



113th Annual Meeting of the German Zoological Society

August 30th - September 3rd, 2021
Virtual Event

Program & Poster List



Main Organizers

- Jacob Engelmann (University of Bielefeld)
- Gabriele Uhl (University of Greifswald)
- Peter Michalik (University of Greifswald)
- Charlotte Förster (University of Würzburg)
- Sabine Gießler (DZG office)

Subject Groups

- *Behavioral Biology* (Mirjam Knoernschild, Anja Günther, Tobias Krause)
- *Developmental Biology* (Nico Posnien, Natascha Turetzek)
- *Ecology* (Gerlind Lehmann, Marko Rohlf)
- *Evolutionary Biology* (Claudia Fricke, Volker Nehring, Monika Eberhard)
- *Morphology* (Andy Sombke, Conrad Helm, Ellen Schulz-Kornas)
- *Neurobiology* (Basil el Jundi, Tobias Kohl)
- *Physiology* (Sarah Lemke, Hans Merzendorfer)
- *Systematic, Biogeography and Biodiversity* (Manuela Sann, Sabrina Simon)



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Monday — 30th August

18:00 - 19:00

Opening & Welcome address (Jacob Engelmann, Charlotte Förster)

Wissenschaftspreis der DZG: Karl-Ritter-von-Frisch-Medaille



Jürgen Heinze, Universität Regensburg, Germany (*Laudatio: Gabriele Uhl*)

The queens, the workers, and the grim reaper - aging and reproduction in social insects



Tuesday — 31st August

13:15 - 14:00

Dieter Mahsberg, Universität Würzburg, Germany (*Chair: Charlotte Förster*)
Zoologie in Würzburg



14:00 - 14:15

Break

14:15 - 15:30

Evolutionary Biology



Ecology



14:15 **Otte et al.**

A chemical key to biological invasion – A comparative analysis of antipredator defences induced by fish bile salts in the zooplankton species Daphnia lumholtzi

14:23 **Pollmann et al.***

*Speciation and cytoplasmic incompatibility in *Lariophagus distinguendus*: a novel phenotype for *Spiroplasma**

14:31 **Schröder et al.***

Signatures of positive selection in the evolution of mutualistic insect endosymbionts

14:39 **Gharabigloozare et al.***

*The confused flour beetle, *Tribolium confusum*: A model for investigating *Wolbachia* - host interactions*

14:47 **Hauber et al.***

Built-in disinfection: Metapleural gland secretions and uses in a clonal ant

14:55 **Prang et al.***

Sibling cooperation in a genus with interspecific variation in offspring dependence

15:03 **Elsner et al.**

Molecular underpinnings of division of labour among workers in a socially complex termite

15:11 **Majoe et al.***

Leafcutter ant queens' ovaries show fewer transcriptomic changes with age than the brains and fatbodies do

15:19 **Rinke et al.***

The Evolutionary Significance of Horizontal Gene Transfer in Ants

14:15 **Linda Weiss**

*Sensing predation - mechanisms underlying predator perception in the freshwater crustacean *Daphnia**

14:27 **Fink et al.**

Food quality mediates the interaction between top-down and bottom-up control of stream biofilms

14:33 **Horstmann et al.**

*Costs and benefits of inducible defences in *Daphnia cucullata**

14:39 **Sperfeld et al.**

*Ecology of predator-induced morphological defense traits in *Daphnia longispina**

14:45 **Wacker et al.**

Acclimation to low quality food: Intra- and interspecific differences in rotifers

14:51 **Baranov et al.**

Bergmann's rule in insects: Body-size of non-biting midges shows latitudinal and phylogenetic variations

14:57 **Buellesbach et al.**

*Crossing the line: Genomic architecture of cuticular hydrocarbon variation in the parasitoid jewel wasp *Nasonia**

15:03 **Kiefer et al.***

A beetle's Achilles heel: Glyphosate inhibits symbiotic bacteria in saw-toothed grain beetle

15:09 **Wolz et al.***

Hidden friends or foes? A gregarine shifts insect responses to sublethal insecticide residues

15:15 **Matzke et al.***

*Fitness consequences of pre- and post-mating selection in the field cricket *Gryllus bimaculatus**

15:21 **Voß et al.***

Spatiotemporal Gradients of Transamazonian Forest Mite Assemblages and Diversities, Evaluated by Metabarcoding Technique

15:30 - 15:45

Break

15:45 - 16:30

Roger Butlin, University of Sheffield, UK (*Chair: Thomas Schmitt*)
Local adaptation and speciation in *Littorina saxatilis*



16:30 - 16:35

Break

16:35 - 17:35

Behavioral Biology



- 16:35 Tretter et al.***
Chemical variation and differences in aggressive behavior between haplometric and pleometric populations of the ant Pogonomyrmex californicus
- 16:45 Drakula et al.***
Cuticular hydrocarbon diversification correlates with aggression levels in the invasive ant Cardiocondyla obscurior
- 16:55 Gilles et al.***
Partners smell alike: Preen oil chemical composition in pied flycatchers
- 17:05 Eckel et al.***
Bumblebees use scent marks to find their nest entrance in visually ambiguous situations
- 17:15 Jung et al.**
The use of supervised learning models in studying agonistic behavior and communication in weakly electric fish
- 17:25 Wittek et al.***
Mirror Self-Recognition in Pigeons: Beyond the Pass-or-Fail Criterion

Neurobiology



- 16:35 Susanne Hoffmann**
Neural control of duet singing - An electrophysiological field study
- 16:47 Stöckl et al.**
Visually-guided proboscis movements fine-tune probing on flower patterns in the hummingbird hawkmoth
- 16:53 Gebehart et al.***
Temporal Differences of Load & Movement Signal Integration in the Sensorimotor Network of the Insect Leg
- 16:59 Hydi et al.***
Stimulus distillation: How the lateral-line system of fish and the infrared system of snakes use inhibitory feedback to generate a perceptible map out of heavily blurred input
- 17:05 Steinhoff et al.***
Analysis of the neural substrate for visual motion processing in cursorial and stationary hunting spiders
- 17:11 Stemme**
Comparison of chemosensory pathways in Arachnida – insights from a neuroanatomical and behavioral approach
- 17:17 Foster et al.**
The Visual Ecology of the Honeybee's Polarization Compass
- 17:23 Beer et al.**
Manipulation of the circadian clock gene Pigment Dispersing Factor in honey bees via CRISPR-Cas9
- 17:29 Buescher et al.**
Transcriptional control of central complex connectivity in Tribolium and Drosophila

17:45 - 18:45

Poster Session in Gather

*(EVEN numbers presenting)*

18:45 - 19:45

Topical meetings in Gather



Round table discussion (in German), Prof. Werner Kunz and Prof. Ulrich Kattmann
Gibt es taxonomische Gründe, die Art Homo sapiens in „Rassen“ einzuteilen?

Wednesday — 1st September

13:15 - 14:00

Thomas Bosch, Christian-Albrechts-Universität Kiel, Germany
(Chair: Manfred Alsheimer)

**Keynote 3**

Nature's oldest neurons interact with the microbiota

14:00 - 14:15

Break

14:15 - 15:30

Developmental Biology



- 14:15 Maximina Yun**
De novo thymus regeneration in a vertebrate, the axolotl
- 14:27 Gabriele Andreatta**
Molecular mechanisms orchestrating growth, sexual maturation, and reproductive timing in Platynereis
- 14:39 Steger et al.***
Single-cell transcriptome dynamics throughout the life cycle of Nematostella vectensis
- 14:45 Tidswell et al.**
The neuroblast timer gene nubbin exhibits functional redundancy with gap genes to regulate segment identity in Tribolium
- 14:51 Bucher et al.**
Temporal control on RNAi reveals that segmentation breakdown is reversible after knock down of even-skipped but not after Wnt-signaling in a beetle
- 14:57 Farnworth et al.**
Of tracts, lineages, and evolution: A developmental atlas of the Tribolium brain
- 15:03 Janeschik et al.***
Duplication and divergence of the transcription factor Pax2/shaven in chelicerates and its role in sense organ development
- 15:09 Lu et al.***
Dissecting the mechanism underlying the evolution of head development in Drosophila
- 15:15 Nikšić et al.***
Natural variation in compound eye size in Drosophila melanogaster – A potential role of apoptosis in defining organ size
- 15:21 Prpic-Schäper et al.**
Conserved and divergent aspects of clawless function in distal leg patterning in the spider Parasteatoda tepidariorum

Evolutionary Biology



- 14:15 Männer et al.***
Adaptation in a changing world: disentangling genetic adaptation and phenotypic plasticity in a common garden experiment with the invasive New Zealand Mud Snail, Potamopyrgus antipodarum
- 14:23 Rühr et al.***
Juvenile ecology drives adult head shape evolution in earwigs and stoneflies
- 14:31 Steidle et al.**
The emergence of ecotypes in a parasitoid wasp: A case of incipient sympatric speciation in Hymenoptera?
- 14:39 Wolff et al.**
Building behaviour does not drive rates of phenotypic evolution in spiders
- 14:47 Jandausch et al.***
Evidence for female resistance traits in traumatically mating Strepsiptera (Insecta)
- 14:55 Ramm et al.**
Seminal fluid-mediated manipulation of post-mating behaviour in a simultaneous hermaphrodite
- 15:03 Riyahi et al.**
Differential gene expression in Zebra Finch Taeniopygia guttata brain and testes in response to experimentally manipulated sperm competition risk
- 15:11 Thünken**
The evolution of inbreeding preference in cichlid fishes
- 15:19 Neumann et al.***
Counting days for lunar time-keeping and the evolutionary origins of circalunar clocks

15:30 - 15:45

Break

15:45 - 16:30

Tiffany M. Knight, German Centre for Integrative Biodiversity Research (iDiv),
Leipzig, Germany (Chair: *Ingolf Steffan-Dewenter*)



Plant pollinator interactions across space and time

16:30 - 16:35

Break

16:35 - 17:35

Morphology



- 16:35 Tilic et al.**
Room for one more inside? Morphological adaptations of Veneriserva pygoclava Rossi 1984 (Dorvilleidae, Annelida) to a life inside another worm
- 16:41 Edel et al.***
The influence of phylogenetic history on a highly functional trait, the orthopteran mandible
- 16:47 Linhart et al.***
The diversity of aphid lions over time – a quantitative comparison
- 16:53 Hein et al.***
Comparative morphology of the venom delivery system of selected atractaspid, elapid and viperid snakes using micro-CT based 3D modulation
- 16:59 Engelkes et al.**
Functional adaptations to locomotion in the humerus of frogs and toads
- 17:05 Kiesmüller et al.***
A case of frozen behaviour: A putative parasitoid flat wasp with a beetle larvae in its grasp in 100 million years old amber
- 17:11 Thomas et al.***
Influence of water films and surface energy of the substrate on the attachment performance of Phasmatodea with different adhesive surface microstructures (AMS)
- 17:17 Büscher et al.**
Walking leaves – sticky eggs: comparative functional morphology and evolution of the adhesive system of leaf insect eggs (Phasmatodea:Phylliidae)
- 17:23 Hörnig et al.**
Reconstructing aspects of reproduction of extinct insects based on fossils
- 17:29 Richter et al.***
A glimpse into Cretaceous ant cephalic anatomy – the head of †Gerontoformica from Burmese amber (Hymenoptera, Formicidae)

Behavioral Biology



- 16:35 Wissink et al.***
Appetitive olfactory learning suffers in ants when octopamine or dopamine receptors are blocked
- 16:45 Fleischmann et al.**
Magnetoreception during initial learning walks and re-learning walks in Cataglyphis ants
- 16:55 Delacoux et al.***
The Impact of Stress and Personality on Learning
- 17:05 Baier et al.**
Dialogue of the Deaf? Vocalization and navigation behavior in normal-hearing and hearing-impaired bats
- 17:15 Papadopoulou et al.***
Spatial learning in a swimming tunnel reveals the navigation strategies and the usage of visual and electric information in the weakly electric fish Apteronotus albifrons
- 17:25 Hladik et al.***
Home sweet home: Effect of size and scent on shelter selection in two scorpion species

17:45 - 18:45

Poster Session in Gather



(ODD numbers presenting)

18:45 - 19:45

Topical meetings in Gather



Exchange Prof. Roger Butlin (University of Sheffield) The role of chromosomal inversions in adaptation and speciation	Exchange Prof. Oliver Krüger (Bielefeld University) TBA	Exchange Lauren Cassidy (German Primate Center, Göttingen) Developing search filters for literature reviews: A case study with non-human primates
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Thursday — 2nd September

13:15 - 14:00

Barbara König, University of Zürich, Switzerland (Chair: *Charlotte Förster*)
Cooperation in a variable social environment - the phenotype matters



14:00 - 14:15

Break

14:15 - 15:30

Neurobiology



- 14:15 Jan Evers**
TBA
- 14:27 Jeschke et al.***
Bumblebees dashing through an artificial forest - following routes in cluttered environments
- 14:33 Grob et al.***
Acquisition of the Solar Ephemeris: Rotation of the Sky Triggers Neuronal Plasticity in Cataglyphis Ants
- 14:39 Beetz et al.**
Flight-induced generation of a compass in the brain of monarch butterflies
- 14:45 Gonsek et al.***
Implications of local motion adaptation for navigation in dense environments

Morphology



- 14:15 Stefan Fischer**
Small eyes, large data: visual systems of tiniest insects in 3D ultrastructural resolution
- 14:31 Matsumura et al.**
Breaking behaviour of the paramere used for traumatic insemination in the bedbug Cimex lectularius (Insecta: Hemiptera)
- 14:37 Drozd et al.***
Innervation areas of mechanosensory hair sensillae on the scorpion pectines
- 14:43 Stamm et al.***
Visualization of insect exo- and endocuticle using X-ray microtomography
- 14:49 Preuss et al.***
Biomechanics of the intralamear joint in the caudal lamellae of a damselfly larva (Insecta: Odonata)

Ecology



- 14:55 Mallick et al.***
Phylogenetic isolation of host tree reduces resource tracking by ectophagous herbivores and their parasitoids
- 15:01 Villagómez et al.***
Resource intake of stingless bee colonies in a tropical ecosystem in Ecuador
- 15:07 Ortiz Movliav et al.***
Eco-morphological diversification of parrots (Aves: Psittacidae: Arinae) along a tropical elevational gradient
- 15:13 Ziegler et al.**
Worldwide diversity of egg, embryos, hatchlings, and juveniles of deep-sea dumbo octopuses (Cephalopoda: Cirrata)

Morphology (cont.)



- 14:55 Hamann et al.***
Morphology of the Gill Arch System in Five Ram Feeding Fish (Scombriformes, Clupeiformes)
- 15:01 Koehnsen et al.***
The interplay of morphology and hydrodynamics in the predatory strike of two dragonfly larvae
- 15:07 Moritz et al.***
Fluid feeding in millipedes - a complex example of convergent evolution in millipedes and insects
- 15:13 Saltin et al.**
Structures and forces involved in Phasmid hatching
- 15:19 Krings et al.**
Failure prevention mechanisms in taenioglossan radulae of African gastropods (Paludomidae) are related to the species ecological niche

15:30 - 15:45

Break

15:45 - 16:30

Award Ceremony



Förderpreis der Horst-Wiehe Stiftung



Fabrizia Ronco, Universität Basel (*Laudatio: Walter Salzburger*)

Diversity, disparity and the temporal dynamics of eco-morphological adaptation in the cichlid radiation of Lake Tanganyika

Walther-Arndt-Forschungspreis



Linda Weiss, Ruhr-Universität Bochum (*Laudatio: Ralph Tollrian*)

Coping with environmental stressors: Molecular mechanisms of phenotypic plasticity

16:30 - 16:35

Break

16:35 - 17:35

Behavioral Biology



- 16:35 Sahm et al.***
Family social condition affects the outcome of parent-offspring conflict
- 16:45 Angelakakis et al.***
Fitness consequence of polyandry in the common house spider, Parasteatoda tepidariorum
- 16:55 Lakes-Harlan et al.**
Light influences the stridulatory behaviour of the bushcricket Tettigonia viridissima (Tettigoniidae, Orthoptera)
- 17:05 Ostner et al.**
Physiological responses to energetic challenges in wild macaques
- 17:15 Gabel et al.***
Behavioral physiology and division of foraging labor in six honeybee subspecies in a common apiary
- 17:25 Römer et al.**
Rhythmicity of foraging activity in leaf-cutting ants: Influence of molecular and environmental factors

Physiology



- 16:35 Kerstin Bartscherer**
Tissue regeneration in the African spiny mouse
- 16:59 Bossen et al.**
Transcriptomic insights into the physiology of the terminal tracheal cells in Drosophila
- 17:05 Vaibhvi et al.***
Effects of dietary protein content on immuno-metabolic resource allocation strategies in Drosophila melanogaster
- 17:11 Tahan Zadeh et al.***
Brown algae, Eisenai bicyclis, extract increases lifespan in Drosophila by interfering with S6K in the fat body
- 17:17 Chang et al.**
A proton channel, Otop2L promotes intracellular pH homeostasis critical for skeletogenesis in the sea urchin larvae
- 17:23 Matt et al.***
Carbonic anhydrase activity underlying a novel carbon concentration mechanism in calcifying cells of the sea urchin larva
- 17:29 Kaya-Zeeb et al.***
Aminergic modulation of honeybee thermogenesis

17:45 - 18:45

Poster Session in Gather



(ALL numbers presenting)

18:45 - 19:45

Topical meetings in Gather



Round table discussion (in German), Dr. Carsten von Wissel and Dr. Sven Bradler (University of Göttingen)
#IchBinHanna

Friday — 3rd September

13:15 - 14:00

Ian Couzin, Universität Konstanz, Germany (Chair: Christian Wegener)
The Geometry of Decision-Making



14:00 - 14:15

Break

14:15 - 15:30

Physiology



14:15 **Rogé Ferreira et al.***

Mimicry of honeybee sugar taste in Xenopus oocytes

14:21 **Bergmann et al.***

NO synthesis in immune-challenged locust hemocytes and potential signaling to the CNS

14:27 **Lehmann et al.**

Matched growth of metabolic demand and tracheal air supply in larvae of a large wood boring beetle: support for symmorphosis rather than the fractal network theory

14:33 **Wellmeyer et al.***

Functional characterization of ecdysteroid transporters from Tribolium castaneum

14:39 **Knobloch et al.***

Na⁺/K⁺-ATPase and V-ATPase in Theodoxus fluviatilis under changing environmental salinity

14:45 **Ouillon et al.***

The influence of oxygen regime on energy metabolism and biological activities of Mya arenaria

14:51 **Steffen et al.***

Effects of salinity acclimation on mitochondrial resilience to hypoxia/reoxygenation stress in the Pacific oyster, Crassostrea gigas

14:57 **Lainer et al.***

In search of a superhirudin – construction of recombinant leech salivary proteins and their functions

15:03 **Böhmert et al.***

Comparison of two assays to measure the activity of thrombin

15:09 **Steinmetz et al.**

Conserved molecular pathways underlie intercellular lipid transport during sea anemone vitellogenesis

15:15 **Vennmann et al.***

The cyanotoxin cylindrospermopsin reduces cell proliferation rate and alters mitotic dynamics in cultures of immortalized human airway epithelial cells

Systematic, Biogeography and Biodiversity



14:15 **Jörn von Döhren**

Molecular Barcodes for Identification of Nemertean - A Piece of Cake or just one Piece of the Puzzle?

14:33 **Arnold et al.**

Historical DNA, new fossils and an updated molecular phylogeny: insights into rates of morphological evolution among sengis (Afrotheria, Macroscelidea)

14:39 **Bank et al.***

On second sight: Revisiting the evolution of flight in stick and leaf insects (Phasmatodea)

14:45 **Telford et al**

Lack of support for Deuterostomia prompts reinterpretation of the first Bilateria

14:51 **Tischer et al.***

Genomic approaches to characterize Wolbachia in arthropod communities of soil

14:57 **Übernicker et al.**

Burrowing animals: composition and characteristics along a climate and ecological gradient

15:03 **Schweitzer et al.***

Discovery of a cryptic species among samples of one of the most common European vespid wasps — Polistes dominula

15:09 **Hein et al.**

The Caucasus Barcode of Life (CaBOL) - Project

15:15 **Avinipully Anilkumar et al.***

Millipede microendemism: first insights into the pattern of diversity, composition, speciation and endemism among millipedes of the Indian Western Ghats

15:30 - 15:45

Break

15:45 - 16:30

Michael Dickinson, The California Institute of Technology, USA
(Chair: Wolfgang Rössler)

Turning is hard, but flying straight is harder



16:30 - 16:45

Break

16:45 - 19:00



Awards

General Assembly



Behavioral Biology

- Behav 01: Bakirdoven et al.***
The role of chemicals in sexual communication in *Aphidius ervi*
- Behav 02: Bidell et al.***
Immediate effect of light on eclosion behaviour
- Behav 03: Finke et al.***
Individual consistency in the cognitive abilities of honey bees across elemental and non-elemental learning paradigms
- Behav 04: Gaddi et al.***
Distance estimation in weakly electric fish, *G. petersii*
- Behav 05: Lucks et al.***
Do weakly electric fish use optic or electric flow information to control their position?
- Behav 06: Palm***
Environmental factors induce thelytokous parthenogenesis in the worker caste of *Messor capitatus* ants
- Behav 08: Schülke et al.**
Prenatal maternal stress effects on gut bacterial microbiome and HPA axis activity in wild Assamese macaques
- Behav 09: Singh et al.***
Interspecific differences in host finding traits in *Nasonia* wasps (Hymenoptera: Chalcidoidea: Pteromalidae: Pteromalinae)
- Behav 10: Sonntag et al.***
Do bumblebees vary their flight altitude to return home in clutter
- Behav 11: Vepur Ramamurthy et al.***
Collective Construction: Adjustment of underground foraging tunnel in Leaf-cutting ants

Developmental Biology

- Dev 01: Brenne et al.***
Epigenetic modification during diapause development in *Daphnia magna* embryos
- Dev 02: Bullinger et al.***
Genome editing strategies to mark homologous neurons between insect species
- Dev 03: Chen et al.***
Two heat shock protein 70 members during diapause and stress in the freshwater Crustacean *Daphnia magna*
- Dev 04: de la Roche et al.***
Optimising efficiency of the CRISPR/Cas9 system in *Tribolium castaneum* by germ line-specific Cas9 expression
- Dev 05: Keweloh et al.***
Generation and analysis of *Tribolium castaneum* imaging lines to study neuroendocrine development
- Dev 06: Posnien et al.**
Differences in orthodenticle expression promote ommatidial size variation between *Drosophila* species
- Dev 07: Rethemeier et al.***
Characterising putative type II neuroblasts in the *Tribolium* embryo

- Dev 08: Wang et al.***
Modeling EGFR mutations in *Drosophila melanogaster*
- Dev 09: Wiegleb et al.***
Gene expression divergence during *Drosophila* head development on single nuclei resolution

Ecology

- Ecol 01: Bergunder et al.***
Don't let fluctuations push you around - How brackish invertebrates function in variability

- Ecol 02: Hartbauer et al.**
Detecting and protecting the endangered leather beetle *Osmoderma eremita* (Juchtenkäfer)
- Ecol 03: Huhle et al.***
Local differences of *Daphnia* in sensitivity to light pollution and fish kairomones
- Ecol 04: Kiefer et al.***
Flavobacterial symbionts support cuticle biosynthesis and adaptation to stress across beetle families
- Ecol 05: Kowalewska et al.***
Migration under clock control? Light perception via cryptochrome 2 (*cry2*) and diel vertical migration in *Daphnia*
- Ecol 06: Loidolt et al.***
Attractivity of native and non-native *Acer* and *Tilia* species for bees
- Ecol 07: Meyer et al.***
Sex differences in sand goby feeding ecology during breeding season
- Ecol 08: Rebai et al.***
Effects of high fluctuating temperatures on the performance of *Daphnia magna* originating from different latitudes
- Ecol 09: Redoglio et al.***
First insights into consequences of nutrient co-limited phytoplankton communities on the growth of a rotifer
- Ecol 10: Rodríguez et al.***
Variation of cuticular hydrocarbon profiles among honeybee workers with different social roles and between different *Apis mellifera* subspecies
- Ecol 11: Ruthsatz et al.**
Ontogenetic Thermal Tolerance and Acclimation Capacity in the European common frog (*Rana temporaria*)
- Ecol 12: Skudlarek et al.***
Form and function of *D. atkinsoni*'s inducible defences

Evolutionary Biology

- EvoBio 01: Balcarcel et al.***
Brain evolution in selected extant and extinct Artiodactyla clades: morphological and size changes in microevolution and macroevolution
- EvoBio 02: Cassidy et al.***
Developing search filters for literature reviews: A case study with non-human primates
- EvoBio 03: Fuhrmann et al.***
Polygenic adaptation from standing genetic variation allows rapid ecotype formation
- EvoBio 04: Hess** The vampire amoebae: widespread yet poorly known microbial predators
- EvoBio 05: Lange et al.***
The role of fas genes for desiccation resistance in the jewel wasp *Nasonia vitripennis*
- EvoBio 06: Link et al.***
On the origin and evolution of striated muscle cells: Insights into muscle cell transcriptomes from the scyphozoan species *Aurelia aurita*
- EvoBio 07: Pande et al.***
Visual Ecology of Earwigs
- EvoBio 08: Porwal et al.***
Born with a silver spoon or suffering due to your parent's food habits?
- EvoBio 09: Strack et al.***
Adaptation of *Aphidius ervi* to a novel host: preference and fitness consequences
- EvoBio 10: Sun et al.***
Unraveling complex chemical profiles and sexual signaling through haploid genetics: Cuticular hydrocarbon genetics in the jewel wasp *Nasonia*

- EvoBio 11: Vitt et al.**
Inbreeding affects the condition-dependent expression of ornamental traits in the West African cichlid *Pelvicachromis taeniatus*
- EvoBio 12: Wan et al.***
Glycogen metabolism influence *Tribolium* segmentation involved in Wnt signalling through GlyS and AGBE

Morphology

- Morph 01: Braig et al.***
Phenotypic variability in body morphology of some eumalacostracan larvae – a quantitative comparison of laboratory and wild caught material
- Morph 02: Haug et al.***
The larval diversity of spoon- and thread-winged lacewings
- Morph 03: Haug et al.**
Quantitative comparisons of whip spiders reveal that their morphology was less static in evolution than generally assumed
- Morph 04: Haug et al.**
Astonishingly diverse lacewing larvae in amber demonstrate now extinct extreme morphologies
- Morph 05: Kreuz et al.***
Absence asymmetry in the internal male genitalia of Austrophasmatidae, Mantophasmatodea
- Morph 06: Moritz et al.***
A unique tarsal spinning organ in glomeridesmid millipedes (Diplopoda, Pentazonia, Glomeridesmida)
- Morph 07: Van der Wal et al.***
Reconstructing life cycles of the isopodan group Aegidae – immatures of "marine mosquitoes"
- Morph 08: Zippel et al.***
The morphology of extant and fossil larvae of false flower beetles with prominent terminal ends

Neurobiology

- NB 01: Althaus et al.***
Polarization- and light-sensitive neurons in the central brain of the cockroach *Rhyarobia maderae*
- NB 02: Arteaga Avendano et al.***
Motor pattern in a discrimination task
- NB 03: Bigge et al.***
Parallel spatial processing in hawkmoth vision
- NB 04: Dinges et al.***
Campaniform Sensilla Influence Interleg and Intraleg Coordination in *Drosophila melanogaster*
- NB 05: Görl et al.***
Elevated pCO₂ affects neuronal plasticity underlying predator perception in the freshwater crustacean *Daphnia longicephala*
- NB 06: Gutjahr et al.***
One appendage - two behaviors
- NB 07: Harzsch et al.**
Neuromodulator diversity of local olfactory interneurons and regionalization of olfactory glomeruli in crustaceans
- NB 08: Huster et al.***
Functional assessment of putative chemo co-receptors IR25a and IR93a of predator perception in *Daphnia*
- NB 09: Jahn et al.***
The organization of the central and lateral complex in the brain of the cockroach *Rhyarobia maderae*
- NB 10: Jaske et al.***
Tuning properties of wide field motion-sensitive neurons in the bumblebee
- NB 11: Keyser et al.***
Neurotransmitters and Neuropeptides in the central complex of two non-pterygote hexapods

- NB 12: Kraft et al.***
Bigger brains are better: Shedding new light on neuroplasticity in the honeybee using expansion microscopy
- NB 13: Kümmerlen et al.***
Neuromodulator diversity in the central olfactory pathway of *Parhyale hawaiiensis* (Dana, 1895)
- NB 14: Mayweg et al.***
Location and odor-induced differential expression of chemo-coreceptors in the water flea *Daphnia longicephala*
- NB 15: Neupert et al.**
Identification and distribution of RYamides in the circadian clock of the Madera cockroach
- NB 16: Nguyen et al.***
Investigating the sun compass in monarch butterflies (*Danaus plexippus*)
- NB 17: Rother et al.***
Dynamic properties of compass neurons in bumblebees
- NB 18: Schmalz et al.***
Identification and characterization of uni- and multimodal visual neurons in the mushroom body output of *Apis mellifera*
- NB 19: Staudacher et al.**
Locusts in the sky: responses of compass cells
- NB 20: Strube-Bloss et al.**
Smelling sticks: Multi-unit-recordings of antennal lobe-neurons in stick insects
- NB 21: Yeganegi et al.***
Compartmentalization of brain activity during sleep in an avian brain

Physiology

- Phy 01: Böhlinger et al.***
Insights into the structural features of hemocytin from the red flour beetle, *Tribolium castaneum*
- Phy 02: Degirmenci et al.***
Using CRISPR/Cas9 to differentiate the function of honeybee (*Apis mellifera*) sugar receptors
- Phy 03: Gerhards et al.***
Bacteria-induced NO production in Locust hemocytes
- Phy 04: Jose Vattoly et al.***
Targeted expression of a constitutively active EGFR allele in the respiratory system of *Drosophila melanogaster* induces lung cancer like phenotypes
- Phy 05: Kühle***
Metabolic changes upon smoke exposure and manipulation of the Nrf2 antioxidant pathway in *Drosophila melanogaster*
- Phy 06: Martens et al.***
Transcriptomic analysis of neuronal cells transfected with putative neuroprotective genes from the hooded seal (*Cystophora cristata*)
- Phy 07: Proske et al.***
A protein-reduced diet alone or as part of a combination therapy rescues tumor-associated phenotypes of an intestinal cancer model
- Phy 08: Schlosser et al.***
Globins in zebrafish development (*Danio rerio*)

Systematics, Biogeography & Diversity

- Syst 01: Hahn et al.***
Optimization of DNA barcoding methods to study beetle diversity in the Leipzig floodplain forest
- Syst 02: Pinkau et al.***
A drop in the ocean of deep-sea diversity: 3D-microanatomy of a novel Solenogastres (Mollusca, Aplacophora) from the Northwest Pacific