

ICBB 2010 Session Schedule

	Tuesday 29 June		Wednesday 30 June	
Morning	Symposium: Evolution of butterfly patterning I. The genetic basis of pattern variation ETLC E1-013	Symposium: Butterfly dispersal – linking ecology to conservation, linking observation to theory ETLC E1-017	Symposium: Butterfly phylogeny, systematics and taxonomy at species level and above II ETLC E1-013	Symposium: Butterflies in a changing climate: perils and prospects ETLC E1-017
Afternoon	Symposium: Butterfly phylogeny, systematics and taxonomy I. At species level ETLC E1-013	Symposium: Life history strategies ETLC E1-017	Symposium: Evolution of butterfly patterning II. The evo-devo of pattern change ETLC E1-013	Symposium: Color signals and cues in the lives of butterflies: Perception, learning and function ETLC E1-017

	Thursday 1 July		Friday 2 July	
Morning	Symposium: Pheromones and secondary male characteristics ETLC E1-013	Symposium: Understanding the population dynamics, migration and conservation of North American monarch populations ETLC E1-017	Contributed Talks: Life history ETLC E1-013	Symposium: Butterflies and Pgi: the emergence of an adaptive molecular marker ETLC E1-017
Afternoon	Contributed Talks: Conservation and climate ETLC E1-013	Contributed Talks: Systematics and evolution ETLC E1-017	Contributed Talks: Dispersal and population structure ETLC E1-013	Contributed Talks: Oviposition and herbivory ETLC E1-017

Oral Presentation Program

TUESDAY 29 JUNE: MORNING

ETLC E1-013

Symposium: Evolution of butterfly patterning I. The genetic basis of pattern variation

Organizers: Chris Jiggins & Richard ffrench-Constant

- 8:30 AM **Ilik Saccheri, van't Hof, A.** Hunting the industrial melanism gene in the peppered moth
- 8:50 AM **Mathieu Joron, Frézal, L., Jiggins, C.J., ffrench-Constant, R.** The molecular evolution of butterfly mimicry supergenes by chromosomal rearrangements
- 9:10 AM **Marcus Kronforst** The genetics of mimicry and mate choice in *Heliconius* butterflies
- 9:30 AM **Brian Counterman, McMillan, W.O.** Comparative population genetics of Mullerian mimicry in *Heliconius erato*
- 10:00 AM Break
- 10:30 AM **Martijn Timmermans** Engrailed and invected: *Papilio dardanus* enigmatic mimicry locus?
- 10:50 AM **Lawrence Gilbert** Inter-specific hybridization as a tool for understanding the connection of genes and phenotype in *Heliconius* butterflies
- 11:10 AM **Chris Jiggins** Progress on the *Heliconius* genome and its utility for *Heliconius* wing pattern population genetics
- 11:30 AM **Nicola Nadeau, Wu, G.C., Maroja, L.S., Tetley, R., Ferguson, L., Pardo-Diaz, C., Surridge, A.K., Merrill, R.M., Jiggins, C.J.** An expression screen of the HmYb butterfly mimicry locus reveals multiple associations inherited with colour pattern
- 11:50 AM **Sean Mullen, Imhoff, V.E., Savage, W.K.** A detailed genetic linkage map reveals unexpected diversity underlying wing pattern variation in mimetic butterflies

ETLC E1-017

Symposium: Butterfly dispersal --linking ecology to conservation, linking observation to theory

Organizers: Elizabeth Crone & Cheryl Schultz

- 8:30 AM **Cheryl Schultz, Franco, A., Crone, E.E.** What defines a habitat patch? Influence of structural and resource boundaries on movement of a prairie butterfly
- 8:50 AM **Nicolas Schtickzelle, Baguette, M., Clobert, J.** Metapopulation dynamics of the bog fritillary butterfly: experimental changes in habitat quality induced negative density-dependent dispersal
- 9:10 AM **Steve Matter, Roland, J.** Effects of experimental population extinction for the spatial population dynamics of *Parnassius smintheus*
- 9:30 AM **Han Van Dyck, Öckinger, E.** Landscape structure and habitat finding ability in the speckled wood butterfly (*Pararge aegeria* L.), a highly successful species
- 10:00 AM Break

- 10:30 AM **Diane Debinski** Butterfly movement and habitat use in highly fragmented landscapes
- 10:50 AM **Thomas Merckx, Slade, E., Bourn, N., Feber, R., Parsons, M., Riordan, P., Townsend, M., Macdonald, D.** Movements of moths in agricultural landscapes – Agri-Environment Scheme implications
- 11:10 AM **Nick Haddad, Hudgens, B., Kuefler, D., Leidner, A., Morris, W.** Landscape behaviors, dispersal, and conservation of rare butterflies
- 11:30 AM **Elizabeth Crone, Hicks, T.L., Schultz, C.B.** Can we use common species as surrogates for movement of rare ones? A test with two blue butterflies and a diffusion model

TUESDAY 29 JUNE: AFTERNOON

ETLC E1-013

Symposium: Butterfly phylogeny, systematics and taxonomy I. At the species level

Organizers: Thomas Simonsen & John Acorn

- 1:30 PM **Fabien Condamine, Toussaint, E., Cotton, A., Kunte, K., Genson, G., Kergoat, G.J., Sperling, F.A.H.** Phylogeny, evolution and historical biogeography of *Achillides* swallowtails (Lep. Papilionidae: *Papilio*)
- 1:50 PM **Vlad Dinca, Zakharov, E.V., Hebert, P.D.N., Vila, R.** Assessing the performance of DNA barcoding in a regional fauna: The butterflies of Romania
- 2:10 PM **Ryan Hill, Gilbert, L.E., Kronforst, M.R.** Phylogeography of *Heliconius erato* in Central America
- 2:30 PM **Neil Rosser, Huertas, B., Phillimore, A., Mallet, J.** The geography of speciation in *Heliconius* butterflies
- 3:00 PM Break
- 3:30 PM **Valentina Todisco, Zakharov, E.V., Wheat, C., Gratton, P., Sbordoni, V., Sperling, F.A.H.** Phylogeography in the *Parnassius phoebus* complex.
- 3:50 PM **Martin Wiemers** MtDNA introgression in butterflies
- 4:10 PM **David Lohman** Phylogeographic patterns of widespread butterflies in the Old World Tropics
- 4:30 PM **Thomas Simonsen, Wahlberg, N., Warren, A.D., Sperling, F.A.H.** Exploring the Northern Hemisphere: phylogeny, classification and evolution of *Boloria* (Lepidoptera: Nymphalidae)

ETLC E1-017

Symposium: Life history strategies

Organizers: Toomas Tammaru & Freerk Molleman

- 1:30 PM **Goggy Davidowitz** The physiological integration of simultaneously selected life history traits.
- 1:50 PM **Vicencio Oostra, de Jong, M.A., Invergo, B.M., Kesbeke, F., Wende, F., Brakefield, P.M., Zwaan, B.J.** Adaptation to seasonal environments: alternate life history strategies and their hormonal regulation.

- 2:10 PM **Magne Friberg, Haugen, I.A., Dahlerus, J., Gotthard, K., Wiklund, C.** Strategic larval diapause decision-making. Adaptive plasticity in bivoltine butterflies
- 2:30 PM **Sami Kivela, Välimäki, P., Oksanen, J., Kaitala, A., Kaitala, V.** Clinal variation in reproductive effort in butterflies – a theoretical perspective
- 3:00 PM Break
- 3:30 PM **Carol Boggs, Inouye, D.W.** Translating life history responses from lab to field: effects on population dynamics
- 3:50 PM **Bengt Karlsson** Flight and reproduction in butterflies
- 4:10 PM **Toomas Tammaru, Esperk, T., Rimmel, T.** Optimality analysis of body size of a lymantriid moth
- 4:30 PM **J. Mark Scriber, Aardema, M.L.** How processes as well as patterns are revealed by life history analyses: geographic and genomic porosity in species borders

WEDNESDAY 30 JUNE: MORNING

ETLC E1-013

Symposium: Butterfly phylogeny, systematics and taxonomy II. Above the species level

Organizers: Thomas Simonsen & John Acorn

- 8:30 AM **Andrew Warren, Ogawa, J., Brower, A.** Classification of the family Hesperidae (Lepidoptera: Hesperioidea) based on combined molecular and morphological data
- 8:50 AM **Giovanni Fagua, Higuera, M., Galindo-Leva, L.A.** Biogeography of the *pedalioidine* butterflies: Are the *Pedaliodes* complex species consequence of horizontal or vertical events of reproductive isolation?
- 9:10 AM **Kanchon Dasmahapatra, Mallet, J.** The use of AFLPs when sequences fail: species relationships in the ithomiine genera *Mechanitis* and *Melinaea*
- 9:30 AM **Carla Penz** Higher-level and species-level studies of brassolines go hand in hand
- 10:00 AM Break
- 10:30 AM **Jeffrey Oliver** Butterfly in the ointment: what phylogenetic estimates can and cannot tell us about butterfly character evolution
- 10:50 AM **Lisa de-Silva** Molecular phylogenetics and diversification of the ithomiine subtribe Oleriina
- 11:10 AM **Z Fric** Morphological character phylogeny in the age of molecular sequences
- 11:30 AM **Niklas Wahlberg, Heikkilä, M., Kaila, L., Mutanen, M., Peña, C.** Revisiting butterfly phylogeny: does morphological synergy disappear with increased molecular sampling?

ETLC E1-017

Symposium: Butterflies in a changing climate: perils and prospects

Organizers: Camille Parmesan & Jeremy Kerr

- 8:30 AM **Jeremy Kerr** Where's the cliff? Prediction of butterfly species responses to climate change.
- 8:50 AM **David Gutierrez, Illán, J.G., Díez, S.B., Wilson, R.J.** Elevational shifts at warm limits of species distributions: the case of the Sierra de Guadarrama in central Spain
- 9:10 AM **Matthew Forister, McCall, A.C., Sanders, N.J., Fordyce, J.A., Thorne, J.H., O'Brien, J., Waetjen, D.P., Shapiro, A.M.** Patterns of richness and decline: 35 years of butterflies along an altitudinal transect in Northern California
- 9:30 AM **Jens Roland, Matter, S.F.** Increased climate variability reduces population growth: alpine *Parnassius smintheus* butterflies and the Pacific Decadal Oscillation
- 10:00 AM Break
- 10:30 AM **Jane Hill, Hodgson, J.A., Thomas, C.D.** Species' range shifts in relation to climate warming and habitat availability
- 10:50 AM **Heather Kharouba, Kerr, J.T., Vellend, M.** The sensitivity of butterfly phenology to climate change over the past century across Canada
- 11:10 AM **Jeremy Thomas** Restoration as a means of mitigating climate change impacts
- 11:30 AM **Camille Parmesan** Butterflies in the context of global biological responses to anthropogenic climate change

WEDNESDAY 30 JUNE: AFTERNOON

ETLC E1-013

Symposium: Evolution of butterfly patterning II. The evo-devo of pattern change

Organizer: Antonia Monteiro

- 1:30 PM **Diane Ramos, Monteiro, A.** Differential expression of engrailed-family members in *Bicyclus anynana*: implications for evolution of a morphological novel
- 1:45 PM **Nipam Patel, Hochstetler, L., Kwan, E., Zhang, Y.** Generating stochastic scale patterns
- 2:00 PM **Ryo Futahashi** Comparison of color pattern evolution between dragonflies and butterflies
- 2:15 PM **Arnaud Martin, Reed, R.D.** Developmental genetics of butterfly wing stripes
- 2:30 PM **Suzanne Saenko, Long, A.D., Brakefield, P.M., Beldade, P.** Evo-devo of butterfly eyespots: fine mapping of *Bicyclus anynana* "eyespot size/colour" locus
- 2:45 PM Discussion
- 3:00 PM Break
- 3:30 PM **Thomas Werner, Koshikawa, S., Williams, T., Carroll, S.B.** Modern paintings on ancient wingscapes: Generation of a novel wing color pattern by the Wingless morphogen
- 3:45 PM **Antonia Monteiro, Chen, B., Oliver, J.** The evo-devo of the wild-type wing pattern in *Bicyclus anynana*
- 4:00 PM **Tomislav Terzin, Snyman, G., Ellert, B.D., Stone, K.E.** Butterfly wing patterns as evolutionary records

4:15 PM **Kathleen Prudic, Monteiro, A.** Spot on: signaling function of wing eyespot patterns in *Bicyclus anynana*

4:30 PM Discussion

ETLC E1-017

Symposium: Color signals and cues in the lives of butterflies: Perception, learning and function

Organizers: Nathan Morehouse & Ronald Rutowski

1:30 PM **Michiyo Kinoshita** Color and lightness perception in foraging *Papilio* butterflies

1:50 PM **Dan Papaj** The role of hue and luminance in a coevolved interaction between swallowtail and host plant

2:10 PM **Adriana Briscoe, Bybee, S.M., Bernard, G.D., Yuan, F., Sison-Mangus, M.P., Reed, R.D., Warren, A.D., Llorente-Bousquets, J., Chiao, C.-C.** Wings follow eyes: Positive selection of a duplicated ultraviolet-sensitive visual pigment coincides with wing pigment evolution in *Heliconius* butterflies

2:30 PM **Ronald Rutowski, Rajyaguru, P., Morehouse, N.I.** A bird's eye view of mimicry: the case of geographic variation in Viceroy coloration

3:00 PM Break

3:30 PM **Nathan Morehouse, Rutowski, R.L.** Limiting nutrients, bright colors and male genetic quality: Why female *Pieris rapae* prefer colorful mates

3:50 PM **Carita Lindstedt, Lindström, L., Mappes, J.** Maintenance of variation in warning signals under opposing selection pressures

4:10 PM **Jeffrey Oliver, Monteiro, A.** Accommodating natural and sexual selection in butterfly wing pattern evolution

4:30 PM **Krushnamegh Kunte** Stabilizing and directional selection on wing color patterns in the evolution of mimicry and sexual dimorphism

THURSDAY 1 JULY: MORNING

ETLC E1-013

Symposium: Pheromones and secondary male characteristics

Organizer: Paul Brakefield

8:30 AM **Christer Wiklund, Larsdotter-Mellström, H., Murtazina, R., Borg-Karlson, A-K.** Age-related sex pheromone synthesis & male mating success in *Pieris napi*

8:55 AM **Caroline Nieberding, Bacquet, P.*, Brattström, O.*, Fischer, K., Andersson, J., Bång, J., Hedenström, E., Löfstedt, C., Brakefield, P.M.** Evolution of the *Bicyclus* through sexual selection on male sex pheromones?

9:20 AM **Oskar Brattström, Bacquet, P., Wang, H.-L., Brakefield, P.M., Löfstedt, C., Nieberding, C.M** Diversity of pheromones and male androconia in *Bicyclus* butterflies

10:00 AM Break

- 10:30 AM **Naomi E. Pierce, Quentel, T., Pattern, M., Robbins, R.K.** Sexual selection as an engine for diversification in the hyper-diverse tribe of butterflies, the Eumaeini (Lepidoptera: Lycaenidae)
- 10:55 AM **Michael Boppré, Vane-Wright, R.I., Fischer, O.W.** Chemical communication in butterflies: on structures, secretions, and male coyness

ETLC E1-017

Symposium: Understanding the population dynamic, migration and conservation of North American monarch populations

Organizer: Karen Oberhauser

- 8:30 AM **Karen Oberhauser** Introduction to symposium and MonarchNet: Integration and analysis of monarch monitoring data
- 8:35 AM **Andy Davis, Howard, E., Garland, M., McCord, B.** Recent advances in fall migration stopover ecology of monarch butterflies
- 8:55 AM **Sonia Altizer, Bartel, R., Oberhauser, K., de Roode, J.** Monarch migration, seasonal habitat use and parasite transmission in eastern North America
- 9:15 AM **Lincoln Brower & Ernest Williams** Microclimatic benefits of the high elevation oyamel fir forest for overwintering monarch butterflies in Mexico
- 9:35 AM **Anna Kern, Peterson, A.T.*, Barve, N., Bonilla, A., Brandes, J., Brown, J.C., Brunsell, N., Cochran, F., Crosthwait, R., Gentry, J., Gerhart, L., Jackson, T., Owens, H., Reed, A., Soberon, J., Sundberg, A., Williams, L.** Long-term climate trends in the monarch butterfly wintering area and implications for mortality events
- 10:00 AM Break
- 10:30 AM **Dennis Frey, Stevens, S.** Host plant pattern and variation in climate predict the location of natal grounds for migratory monarch butterflies in western North America
- 10:50 AM **Karen Oberhauser** The story of 100 volunteers, 6515 monarch caterpillars, and over 1000 Tachinid flies

THURSDAY 1 JULY: AFTERNOON

ETLC E1-013

Contributed Talks: Conservation and Climate

- 1:30 PM **John W. Wilson, Haddad, N.M.** Identifying and prioritizing reintroduction locations of an endangered butterfly, the St Francis' Satyr *Neonympha mitchellii francisci*
- 1:45 PM **Martin Konvicka, Cizek, O., Hrazsky, Z., Koptik, J., Marhoul, P., Reif, J., Vrba, P., Zamecnik, J.** Military training sites as butterfly refuges: a shocking discovery or expectable pattern?
- 2:00 PM **Robert Tropek, Kadlec, T., Konvicka, M.** Post-mining sites, as important refuges of butterflies, under the restoration pressure
- 2:15 PM **Rhiannon Thomas, Schultz, C.B.** Nectar availability and phenology for an endangered

Oregon butterfly

- 2:30 PM **Jessica Grealey** The mottled duskywing (*Erynnis martialis*): A butterfly in decline in Canada
- 2:45 PM **Tyler L. Hicks, Schultz, C.B.** Impacts of grass specific herbicides on butterflies: are surfactants the problem?
- 3:00 PM Break
- 3:30 PM **Dirk Maes, Titeux, N., Onkelinx, T., Heikkinen, R.K., Benito, H.R., Garcia-Barros, E., Munguira, M.L., Thuiller, W., van Swaay, C., Schweiger, O., Settele, J., Kudrna, O., Brotons, L., Luoto, M.** The choice of climate domain affects species diversity projections under climate change
- 3:45 PM **Ch. Sammaiah, Samatha, Ch.** Impact of climate change on butterflies in semi-arid tropical urban environment of Warangal, A.P, India
- 4:00 PM **Jay Fitzsimmons, Kerr, J.T.** Trends in species' northward range shifts over the 1900's in Canada
- 4:15 PM **Robert Srygley, Dudley, R., Oliveira, E.** El Niño and dry season rainfall influence hostplant phenology and an annual butterfly migration from Neotropical wet to dry fore
- 4:30 PM **Jeanette Wheeler, Lewis, M.** Temperature-dependent population dynamics in *Parnassius smintheus*

ETLC E1-017

Contributed Talks: Systematics and Evolution

- 1:30 PM **Chris C. Nice, Gompert, Z., Forister, M.L., Fordyce, J.A., Buerkle, A.** Repeated Hybrid Speciation in Mountain Top Butterflies
- 1:45 PM **Mauricio Linares** "Magic traits" may facilitate homoploid hybrid speciation in *Heliconius* butterflies
- 2:00 PM **Patricio A. Salazar, Jiggins, C.J.** The role of hybridization in wing color-pattern diversification in *Heliconius* butterflies
- 2:15 PM **Erik Runquist** Evolutionary implications of spatial variation in sexual traits in the *Satyrrium fuliginosa/semiluna* complex (Lycaenidae)
- 2:30 PM **Simon W. Baxter, Hoffman, J., Hosken, D.** Revisiting EB Ford's work on wing spot patterns of meadow brown butterflies, *Maniola jurtina*, on the Isles of Scilly
- 2:45 PM **Felix A.H. Sperling, Bromilow, S.** Phylogeographic signal variation in mtDNA among geographically isolated grassland butterfly species
- 3:00 PM Break
- 3:30 PM **Benjamin Proshek, Engberg, A., Powell, J., Opler, P., Henderson, A., Crawford, L.A., Desjardins, S., Sperling, F.A.H.** Taxonomic status of the endangered butterfly *Apodemia mormo langei* (Lepidoptera: Riodinidae): one among many
- 3:45 PM **Jessica Slove Davidson, Janz, N.** Phylogenetic analysis of the latitude-niche breadth hypothesis in butterfly subfamily Nymphalinae

- 4:00 PM **James P. Dunn, Stambaugh, T.R., Calkins, M.** Dispersal of the Karner blue butterfly in a heterogenous landscape
- 4:15 PM **Emily A. Hornett, Jiggins, C.J. , Hurst, G.D.D.** A chromosome wide selective sweep associated with parasite resistance
- 4:30 PM **Jeffrey Marcus, McCullagh, B.*** DNA sequence variation in the wingless gene product in buckeye butterflies (genus *Junonia*)

FRIDAY 2 JULY: MORNING

ETLC E1-017

Symposium: Butterflies and Pgi: the emergence of an adaptive molecular marker

Organizer: Chris Wheat

- 8:30 AM **Kristjan Niitepold, Hanski, I.** Effects of Pgi polymorphism on flight metabolic rate and dispersal in the Glanville fritillary butterfly
- 8:50 AM **Marjo Saastamoinen, Hanski, I.** Significant effects of Pgi genotype on flight activity, oviposition, and lifespan in the Glanville fritillary butterfly
- 9:10 AM **Ilik Saccheri, Hanski, I.** Hunting the industrial melanism gene in the peppered moth
- 9:30 AM **Nicola Chamberlain, Hsu, J.L., Kronforst, M.R.** A potential role for phosphoglucose isomerase (PGI) in Monarch migration
- 10:00 AM Break
- 10:30 AM **Ward Watt** *Colias* Pgi: macroevolutionary change amid microevolutionary variation
- 10:50 AM **Chris Wheat** Pgi effects across the butterflies: a comparative assessment

ETLC E1-013

Contributed Talks: Life History

- 8:30 AM **Casper J. Breuker, Gibbs, M., Hesketh, H., Van Dyck, H., Hails, R.S.** Sick wings: the effects of the baculovirus AcMNPV on wing development in the speckled wood butterfly, *Pararge aegeria*
- 8:45 AM **Lesley Vande Velde, Damiens, D., Van Dyck, H.** Physiological costs of alternative mate-locating strategies in the speckled wood (*Pararge aegeria* L.): lipids and spermatophores
- 9:00 AM **Mamoru Watanabe, Sasaki, N.** Pattern of sperm storage and migration in the reproductive tract of the swallowtail butterfly, *Papilio xuthus*: cryptic female choice determinants on second mating
- 9:15 AM **Helena Larsdotter-Mellström, Wiklund, C.** Mating behaviour in a bivoltine butterfly; Is polyandry a result of selection under time stress?
- 9:30 AM **Erica L. Westerman, Hodgins-Davis, A. , Monteiro, A.** Early experience modifies female mating patterns in *Bicyclus anynana*
- 9:45 AM **Gard W. Otis** Biennialism in Macoun's Arctic (*Oeneis macounii*)

- 10:00 AM Break
- 10:30 AM **Martin Olofsson, Vallin, A., Jakobsson, S., Wiklund, C.** Multimodal anti-predator defence in the peacock butterfly (*Inachis io*) – with focus on the auditory defence against mice
- 10:45 AM **Kimberly V. Pegram, Rutowski, R.L.** Iridescent blue patch and orange spots both function in the recognition of a warning signal in the Pipevine Swallowtail butterfly
- 11:00 AM **Andrew Everett, Monteiro, A.** Eye size in *Bicyclus anynana* is a sexually dimorphic plastic trait
- 11:15 AM **Anu Sang, Teder, T.** Dragonflies induce high mortality in butterflies
- 11:30 AM **Michael Boppré, Vane-Wright, R.I.** "Butterfly Industry"—quo vadis?
- 11:45 AM **Richard I. Vane-Wright, Boppré, M.** "ButterflyLife"—writing a book brings up questions

FRIDAY 2 JULY: AFTERNOON

ETLC E1-017

Contributed Talks: Oviposition and Herbivory

- 1:30 PM **Mike Singer** Anthropogenic evolution of butterfly diet: two steps back, two steps forward and you're DEAD.
- 1:45 PM **Melanie Gibbs** Reproductive trade-offs and maternal effects in fragmented landscapes
- 2:00 PM **Karl Gotthard, Berger, D.** The diapause decision as a cascade switch for adaptive developmental plasticity in body mass in a butterfly
- 2:15 PM **Lina Söderlind, Almeflo, S., Janz, N., Nylin, S.** Effects of sequential diets in the comma butterfly: testing predictions from gene expression
- 2:30 PM **Kurt Illerbrun, Roland, J.** Differential patterns of *Parnassius smintheus* herbivory
- 2:45 PM **Erica Henry, Schultz, C.B.** Egg drop soup: mardon skipper (*Polites mardon*) oviposition site selection in Puget Sound prairies
- 3:00 PM Break
- 3:30 PM **Amanda Doyle, Roland, J.** The effects of host plant quality on the growth of an alpine caterpillar
- 3:45 PM **Siiri-Lii Sandre, Kaasik, A., Tammaru, T.** Host-plant related larval polyphenism in *Ematurga atomaria* (Lepidoptera: Geometridae): the cues are not visual
- 4:00 PM **Simon Ducatez, Chaput-Bardy, A., Joreau, C., Legrand, D., Stevens, V., Fréville, H., Baguette, M.** Resident caterpillars metamorphose into dispersing butterflies: evidence of a dispersal related personality trait in adults *Pieris brassicae* constrained by caterpillars' exploratory behavior

ETLC E1-013

Contributed Talks: Dispersal and Population Structure

- 1:30 PM **Daria Koscinski, Crawford, L.A., Keller, H.A., Keyghobadi, N.** Effects of non-lethal tissue sampling on flight behaviour and survival in two butterfly species
- 1:45 PM **Piotr Nowicki, Vrabec, V.** Density-dependent emigration in two sympatric *Maculinea* species
- 2:00 PM **Lindsay A. Crawford, Desjardins, S., Keyghobadi, N.** Genetic structure analysis of an endangered population of the Mormon metalmark butterfly (*Apodemia mormo*) using amplified fragment length polymorphisms
- 2:15 PM **Petr Vlašánek, Novotny, V.** Demographic structure and mobility of selected species of butterflies in tropical rain forest of Papua New Guinea
- 2:30 PM **Nusha Keyghobadi, Weintraub, J.D., Koscinski, D., Fonseca, D.M.** The regal fritillary butterfly: Genetic analysis of museum specimens reveals the conservation status of populations in a declining species.
- 2:45 PM Break
- 3:00 PM **Tom H. Oliver, Thomas, J.K., Hill, J.K., Brereton, T., Roy, D.B.** Heterogenous landscapes promote butterfly population stability
- 3:30 PM **Erik Öckinger, Schweiger, O., Crist, T.O., Debinski, D.M., Krauss, J., Kuussaari, M., Peterson, J.D., Pöyry, J., Settele, J., Summerville, K.S., Bommarco, R.** Life-history traits predict species responses to habitat fragmentation – A cross-continental synthesis for Lepidoptera
- 3:45 PM **Sandhya Sekar** Dispersal in butterflies: the effect of morphological, life history and ecological traits

Poster Session

THURSDAY 1 JUNE

12:00-1:30 PM ETLC foyer

Notes:

- 1) Posters are arranged alphabetically by surname.
- 2) Poster presenters are asked to be in attendance at their posters for the majority of the poster session (Thursday 1 July, 12:00 Noon)

Paul Bacquet, Brattström, O., Brakefield, P.M., Löfstedt, C., Wang, H.-L., Nieberding, C.M. A phylogeographic survey of male sex pheromones variation of the butterfly genus *Bicyclus*, Kirby, 1871

Julia Bauder, Lieskonig, N., Krenn, H.W. The extremely long tongued Neotropical butterfly *Eurybia lycisca* (Riodinidae): Proboscis morphology and flower handling

Simon W. Baxter, Jiggins, C.J., Blaxter, M.L., Davey, J.W. Gene discovery, linkage mapping and comparative genomics in Lepidoptera using next-generation RAD sequencing

Ashley Bear, Simons, A., Westerman, E.L., Monteiro, A. The Genetic, Morphological, and Physiological Characterization of a Dark Larval Cuticle Mutation in the Butterfly, *Bicyclus anynana*

Nichole Bennett, Singer, M., Parmesan, C. Thermal biology in species' interactions: population differentiation in *Euphydryas editha* egg development time

Alexa Carleton, Schultz, C.B. A future for Fender's: restoring habitat for the endangered prairie butterfly, *Icaricia icarioides fenderi*

R. Carlton, Daisy, A., Relton, A. Seasonal variations in butterfly population of Bishop Heber College

G.S. Chahil, Kular, J.S. Comparative biology of cabbage butterfly *Pieris brassicae* Linnaeus (Lepidoptera, Pieridae) on different *Brassica* species.

April Dinwiddie, Rachootin, S. In the Blink of a Wing: The Unique Wing Organ of an Extinct Biting Midge in Baltic Amber

Marianne Elias, Jiggins, C.J., Gompert, Z., Willmott, K. Mimicry and adaptive ecological niche structure in diverse butterfly communities

Giovanni Fagua, Durán, J., Robles, J. *Mapeta xanthomellas* Walker, 1863 (Pyralidae): An unusual but specific and aposematic pyralid guest of *Aristolochia*

Jose R. Ferrer-Paris, Rodríguez, J.P., Good, T.C., Rodríguez-Clark, K.M., Sánchez-Mercado, A. Tropical biodiversity monitoring programs are necessary (and possible)

Jose R. Ferrer-Paris, Sánchez-Mercado, A. Species interactions in a changing world: the Guayacan's sulphur, its threatened host-plants and a changing environment

Lawrence E. Gilbert, Estrada, C., Yildizhan, S., Schulz, S. From nuptial gifts to chastity belts: The evolution of anti-aphrodisiac pheromones is driven by sexual selection in butterflies

Kei Hashimoto Morphological evolution of androconial organs in *Tirumala* (Lepidoptera: Nymphalidae)

Cheryl Heinz Comparing a native host plant to three common introduced host plants for a native swallowtail butterfly: Preferences and plant chemistry

Jeremy L. Hsu, Chamberlain, N.L., Kronforst, M.R. Examining the genetic basis of migratory behavior in monarch butterflies

Eira Ihalainen, Lindstedt, C. Bird predators do not select for polyphenism in the European map butterfly

Javier Gutiérrez Illán, Gutiérrez, D.*, Wilson, R.J. The contributions of topoclimate and land cover to butterfly species richness: fine-scale tests for a mountain region

Kurt Illerbrun, Roland, J. Rising treeline, shrinking habitat: effects on an alpine plant-herbivore interaction

Martin Konvicka, Benes, J., Kepka, P. New atlas of Czech Republic macromoths

Martin Konvicka, Vrba, P., Nedved, O. Thermal ecology of mountain and lowland butterflies

Harald W. Krenn, Eberhard, S.H., Hiki, A.-L. Mechanism of pollen processing behavior in *Heliconius* butterflies

Krushnamegh Kunte, Shea, C., Aardema, M.L., Scriber, J.M., Andolfatto, P., Juenger, T., Gilbert, L.E., Kronforst, M.R. Sex chromosome mosaicism and hybrid speciation among tiger swallowtail butterflies

Beatriz Lauranzón, Garcés, G., Fagilde, M.C., Melián, L.O., Reyes, J.L. Ecology of the diurnal butterflies (Lepidoptera: Papilionoidea, Hesperioidea) of Sierra de La Gran Piedra mountain range and

the Siboney-Juticí Ecological Reserve

Nora Lieskonig, Krenn, H.W. Proboscis features of butterflies – an additional set of characters for the phylogeny of Nymphalidae (Lepidoptera)

Shiqi Luo, Lehtonen, R., Hanski, I. Acclimation affects hsp70 expression following heat exposure in the Glanville fritillary butterfly (*Melitaea cinxia*)

Euell J. Macke, McIver, J.D. Butterflies of dry upland sites in the Great Basin

Kazuma Matsumoto, Noerdjito, W.A., Takahashi, M., Fukuyama, K. Butterfly assemblages in Imperata grassland, Acacia plantation and burnt and unburnt forests in East Kalimantan, Indonesia

Anniina L.K. Mattila, Hanski, I. Flight metabolic rate and its heritability in the Glanville fritillary butterfly

Richard M. Merrill, Jiggins, C.J. The genetic architecture of mate choice in *Heliconius* butterflies

Ana B.B. Morais, Paz, A.L.G., Dessuy, M.B., Ritter, C.D., Lemes, R., Ribiero, T.C., Piovesan, G., Carvalho, A.P.S. Butterflies from Central Depression of Rio Grande do Sul State, South Brazil

Nicola Nadeau, Baxter, S.W., Chamberlain, N.L., Dawson, A., Ferguson, L., Beltran, M., Perez-Espona, S., Kronforst, M.R., Jiggins, C.J. Genomic hotspots for adaptation: The population genetics of Müllerian mimicry in *Heliconius melpomene*

Mifuyu Nakajima, Boggs, C.L. Spatial distribution of a non-native, lethal host plant in a fine-grained scale changes the population dynamics of a native butterfly

Soren Nylin, Fischer, H., Freitak, D., Janz, N., Söderlind, L., Vogel, H. Gene expression in comma butterfly larvae follows predictions from insect-plant theory

Nipam H. Patel, Dinwiddie, A.J.*, Rosello-Diez, A., Kwan, E., Hochstetler, L., Zhang, Y., Parchem, R., Perry, M., Patel, N.H. Compartment Boundaries in Lepidopteran Wings

Jaime Pinzón Butterfly assemblages in the north eastern Colombian Amazon region

Heikki Pöykkö, Tammaru, T. Cause of phenotypic variation in life-history traits between latitudinal populations of a lichen-feeding moth *Eilema depressum*

Judith M. Rhymer, Knurek, E.S., Drummond, F.A. Taxonomic status of Clayton's copper butterfly (*Lycaena dorcas claytoni*): subspecies or clinal variation?

Helena P. Romanowski, Morais, A.B.B., Isehard, C.A., Marchiori, M.O.O., Seguí, R. Butterflies of Austral South America

Marjo Saastamoinen, Zwaan, B.J., Brakefield, P.M. Predictive adaptive responses: Condition-dependent impact of stress in the tropical butterfly, *Bicyclus anynana*

Nueza A.P. Silva, Duarte, M., Morais, H.C. *Parrhasius polibetes* (Stoll, 1781) (Lycaenidae: Theclinae) and its host plants in the central Brazilian cerrado

Nueza A.P. Silva, Duarte, M., Diniz, I.R., Morais, H.C. Caterpillars of Lycaenidae (Theclinae, Eumaeini) on inflorescences: the huge sampling effort to know them in the Cerrado of central Brazil

Melanie Smee, Pauchet, Y., French-Constant, R., Hodgson, D.J. *Wolbachia* infection in the endangered marsh fritillary butterfly *Euphydryas aurinia* – another hurdle for conservation efforts?

Jan Struwe, Misof, B. Morphometric differentiation in the burnet moths species *Zygaena transalpina* /

hippocrepidis / angelicae (Lepidoptera: Zygaenidae)

Tomislav Terzin, Killoran, C.B., Gawad Gad, S.S., Biswas, A.A. Orange tip of Pierinae wings as a pattern element with a strong phylogenetic meaning

Robert Tropek, Konvicka, M. The forest conservation as insufficient tool for afro-montane endemics perpetuation. Cameroonian endemic butterflies require mosaic landscape.

Panu Välimäki, Kivelä, S.M., Carrasco, D., Mäenpää, M.I. Latitudinal variation in insect body size: patterns and mechanisms

J. van Gestel, Beldade, P., Weissing, F.J. The evo-devo of butterfly wing patterns: a modeling perspective

Roger Vila, Luktanov, V.A., Talavera, G., Gil-T., F., Pierce, N.E. How common are dot-like distributions? Taxonomical oversplitting in western European *Agrodiaetus* (Lepidoptera, Lycaenidae) revealed by chromosomal and molecular markers

Mamoru Watanabe, Sasaki, N.* Adaptive changes in male investment depending on the mating history in the swallowtail butterfly, *Papilio xuthus*

Shen-Horn Yen, Wei, C.H.*, Wu, L.W., Hsu, Y.F. Does mimetic coloration of the model always evolve earlier than that of mimic? A case study based on the “*Euploea mulciber*” mimic

Martin Wiemers Invasion of the Lime Swallowtail *Papilio demoleus* L. in Australasia