerships

**10:40 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?

**7 (Room Emerald) Excretion and Acid Base**

*Chair: M. Gosell*

**11:00 7.1 (DCPB)** GROSELL, M., TAYLOR, J.R., GENTZ, J.; Marine teleost osmoregulation involves highly acidic and hyperosmotic fluid absorption by the intestine

**11:20 7.2 (DCPB)** TAYLOR, J. R. , WHITTAMORE, J. M. , WILSON, R. W. , GROSELL, M. ; Postprandial acid-base balance in freshwater and seawater-acclimated European flounder

cold acclimation on summit metabolism and organ mass in the deer mouse, *Peromyscus maniculatus*

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

**08:40 3.3 (DCPB)** HAYES, JP, SEARS, MW, BANTA, MR, 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)** LIKNES, 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. Angielczyk

**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 hatchling 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 hatchling 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. boggei*

**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

**10:40 8.7 (DIZ)** RICE, A., BLUMENSHINE, S., TSUKIMURA, B.; The Influence of Environmental Parameters on the Invasive Chinese Mitten Crab, *Eriocheir sinensis*, Zoeae Recruitment Dynamics in San Francisco Bay, CA

**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 Reproduction of the Poecilognous 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

**11:20 10.5** BREWER, J.H.\*, O'REILLY, K.M., BUCK, C.L.; Interannual variation in adrenal responsiveness of black-legged kittiwake chicks: An indicator of forage availability?

### 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., KODITSCHKEK, 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?

**10:20 13.7 (DVM)** PONTZER, H.; Linking Locomotor Energetics to Limb Design in Terrestrial Animals.

**10:40 13.8 (DVM)** HANNA, JB, GRIFFIN, TM; Climbing energetics in primates: effects of body size

**11:00 13.9 (DVM)** BUTCHER, MT, CHASE, PB, HERMANSON, JW, BERTRAM, JE, CLARK, AN, SYME, DA; Work and power characteristics of skinned fibers from the deep and superficial digital flexor muscles in the forelimbs of horses

**11:20 13.10 (DVM)** GILLIS, Gary B.; Strain and Activation in the Thigh Muscles of Guinea Pigs During Level, Incline and Decline Locomotion

**11:40 13.11 (DCPB)** ROBERTS, T.J., GABALDON, A.M.; Does rate of force production increase with running speed in individual muscles?

### 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: Scolecophidia)

**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*

**10:40 12.2 (DCPB)** WARK, B.J., SANE, S.P.,

HOROWITZ, J., DANIEL, T.; Dynamics of hawkmoth  
antennae: finite element analysis of antennal mechanics.

**11:00 12.3 (DCPB)** MYHRVOLD, C., SANE, S.,  
DANIEL, T.; The flexible halteres of the crane fly *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; Lucys 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,  
HUYSENTRUYT, 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 jarrovi*) 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., EMLÉN, Douglas J.; Maternal effects shift the allometry of a sexually selected trait in the heliconia bug  
**10:20 15.7** KINDSVATER, HK, BONSTALL, 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

Chair: K. B. Johnson

**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** RUGGIERO, R.P, VON KALM, L.; Genetic analysis of the intersection between ecdysone and intracellular signaling during *Drosophila* leg and wing morphogenesis  
**14:20 16.5** DAVIS, R. L., STEINMAN, M. , JOHNSON, K. B.; The Responses of Marine Invertebrate Larvae to Predator Chemical Cues in the Laboratory  
**14:40 16.6** DEAL, K. J., JOHNSON, K. B.; The Effects of Food Level and Trophic Copper on the Development and Metamorphosis of *Lytechinus variegatus* Larvae

### 17 (Room Sapphire) Marine Phylogeography

Chair: J. Zardus

**13:00 17.1 (DIZ)** HART, M.W., SUNDAY, J., KEEVER, C.C.; Dispersal and climate history in sea star population genetic structure  
**13:20 17.2** BELCHER, R.L., HALANYCH, K.M.; Phylogeography of ophiuroids from South American and Antarctic waters using mtDNA

**13:20 19.2 (DIZ)** BERKE, S.K., WOODIN, S.A.; Do energy-mortality tradeoffs drive sexual dimorphism in a crabs decoration? (*Oregonia gracilis*, Brachyura: Majidae)  
**13:40 19.3 (DIZ)** COLLIN, R; Sex Ratio and Patterns of Sex Change in Calyptraeid Gastropods  
**14:00 19.4 (DEE)** MCGOVERN, TM; Self-fertilization in the brooding sea anemone *Aulactinia incubans*  
**14:20 19.5 (DIZ)** MCFADDEN, C.S., RETTIG, P.M., BECKMAN, E.J.; Molecular Evidence for Hybridization Between Two Alcyoniid Soft Coral Species With Contrasting Life Histories  
**14:40 19.6 (DIZ)** KEEVER, C.C., HART, M.W.; Evolution of reproductive mode in asterinid sea stars

### 20 (Room Scotland C) Regulatory Biology: Stress II

Chair: D. Folk

**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)** 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*).  
**13:40 20.3 (DCE)** WADA, H., HAHN, T.P., BREUNER, C.W.; Ontogenetic pattern of intracellular corticosteroid receptors in white-crowned sparrow nestling brain  
**14:00 20.4 (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  
**14:20 20.5 (DCPB)** FOLK, Donna G., GILCHRIST, George W.; Heat-Shock Response and Locomotory Performance in *Drosophila* Populations Selected for Divergent Knockdown Temperatures

### 21 (Room Ireland A) Chemical Ecology

Co-chairs: C. Derby & E. Sotka

**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  
**13:40 21.3 (DEE)** 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*  
**14:00 21.4 (DIZ)** HUANG, Y.M., MCCLINTOCK, J.B.,

**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-Odenaal*

**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**