

# **Deutsche Zoologische Gesellschaft**



**103. Annual Meetings**

**Hamburg**

**17. – 21 September 2010**

**Program**



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## Welcome Address of the Organizers

Dear colleagues,

we are very pleased that you decided to come to Hamburg to attend this year's annual meeting, the 103rd altogether, of the German Zoological Society (DZG). Obviously we succeeded in putting together a program that attracted you and hope that you will enjoy the meeting with its breadth of zoological topics. While each of the Fachgruppen has decided on its own about their symposiums speakers, our part was to select the plenary speakers who cover topics that we find especially interesting: the origin of biodiversity in the light of recent research on speciation and hybridization, the role of physiological adaptations and phenotypic plasticity and the interactions between animals and plants as one of the driving forces generating biodiversity.

If you find the time to explore Hamburg a little before or after the conference, you will find a rapidly changing metropolis that features some of the most ambitious contemporary construction projects: the Elbphilharmonie and the Hafencity. On the other hand, looking at our buildings you will notice that the university is still struggling to be carried along in this spirit. Hamburg's traditional zoo - Hagenbecks Tierpark - in contrast, not only features its famous old fenceless grounds but also got several modern additions in recent years and is worth a visit.

But first of all, we are looking forward to the contributions of our 500 plus attendees and wish you an interesting meeting and a pleasant stay in Hamburg!

The faculty of the Zoological Institute and Museum

# General Information

## Conference Venue

The conference venue will be around the Martin-Luther-King Platz using the lecture halls of the Chemical Institutes in addition to the one in the Zoology building. Only the conference dinner will be in a different location (Mensa).

## Language

The official language of the meeting is English except during the introductory talks on Friday and the public evening lectures on Friday and Sunday.

## Registration Desk

Meeting documents and badges will be handed out at the registration desk. The registration desk is located in the right wing of the chemistry building's foyer. It can be reached by phone at 040 – 42838 5555.

Opening times:

Friday: 16:00 – 20:00h

Saturday: 8:00 – 20:00h

Sunday: 9:00 – 19:00h

Monday: 8.00 – 18:00h

## Speaker Ready Room / Oral Presentations

It will not be possible to use your own computer in the lecture halls. Therefore, you should submit your files in lecture hall D (Chemistry) or in the Kosswig room (Zoology) depending on where your talk will be. Please do so a day before your talk but at least two hours before the beginning of the session in which you will present. Your files will be uploaded and will be available in your lecture hall when needed.

You can view your presentation in both speaker ready rooms to make sure your files work with our equipment.

Opening times:

Friday: 16:00 – 20:00h

Saturday: 9:30 – 13:00h

Sunday: 9:30 – 13:00h

Monday: 9.30 – 13:00h

### **The following presentation software will be provided:**

Adobe Reader 9, Microsoft PowerPoint 2003, Microsoft PowerPoint 2007, Microsoft PowerPoint Viewer 2010, OpenOffice, Quicktime 7.

Please keep strictly to the time schedule since we are running parallel sessions and session hopping will be frequent. The session assistants and chairmen are advised to strictly limit your presentation time to the slots given in the schedule. Thank you for your cooperation on this!

### **Poster Presentations**

The poster areas are located in the long hallway of the right wing of the Chemistry building (posters EB, EC, DB, BB, PH, NB) and in the foyer of the Zoology building (posters MO, ZS). Posters will be on display during the whole meeting, they should be mounted Friday evening or Saturday morning and taken down on Monday before the conference dinner.

The poster session on Saturday evening will include pretzels, soft drinks and beer. To give presenters a chance to look at each others posters, people with odd numbers should be at their posters from 18:00h to 19:30h, people with even numbers should present their posters from 19:30h to 21:00h.

Each participant of the conference can suggest three posters to be awarded a poster prize using the orange ballot provided in the conference bag. In addition each study group will name a jury to select the best posters of its symposium. Poster prizes by the study groups will be awarded on Monday 10.30h, the three best posters selected by the attendees will be awarded a prize by the DZG at the conference dinner on Monday evening.

## **Internet Access**

Participants will have access to WLAN using our guest account as indicated in your conference bag. In addition, in the Zoology building several public computers are available in the library and in the CIP pool on the first floor (Rm 112).

## **Food and Drinks**

All conference attendees are invited to the opening reception on Friday evening, free drinks and pretzels at the poster session on Saturday evening and soup for lunch on Sunday. During the conference your badge entitles you to free beverages and cookies at the coffee breaks. Many small restaurants, take away shops and the Mensa are situated in close vicinity (Grindelallee, Grindelhof and Rentzelstr.) so that you can easily find a place for lunch on Saturday and Monday.

Those of you who have booked the banquet will find the ticket in their conference bag. At the banquet you will find an Italian buffet with a variety of selected dishes including vegetarian food. Drinks at the banquet will be complimentary.

## **Luggage Room**

On Monday you will have the possibility to store your luggage in the Kosswig Saal (Zoology building). The luggage room will be guarded until 18:00h.

## **Accompanying Visitors**

The accompanying visitor badge qualifies you for attending the opening reception as well as the poster session, soup luncheon and coffee breaks. In addition, you find a free voucher for a city tour and a harbour cruise in your conference bag. Our staff at the registration desk will be happy to provide you with further guidance and tips on what to do and what to visit in Hamburg.

## **Hagenbeck's Tierpark**

Hagenbeck's is generously offering a 50% reduction on its entrance fees during the conference including Tuesday, 21<sup>st</sup> of September. You have to purchase the reduced tickets at our registration desk and present it at the entrance. The special conference prices are given below:

	Adults	Children
Tierpark	8.00 €	5.50 €
Tropenaquarium	6.50 €	4.50 €
Kombi-Ticket	12.50 €	8.00 €

## **Excursion**

The excursion to the North Sea will start Tuesday at 8:00h from the parking lot behind the Zoology building (access from Bundesstr.) and will return around 19:00h.

# ethology

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## AIMS & SCOPE

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## **Meeting of the Study groups**

### **Saterday, 18. September 2010, 12.30 – 14.00**

Lecture Hall A	Ecology
Lecture Hall Zoology	Zoological Systematics
Lecture Hall B	Behaviour Biology
Lecture Hall C	Developmental Biology

### **Sunday, 19. September, 12.30 – 14.00**

Lecture Hall A	Evolutionary Biology
Lecture Hall Zoology	Morphology
Lecture Hall B	Physiology
Lecture Hall C	Neurobiology



## Program Details

Friday, 17. September 2010				
Time				
14.00 - 16.00	<b>DZG Board Meetings</b>			
	Lecture Hall A and Zoological Museum			
18.30 - 23.00	<b>Opening, Public Lecture I and Wellcome Reception</b>			
Saturday, 18. September 2010				
Time	Lecture Hall A	Lecture Hall Zoology	Lecture Hall B	Lecture Hall C
8.30 - 10.30	<b>Plenary lectures</b>			
10.30 - 11.00	Coffee break			
11.00 - 11.30	<b>Ecology</b>	<b>Morphology</b>		
11.30 - 12.00	<b>Zoological Systematics</b>	<b>Behavioral Biology</b>		
12.00 - 12.30	<b>Evolutionary Biology</b>	<b>Neurobiology</b>		
12.30 - 14.00	<b>Lunch break and Study Group Meetings</b>			
14.00 - 15.30	Evolutionary Biplgy	Morphology	Neurobiology	Developmental Biology

15.30 - 16.00	Coffee break			
16.00 - 17.30	Evolutionsbiology	Ecology	Zoological Systematik	Behavioural Biology
17.30 - 18.00	break			
18.00 - 22.00	<b>Postersession with Beer and Snacks</b>			
18.00 - 19.30	<b>Round Table of Morphology Study group: Zoology Room U17</b>			
<b>Sunday, 19. September 2010</b>				
Time	Lecture Hall A	Lecture Hall Zoology	Lecture Hall B	Lecture Hall C
9.00 - 9.30	<b>Physiology</b>	<b>Evolutionary Biology</b>		
9.30 - 10.00	<b>Ecology</b>	<b>Developmental Biology</b>		
10.00 - 10.30	Coffee break			
10.30 - 12.30	<b>Plenary lectures</b>			
12.30 - 14.00	<b>Lunch break and Study Group Meetings</b>			
14.00 - 15.00	<b>Poster</b>			
15.00 - 16.30	Evolutionary Biology	Ecology	Physiology	Morphology
16.30 - 17.30	Coffee break			
17.00 - 18.30	<b>General assembly</b>			
18.30 - 19.00	break			
19.00 - 19.15	<b>Rathmeyer-Prize</b>			
19.15 - 20.15	<b>Public Lecture</b>			

Monday, 20. September 2010				
Time	Lecture Hall A	Lecture Hall Zoology	Lecture Hall B	Lecture Hall C
8.30 - 10.30	<b>Plenary lectures</b>			
10.30 - 10.45	<b>Poster prize of the Study Group</b>			
10.45 - 11.15	Coffee break			
11.15 - 11.45	<b>Behavioral Biology</b>	<b>Physiology</b>		
11.45 - 12.15	<b>Zoological Systematics</b>	<b>Neurobiology</b>		
12.15 - 12.45	<b>Morphology</b>	<b>Developmental Biology</b>		
12.45 - 14.15	Lunch break			
14.15 - 15.45	Evolutionary Biology	Zoological Systematics	Physiology	Behavioral Biology
15.45 - 16.15	Coffee break			
16.15 - 17.45	Evolutionary Biology	Morphology	Ecology	Zoological Systematics
17.45 - 19.00	break			
	Mensa, Von Melle Park 2			
19.00 - 24.00	<b>Conference dinner</b>			
Tuesday, 20. September 2010				
8.00 – 19.00	<b>Excursion to Multimar and Westerhever</b>			



## Program Details

Friday, 17.09.2010				
Time	Lecture Hall A Chemie	Lecture Hall Zoology	Lecture Hall B Chemie	Lecture Hall C Chemie
14	00			
	15			
	30			
	45			
15	00			
	15			
	30			
	45	<b>DZG Board Meetings</b>		
16	00			
	15			
	30			
	45			
17	00			
	15			

	30	
	45	
18	00	<b>Break</b>
	15	
	30	<b>Lecture Hall A</b>
	45	Wellcome Adress: Decan of MIN Faculty: <b>Heinrich Graener</b>
19	00	Opening by the President of the DZG: <b>Wolf-Michael Weber</b>
	15	History and future of zoology in Hamburg: <b>Otto Kraus</b> and <b>Susanne Dobler</b>
	30	
	45	<b>Lecture Hall A, public lekture 1:</b>
20	00	Chair: Jutta Schneider
	15	<b>Martin Wikelski:</b> Warum Zoologie 'wild' und global sein muss
	30	
	45	
21	00	<b>20.30 – 23.00 Zoological Museum: Welcome reception</b>
	15	
	30	
	45	

## Saturday, 18.09.2010

Time	Lecture Hall A Chemie	Lecture Hall Zoology	Lecture Hall B Chemie	Lecture Hall C Chemie
08	<b>Lecture Hall A, Plenary talk 1:</b> Chair: Kathrin Dausmann			
09	<b>Ralph Tollrian:</b> The ecology and evolution of inducible defences: Daphnia as model system			
10	<b>Lecture Hall A, Plenary talk 2:</b> Chair: Bernhard Hausdorf <b>Menno Schilthuizen:</b> Through the looking glass: Mirror images in animal form			
11	<b>Ecology S EC.1:</b> Chair: Martin Schaefer <b>Boris Schröder:</b> Modelling organismic response to environmental change – patterns, processes, and functions.	<b>Morphology S MO.1:</b> Chair: Manuela Schmidt Nadja Schilling: Evolution of the axial musculature in craniotes - Morphology and function		

30	<b>Zoological Systematics S</b>			
	<b>ZS.1:</b>	<b>Behavioral Biology S BB.1:</b>		
45	Chair: Lars Podsiadlowski	Chair:		
	<b>Thomas Stach:</b> Pattern,	<b>Gerlind U.C. Lehmann:</b> Dynamics of		
	processes, and parsimony –	mating strategies in bushcrickets		
	morphological studies in the			
	post-genomic era			
12	<b>Evolutionary Biology S EB.1:</b>	<b>Neurobiology S NB.1: break</b>		
00	Chair: Thomas Schmitt	Chair: Joachim Schachtner		
	<b>Heike Feldhaar:</b> Evolutionary	<b>Dorothea Eisenhardt:</b> What drives		
	ecology of the association of	memory consolidation? Answers		
	Camponotus ants with the	from an invertebrate model system,		
15	endosymbiont Blochmannia	the honeybee ( <i>Apis mellifera</i> )		
30				
45				
00				
13				
15	<b>Lunch break and Study Group Meetings</b>			
30				
45				

14	<p><b>"Evolutionary Biology 1"</b> Chair: Feldhaar, Heike</p> <p><b>Vortrag EB.1: Martin Haase et al.:</b> Back to Africa and out again: the Evolutionary and Biogeographic History of the Land Snail Genus <i>Theba</i></p>	<p><b>"Morphology 1"</b> Chair: Wirkner, Christian</p> <p><b>Vortrag MO.1: Manuela Schmidt:</b> Evolution of shoulder mobility in primates.</p>	<p><b>"Neurobiology"</b> Chair: Engelmann, Jacob ; Schachtner, Joachim ;</p> <p><b>Vortrag NB.1: Timo Röver et al.:</b> Detection of properties and contrasts of virtual objects in <i>Gnathonemus petersii</i></p>	<p><b>"Developmental Biology"</b> Chair: Schoppmeier, Michael</p> <p><b>Vortrag DB.1: Wim G.M. Damen et al.:</b> Conservation, loss, and redeployment of Wnt ligands in protostomes</p>
15	<p><b>Vortrag EB.2: Sven Bradler et al.:</b> The stick insects of New Caledonia: an unexpected ancient radiation</p>	<p><b>Vortrag MO.2: Kornelius Kupczik et al.:</b> Incisor morphology and function in the rhesus macaque (<i>Macaca mulatta</i>)</p>	<p><b>Vortrag NB.2: Michael Metzen et al.:</b> Responses of sensory neurons to the existence of real objects reveal a mixed coding strategy in the brain of a weakly electric fish, <i>Gnathonemus petersii</i></p>	<p><b>Vortrag DB.2: Christian Hasse et al.:</b> Approaches to study the evolution of FGFR signalling</p>
30	<p><b>Vortrag EB.3: Karen Meusemann et al.:</b> Phylogeny of primary wingless hexapods: a phylogenomic approach</p>	<p><b>Vortrag MO.3: Marie-Christin Klein et al.:</b> Sliding friction of the skin of the snake <i>Gongylophis colubrinus</i> (Squamata, Boidae)</p>	<p><b>Vortrag NB.3: Adrian Klein et al.:</b> The energy expenditure of trout swimming in laminar and turbulent flow</p>	<p><b>Vortrag DB.3: Monika Hassel et al.:</b> Three consecutive generations of nephridia occur during development of <i>Platynereis dumerilii</i> (Annelida, Polychaeta)</p>

	<p><b>Vortrag EB.4: Patrick Strutzenberger et al.:</b>  Phylogenetic patterns of host plant use in Neotropical <i>Eois</i> moths (Lepidoptera: Geometridae, Larentiinae)</p>	<p><b>Vortrag MO.4: Sebastian Schmelzle et al.:</b> Pressure build-up in box mites (Acari, Oribatida) – one problem, two solutions</p>	<p><b>Vortrag NB.4: Jakob Krieger et al.:</b> Brain architecture of <i>Birgus latro</i> L., 1767 (Crustacea, Decapoda, Anomura) in comparison to other terrestrial and marine decapod crustaceans.</p>	<p><b>Vortrag DB.4: Matthias Gerberding et al.:</b> RNA localization, wnt Signaling and invariant progenitor lineages in <i>Parhyale hawaiiensis</i> (Crustacea, Amphipoda)</p>
15	<p><b>Vortrag EB.5: K. Hacker et al.:</b>  Evolution in the Pantry? Strain differences indicate speciation processes in <i>Lariophagus distinguendus</i></p>	<p><b>Vortrag MO.5: Bastian J. Klußmann et al.:</b> Comparative morphology of the circulatory system in Scorpions: an evolutionary character analysis</p>	<p><b>Vortrag NB.5: Linda Weiss et al.:</b>  Cholinergic and dopaminergic stimulation induces the formation of inducible morphological defence structures in <i>Daphnia pulex</i></p>	<p><b>Vortrag DB.5: Reinhard Schröder et al.:</b> FGF signalling is required for dorsal closure during embryogenesis of the beetle <i>Tribolium castaneum</i></p>
15	<p><b>Vortrag EB.6: Cornelia Rüdiger et al.:</b> Genetic differentiation of multiple distinct strains of <i>Lariophagus distinguendus</i> (Hymenoptera: Pteromalidae)</p>	<p><b>Vortrag MO.6: Jörg U. Hammel et al.:</b> The macroscopic and microscopic anatomy of a poriferan aquiferous system</p>	<p><b>Vortrag NB.6: Christina Kelber et al.:</b> Phenotypic plasticity in the olfactory system of polymorphic ant workers</p>	<p><b>Vortrag DB.6: Georg Wolfstetter et al.:</b> Morphology and genetic analysis of mutations that affect visceral Development in <i>Drosophila</i></p>

30				
45	<b>Coffee break</b>			
16	<p><b>"Evolutionary Biology 2"</b> Chair: Kupfer, Alexander</p> <p><u>Vortrag EB.7: Kathrin Lampert et al.</u>: Determination of onset of sexual maturation and mating behavior by melanocortin receptor 4 polymorphisms</p>	<p><b>"Ecology 1"</b> Chair: Schröder, Boris ;</p> <p><u>Vortrag EC.1: Stephanie S Bauerfeind et al.</u>: The effects of past and present inbreeding events on life history traits and stress resistance</p>	<p><b>"Zoological Systematics 1"</b> Chair: Schmidt-Rhaesa, Andreas ;</p> <p><u>Vortrag ZS.1: Carmen Döring et al.</u>: Molecular and structural characterization of photoreceptor cells in <i>Schmidtea mediterranea</i></p>	<p><b>"Behavioral Biology: Predatory and antipredatory behavior 1"</b> Chair: Eccard, Jana ; Siemers, Björn ;</p> <p><u>Vortrag BB.1: Klaas W Welke et al.</u>: Males of the orb-web spider <i>Argiope bruennichi</i> sacrifice themselves to unrelated females</p>
15	<p><u>Vortrag EB.8: Frederick T. Wehrle et al.</u>: Sensory drive of colour signals in humans</p>	<p><u>Vortrag EC.2: Inon Scharf et al.</u>: Varying impact of habitat quality, competition and parasitism in two systems of slavemaking ants and their hosts</p>	<p><u>Vortrag ZS.2: Carsten Lüter et al.</u>: Ciliary photoreceptors facilitate directional vision in brachiopod larvae</p>	<p><u>Vortrag BB.2: Katrin Kunz et al.</u>: Is the way to a women's heart through her stomach? Male cephalic secretions in dwarf spiders</p>

30	<p><u>Vortrag EB.9: Thomas Friedl et al.:</u> Plumage colouration, age and dominance in male red bishops (<i>Euplectes orix</i>): an experimental test</p>	<p><u>Vortrag EC.3: Peggy Giertz et al.:</u> Constrains and Flexibility - Habitats differing in food availability and quality promote distinct foraging strategies in a single species population</p>	<p><u>Vortrag ZS.3: Anne-C. Zakrzewski et al.:</u> Comparing the formation of chaetae in Lophotrochozoa on the molecular and structural level</p>	<p><u>Vortrag BB.3: Joachim Ruther et al.:</u> Behavioural switch in the sex pheromone response of <i>Nasonia vitripennis</i> females is linked to receptivity signalling</p>
45	<p><u>Vortrag EB.10: Johannes Stökl et al.:</u> Yeast mimicry? – Olfactory mimicry in the Solomon’s lily (<i>Arum palaestinum</i>)</p>	<p><u>Vortrag EC.4: Axel Strauß et al.:</u> Species richness, functional and phylogenetic diversity of Madagascar’s rainforest stream tadpole communities along seasonal climatic changes</p>	<p><u>Vortrag ZS.4: Günter Purschke et al.:</u> Ultrastructure of the ventral pharynx in the interstitial annelid <i>Questa paucibranchiata</i> (Orbiniidae) and its phylogenetic importance</p>	<p><u>Vortrag BB.4: Sylvia Ortman et al.:</u> Sex allocation and costs of reproduction in European roe deer (<i>Capreolus capreolus</i>)</p>
17 00	<p><u>Vortrag EB.11: Jan Büllesbach et al.:</u> Chemical communication mediated by species-specific cuticular hydrocarbon profiles in the jewel wasp <i>Nasonia</i> - from phenotypic to genetic architecture</p>	<p><u>Vortrag EC.5: Prinzing Andreas et al.:</u> Macroevolutionary island trees suffer less phytophagy</p>	<p><u>Vortrag ZS.5: Dominik Kieselbach et al.:</u> Ultrastructural study points to a close relationship of Sabellida, Sabellariidae and Spionida within Annelida</p>	<p><u>Vortrag BB.5: Joanna Fietz:</u> Behavioural and physiological consequences of reproductive activity in male edible dormice (<i>Glis glis</i>)</p>

15	<p><u>Vortrag EB.12: Martin Helmkampf et al.:</u> The genetic basis of chemoreception and communication – insights from an ant genome</p>	<p><u>Vortrag EC.6: Susanne Kobbe et al.:</u> Inter-annual variation of metabolic rate and thermoregulatory patterns in Malagasy mouse lemurs</p>	<p><u>Vortrag ZS.6: Torsten H Struck et al.:</u> Escaping the symplesiomorphy trap: a case study of Terebelliformia.</p>	<p><u>Vortrag BB.6: Ulrich Pörschmann et al.:</u> Male reproductive success and its behavioural correlates in a polygynous mammal, the Galápagos sea lion (<i>Zalophus wollebaeki</i>)</p>
30 45	<b>break</b>			
18 <sup>00</sup>				
15	<b>18.00 – 19.30 Round Table of study group Morphology, U17 Zoology</b>			
30				
45	<b>18.00 – 22.00 Postersession with Beer and Snacks</b>			
19 <sup>00</sup>				



**Sunday, 19.09.2010**

Time		Lecture Hall A Chemie	Lecture Hall Zoology	Lecture Hall B Chemie	Lecture Hall C Chemie
09	00	<b>Physiology S PH.1:</b> Chair: Thomas Röder <b>Kai Lüersen:</b> The power of positive charges - investigating novel polyamine functions.	<b>Evolutionary Biologie S EB.2:</b> Chair: Gabriele Uhl <b>Leif Engqvist:</b> Sex, scorpionflies, and selection differentials		
	15				
	30	<b>Ecology S EC.2:</b> Chair: Petra Quillfeldt <b>J. Krauss:</b> Endophtic fungi in grass species: cascading effects on higher trophic levels	<b>Developmentel Biology S DB.1:</b> Chair: Matthias Gerberding <b>Niko Prpic:</b> Role of the Hox gene Antp in walking leg morphology specification in insects and spiders.		
	45				
10	00	<b>Coffee break</b>			
	15				

11	30	<b>Lecture Hall A, Plenary talk 3:</b> Chair: Gregor Kölsch <b>Mike Singer:</b> Evolutionary ecology of tri-trophic interactions
	45	
	00	
12	15	<b>Lecture Hall A, Plenary talk 4:</b> Chair: Angelika Brandt <b>Hans-Otto Pörtner:</b> Oxygen- and capacity limitation of thermal tolerance: a matrix for integrating climate-related stressor effects in marine ecosystems
	30	
	45	
13	00	<b>Lunch break and Poster</b>
	15	
	30	
	45	
	00	
14		

15	00	<p><b>"Evolutionary Biology 3"</b> Chair: Schäfer, Martin, Andreas</p> <p><u>Vortrag EB.13: Frieder Mayer et al.</u>: Hybridization and speciation in acoustically communicating grasshoppers</p>	<p><b>"Ecology 2"</b> Chair: Krauss, Jochen ; <u>Vortrag EC.7: Azlan Mohamed et al.</u>: Can commercially used forests contribute to the conservation of threatened carnivores? Two years of camera-trapping in managed forest reserves in Sabah Malaysia.</p>	<p><b>"Physiology 1"</b> Chair: Hoeger, Ulrich ; Arnold, Philipp</p> <p><u>Vortrag PH.1: Renja Romey et al.</u>: Impact of Starvation on the Gene Expression Pattern of the Fat Body in Adult Fruit Flies</p>	<p><b>"Morphology 2"</b> Chair: Müller, Hendrik</p> <p><u>Vortrag MO.7: Andreas Schmidt-Rhaesa et al.</u>: Brain evolution in the "Nemathelminthes" - a summary</p>
15	15	<p><u>Vortrag EB.14: Munjong Kolss</u>: Hybridization avoidance in grasshoppers: why and how is it done?</p>	<p><u>Vortrag EC.8: Sabine Greiner et al.</u>: Predictable estrus timing of a small tropical mammal in an almost aseasonal environment</p>	<p><u>Vortrag PH.2: Eva Philipp et al.</u>: Immune system and ageing research in bivalves using transcriptome analysis</p>	<p><u>Vortrag MO.8: Andy Sombke et al.</u>: Organization of deutocerebral neuropils in representatives of the Chilopoda (Myriapoda)</p>
15	30	<p><u>Vortrag EB.15: Andreas Wilting et al.</u>: Four islands, three big cats and three histories; tigers, leopards and clouded leopards in the Sunda Shelf</p>	<p><u>Vortrag EC.9: Caroline Stolter</u>: The moose in the willows: Differences in the effects of plant secondary metabolites on feeding decisions</p>	<p><u>Vortrag PH.3: Aylin Kademci et al.</u>: Caenopores in the defence of <i>Caenorhabditis elegans</i></p>	<p><u>Vortrag MO.9: Corinna Krempel et al.</u>: Comparative studies on the ultrastructure of compound eyes within the hermit crab genus <i>Clibanarius</i> and phylogeography of the Mediterranean representative <i>Clibanarius erythropus</i> (Decapoda, Paguroidea)</p>

	45	<p><u>Vortrag EB.16: Florian Leese et al.:</u> Long-distance island hopping without dispersal stages: transportation across major zoogeographic barriers in a Southern Ocean isopod</p>	<p><u>Vortrag EC.10: Simone Sommer et al.:</u> Testing the fragmentation threshold hypothesis – genetic diversity and structure in populations of the endemic marsupial <i>Marmosops incanus</i> in landscapes with different proportion of remaining Brazilian Atlantic forest</p>	<p><u>Vortrag PH.4: Reinhard Saborowski et al.:</u> Cellulose utilization by marine crustaceans</p>	<p><u>Vortrag MO.10: Gregor Kölsch et al.:</u> Between two worlds: a flat cornea surface renders possible vision in water and air in the amphibious reed beetle <i>Neohaemonia</i> (Coleoptera, Chrysomelidae, Donaciinae)</p>
16	00	<p><u>Vortrag EB.17: Sabine Radmacher:</u> Does experimentally induced communal nesting in a solitary bee reduce the risk of open-cell parasitism?</p>	<p><u>Vortrag EC.11: Anna Bastian et al.:</u> Indications for a divergence of two morphotypes of the bat, <i>Macrotus waterhousii minor</i> in passive listening, echolocation and manoeuvrability?</p>	<p><u>Vortrag PH.5: Sven Schenk et al.:</u> Glutathionyl-biliverdin IX-alpha, a new heme catabolite in a marine annelid: sex and cell specific accumulation.</p>	<p><u>Vortrag MO.11: Gabriele Uhl et al.:</u> What makes a male head interesting for females? -- Cephalic adaptations in dimorphic dwarf spiders of the genus <i>Oedothorax</i> (Erigoninae, Linyphiidae, Araneae)</p>
	15	<p><u>Vortrag EB.18: Dirk J. Mikolajewski et al.:</u> Integrating Antipredator Traits: Multiple Predators and Shifts in Selection</p>	<p><u>Vortrag EC.12: Christian Voigt et al.:</u> Why bats fly at night?</p>	<p><u>Vortrag PH.6: Nicole Linklater et al.:</u> vtk-online: Computer Assisted Learning for Teaching Laboratory Animal Science</p>	<p><u>Vortrag MO.12: Alexander Ziegler et al.:</u> Plasticity and evolution of the gastric caecum in sea urchins (Echinodermata: Echinoidea)</p>

	30	<b>Coffee break</b>
	45	
17	00	<b>Lecture Hall C: General assembly</b>
	15	
	30	
	45	
18	00	<b>break</b>
	15	
	30	
	45	
19	00	<b>Lecture Hall A: Rathmeyer-Prize</b>
	15	
	30	<b>Lecture Hall A, Public Lecture 2:</b>
	45	Chair: Alexander Haas
20	00	<b>R.K. Kinzelbach:</b> Die neu entdeckten Tierbilder des Artemidor-Papyrus



**Monday, 20.09.2010**

<b>Time</b>	<b>Lecture Hall A Chemie</b>	<b>Lecture Hall Zoology</b>	<b>Lecture Hall B Chemie</b>	<b>Lecture Hall C Chemie</b>
08 <sup>30</sup>	<b>Lecture Hall A, Plenary Lecture 5:</b> Chair: Thorsten Burmester			
09 <sup>00</sup>				
09 <sup>15</sup>	<b>Jürgen Gadau:</b> Genetics and Genomics of Adaptation, Species Differences and Speciation in Hymenoptera			
09 <sup>30</sup>	<b>Lecture Hall A, Plenary Lecture 6:</b> Chair: Jörg Ganzhorn			
10 <sup>00</sup>				
10 <sup>15</sup>	<b>Bill Foley:</b> Monkeys, moose and marsupials - plant chemistry and population dynamics			
10 <sup>30</sup>	<b>Poster prize of the Study Group</b>			
10 <sup>45</sup>	<b>Coffee break</b>			
11 <sup>00</sup>				
11 <sup>15</sup>				
11 <sup>30</sup>	<b>Behavioral Biology S BB.2:</b> Chair: <b>L. Levejohann:</b> The role of genes and environment in shaping behavioral profiles of transgenic and knockout mice	<b>Physiology S PH.2:</b> Chair: Walter Stöcker <b>Christoph Becker-Pauly:</b> Let it flow: the metalloprotease meprin alpha is a pro-angiogenic enzyme		

12	45	<p><b>Zoological Systematics S ZS.2:</b>  Chair: Christoph Bleidorn  <b>Andrea Waeschenbach:</b> The causes and effects of radiations throughout geological time: New phylogenetic insights from the 'minor' phylum Bryozoa</p>	<p><b>Neurobiology S NB.2:</b>  Chair: Jacob Engelmann  <b>Uwe Firzlaff:</b> The neural basis of echo imaging in echolocating bats</p>		
13	15	<p><b>Morphology S MO.2:</b>  Chair: Michael Nickel  <b>Michael Heethoff:</b> Functional morphology and evolutionary implications of particle feeding in chelicerate microarthropods (Acari, Oribatida)</p>	<p><b>Developmental Biology S DB.2:</b>  Chair: Matthias Gerberding  Michael Schoppmeier:  Maternal control of Tribolium segmentation</p>		
13	00				
13	15				
13	30	<p><b>Lunch break and poster</b></p>			
13	45				
14	00				

15	<p><b>"Evolutionary Biology 4"</b> Chair: Schulte, Rebecca</p> <p><u>Vortrag EB.19: Andra Thiel et al.</u>: Single-sex broods as a means of inbreeding avoidance in the parasitic wasp <i>Bracon variator</i></p>	<p><b>"Zoological Systematics 2"</b> Chair: Bleidorn, Christoph ;</p> <p><u>Vortrag ZS.7: Lars Vogt et al.</u>: <i>Collaborative Live-Editing of Morphological Character Matrices in Morph-D-Base</i></p>	<p><b>"Physiology 2"</b> Chair: Pick, Christian ; Czech, Nicole ;</p> <p><u>Vortrag PH.7: Bettina Zeis et al.</u>: Adaptive processes to temperature change in <i>Daphnia</i>: The role of reproduction strategies for the success of genotypes within the zooplankton community</p>	<p><b>"Behavioral Biology 2"</b> <u>Vortrag BB.7: Silke Kipper et al.</u>: Song Responses to Male and Female Call Playbacks in Common Nightingales(<i>LUSCINIA MEGARHYNCHOS</i>).</p>
30	<p><u>Vortrag EB.20: Timo Thünken et al.</u>: The relative importance of relatedness and quality in the mate choice of females and males in a cichlid fish</p>	<p><u>Vortrag ZS.8: Jörn von Döhren</u>: Development of the serotonergic nervous system in Nemertea</p>	<p><u>Vortrag PH.8: Nicole U. Czech et al.</u>: Energy metabolism and antioxidative capacities of brain neurons in diving hooded seals (<i>Cystophora cristata</i>)</p>	<p><u>Vortrag BB.8: Stefan Leitner</u>: Importance of a model for song learning in songbirds</p>
45	<p><u>Vortrag EB.21: Martin A. Schäfer et al.</u>: Latitudinal Variation and Temperature Plasticity in a Polymorphic Sperm Storage Organ</p>	<p><u>Vortrag ZS.9: Alexander Gruhl et al.</u>: <i>Buddenbrockia plumatellae</i>: a novel cnidarian body-plan</p>	<p><u>Vortrag PH.9: Miriam Blank et al.</u>: Globin X is an ancient, membrane-bound respiratory protein</p>	<p><u>Vortrag BB.9: Silke L. Voigt-Heucke et al.</u>: Do Bats Jazz? Song Composition and Syntax in the Song of the Common Noctule Bat</p>

15	00	<u>Vortrag EB.22: Sabine Nöbel et al.</u> : Do sailfin molly males adjust sperm transfer to mate-choice copying?	<u>Vortrag ZS.10: Christian Bauer et al.</u> : Taxonomy and ontogeny: a baseline study on caecilian amphibians	<u>Vortrag PH.10: Sandra Fehsenfeld et al.</u> : Effects of elevated $pCO_2$ on gene expression patterns and ion regulation processes in the Green crab <i>Carcinus maenas</i>	<u>Vortrag BB.10: Thilo Liesenjohann et al.</u> : Does risk-sensitive foraging depend on the costs of missed opportunities?
	15	<u>Vortrag EB.23: Lutz Fromhage</u> : Mating unplugged - the evolution of mating plug (dis-) placement	<u>Vortrag ZS.11: Franziska Franke et al.</u> : Genetic differentiation of the African dwarf crocodile <i>Osteolaemus tetraspis</i> (Cope, 1861)	<u>Vortrag PH.11: Geraldine Leier et al.</u> : Sildenafil enhances the wt-CFTR activation and restores the $\Delta F508$ -CFTR function	<u>Vortrag BB.11: Karin Schneeberger et al.</u> : Reciprocal cooperation in rats depends on cost to donor and benefit to recipient
	30	<u>Vortrag EB.24: Alexander Kupfer</u> : The evolution of parental investment in caecilian amphibians	<u>Vortrag ZS.12: Alexander Suh et al.</u> : Shedding new light on avian phylogeny via phylogenetic signals derived from retroposon insertion patterns	<u>Vortrag PH.12: Philipp Arnold et al.</u> : Low resolution 3D electron microscopy performed in one day	<u>Vortrag BB.12: E. Tobias Krause et al.</u> : Smells like home - Odour based natal nest recognition in the zebra finch, a colony breeding songbird
	45				
	00	<b>Coffee break</b>			

16	<p><b>"Evolutionary Biology 5"</b> Chair: Bauerfeind, Stephanie</p> <p>Vortrag EB.25: <b>Inka Montero et al.</b>: Examining partner choice parameters and MHC diversity - Tracing adaptation in recently separated house mouse populations</p>	<p><b>"Morphology 3"</b> Chair: Ziegler, Alexander</p> <p>Vortrag MO.13: <b>Sabrina Kaul et al.</b>: The ontogeny of the collar cord in hemichordates is homologous to chordate neurulation</p>	<p><b>"Ecology 3"</b> Vortrag EC.13: <b>Juan F. Masello et al.</b>: Three dimensional space and time segregation in female and males Imperial Shags</p>	<p><b>"Zoological Systematics 3"</b> Chair: Podsiadlowski, Lars ;</p> <p>Vortrag ZS.13: <b>Ralph S. Peters et al.</b>: A new large-scale approach to Hymenoptera phylogeny</p>
30	<p>Vortrag EB.26: <b>Philipp Krämer et al.</b>: Selecting appropriate estimators for genetic population differentiation – a critical task for studying marine conservation and stock management.</p>	<p>Vortrag MO.14: <b>Christine Nowack</b>: Functional morphology of the anuran lateral nasal gland: mechanisms for the transport of vomeronasal stimuli</p>	<p>Vortrag EC.14: <b>Franziska Grözinger et al.</b>: Size plasticity in metamorphic <i>Rana temporaria</i></p>	<p>Vortrag ZS.14: <b>Michael Gerth et al.</b>: A <i>Wolbachia</i> infection in <i>Nomada alboguttata</i> (Hymenoptera, Apidae) reveals problems with barcoding approaches in bees</p>
45	<p>Vortrag EB.27: <b>Andreas Hapke et al.</b>: Population genetic analysis of contact zones between mouse lemurs in different ecological situations</p>	<p>Vortrag MO.15: <b>Thomas Kleinteich et al.</b>: Homology meets terminology: a comparative study on the cranial musculature in larval amphibians</p>	<p>Vortrag EC.15: <b>Ralf Thiel et al.</b>: Response of fluvial fishes to variation in habitat quality: an application of habitat suitability models in bank habitats of the Elbe River</p>	<p>Vortrag ZS.15: <b>Jörn A. Pützschler et al.</b>: Molecular phylogeny of the genus <i>Hydropsyche</i> (Insecta: Trichoptera) contrasted with larval morphology</p>

17	00	<u>Vortrag EB.28: F. Bernhard Kraus et al.</u> : Temporal genetic structure of a drone congregation of the stingless bee <i>Scaptotrigona mexicana</i>	<u>Vortrag MO.16: Robert Salzer et al.</u> : Properties of the perivertebral musculature of salamanders	<u>Vortrag EC.16: Petra Quillfeldt et al.</u> : Small pelagic seabirds in polar waters - interannual differences in foraging patterns	<u>Vortrag ZS.16: Michael Mende et al.</u> : Phylogeography of the West Palaearctic <i>Hyles euphorbiae</i> complex (Lepidoptera, Sphingidae) and discovery of new cryptic lineages
	15	<u>Vortrag EB.29: Anna Buentge et al.</u> : A systematic search for signatures of selective sweeps based on a 454 sequencing approach	<u>Vortrag MO.17: Hendrik Müller</u> : Did desmognathid salamanders re-evolve an aquatic larva?	<u>Vortrag EC.17: Lars Gutow et al.</u> : The distribution of herbivorous amphipods within sporophytes of giant kelp	<u>Vortrag ZS.17: Susanne Füssel et al.</u> : Phylogeography and genetic diversity of neotropical freshwater shrimp of the family Atyidae (Decapoda, Caridea)
	30	<u>Vortrag EB.30: John Baines et al.</u> : The influence of <i>B4galnt2</i> expression on the intestinal microbiota in house mice	<u>Vortrag MO.18: Susanne Kühnel et al.</u> : Oviparous or viviparous?	<u>Vortrag EC.18: Nikolaus Elsner et al.</u> : Preliminary results of the Russian-German SoJaBio (Sea of Japan Biodiversity Studies) expedition with RV Akademik Lavrentjev in August 2010.	<u>Vortrag ZS.18: Martin Schwentner et al.</u> : Phylogeography of Australian clam shrimp species (Branchiopoda: Spinicaudata) – regional endemism <i>versus</i> wide dispersal
	45				

19.00 – 24.00 Mensa, Von Melle Park 2: **Conference dinner**

# List of Posters

## Behavioral Biology

BB.1

JÜRGEN TRETTIN, MONIKA HAUBNER, JÜRGEN HEINZE

**Occurrence and Establishment of reproductive dominance hierarchies in the ant *Leptothorax acervorum***

BB.2

SABINE FROHSCHAMMER, ANTONIA KLEIN, MASAKI SUEFUJI, JÜRGEN HEINZE

**Proximate mechanisms of early male production in *Cardiocondyla* ants**

BB.3

NADINE WENZLER, SARA MAE STIEB, WOLFGANG RÖSSLER, RÜDIGER WEHNER

**A special type of olfactory recruitment behavior in the Namibian desert ant *Ocymyrmex robustior*.**

BB.4

STEFANIE ZIMMER

**Determinants of natural mating success in the cannibalistic orb-web spider *Argiope bruennichi***

BB.5

**Mating behaviour of the non-native *Caprella mutica* Schurin, 1935 (Crustacea, Amphipoda)**

BB.6

KARIN BOOS, LARS GUTOW, HEINZ-DIETER FRANKE

**Mate Choice Copying in Zebra Finches: Sexes Differ**

NINA KNIEL<sup>1</sup>, CLARISSA DÜRLER<sup>1</sup>, VERONIKA HEINBACH<sup>1</sup>, KLAUDIA WITTE<sup>1</sup>

BB.7

ROBERT ULLRICH, CONSTANCE SCHARFF

**Rhythmic integration of song and dance during courtship of male zebra finches (*Taeniopygia guttata*)**

BB.8

ANNA MAGDALENA HOHMANN, ANJELIC CAPAR, CONSTANCE SCHARFF

**Der taktvolle Fink: Female zebra finches (*Taeniopygia guttata*) attend to song rhythm in courtship song**

BB.9

ERIN REARDON, ALANA PARISI, LAUREN CHAPMAN, RÜDIGER KRAHE

**Cheap communication: is the generation of electric signals by wave-type weakly electric fishes metabolically expensive?**

BB.10

KRISTINA GEBHARDT, GERHARD VON DER EMDE

**Electrocommunication and social behaviour in a group of weakly electric fish, *Mormyrus rume* (Mormyridae, Teleostei)**

BB.11

KATHARINA BEHR, GERHARD VON DER EMDE

**3-dimensional object detection during active electrolocation in the weakly electric fish, *Gnathonemus petersii***

BB.12

KATHARINA ANNICK WÜSTEN, GERHARD VON DER EMDE

**Detection thresholds for weak electric sine wave signals in sharks and rays**

BB.13

SARAH SCHUMACHER, GERHARD VON DER EMDE, KATHARINA BEHR

**Jamming avoidance during active electrolocation of objects in the weakly electric fish, *Gnathonemus petersii***

BB.14

JULIA ARTHTHI SAKTHISIVANTHA, GERHARD VON DER EMDE

**Effects of visual noise on object detection in *Gnathonemus petersii* and *Lepomis gibossus***

BB.15

JUDITH MEYER-SCHWICKERATH, BERND BAIER, JOACHIM MOGDANS

**Multimodal guidance of prey capture behavior in three species of fish**

BB.16

ANDRÉ STEINER, HORST BLECKMANN

**Perception of hydrodynamic stimuli by the lateral line in fish**

BB.17

MONIKA EBERHARD, STEFAN EBERHARD

**On the Diversity, Function and Perception of Vibrational Communication Signals in Mantophasmatodea (Insecta)**

BB.18

KERSTIN KOWALSKI, REINHARD LAKES-HARLAN

**Acoustic species separation of armoured ground crickets (Hetrodinae)**

BB.19

**Hear Ye!**

NICOLE STANGE, BERNHARD RONACHER

**Are Females of *Chorthippus biguttulus* Able to Hear How Big and How Healthy a Conspecific Male Singer is?**

BB.20

NICOLE BERSAU, THEO C. M. BAKKER, TIMO THÜNKEN, SEBASTIAN A. BALDAUF

**Predation risk of *Gammarus pulex* infected with an acanthocephalan parasite when preyed upon by different potential fish hosts.**

BB.21

RÜDIGER BERGHANN, SILVIA MOHR, RONNY SCHMIEDICHE, VERENA HÜBNER, MICHAEL FEIBICKE, STEFAN LOTH, RALF SCHMIDT

**Changes in macroinvertebrate drift during and after insecticide pulses in stream mesocosms**

BB.22

GUDRUN SCHNEIDER, KONSTANZE KRUEGER

**3rd party Intervention in horses (*Equus caballus*)**

BB.23

KRISTINA VOGT, URS BREITENMOSER, FRIDOLIN ZIMMERMANN

**To pee or not to pee- The role of urine marks in lynx communication**

BB.24

LEIF SÖNNICHSEN, SYLVIA ORTMANN, HERIBERT HOFER, WŁODZIMIERZ

JĘDRZEJEWSKI

**Behavioural responses of roe deer to hunting in the surroundings of the Bia-  
łowieża Primeval Forest**

BB.25

MIRJAM BECKER, PAUL BERTHEAU, HERIBERT HOFER, FRANK GÖRITZ, SYLVIA

ORTMANN

**Energetic conflicts between and within generations in European Roe Deer  
(*Capreolus capreolus*) during lactation period**

BB.26

MONIQUE LIESENJOHANN, JANA ECCARD

**Stress before parturition - effects of a potential nest predator in a vole-shrew  
study system**

BB.27

TATJANA KNOPP, THILO LIESENJOHANN, ANTJE HERDE, JANA ECCARD

**Anti-predatory behaviour of female voles in different reproductive states**

BB.28

STEFAN FISCHER, SCHÄDELIN FRANZISKA C., WAGNER RICHARD H.

**Neighbors reduce the cost of predator deterrence in a colonial breeding cich-  
lid, *Neolamprologus caudopunctatus***

BB.29

ANTONIA KÖHLER, PHILIPP HILDENBRAND, ELKE SCHLEUCHER, MARTIN PLATH

**Does male sexual harassment affect female time budgets, feeding behavior,  
and metabolic rates in a tropical livebearing fish (*Poecilia mexicana*)?**

BB.30

ANTJE HERDE, THILO LIESENJOHANN, TATJANA KNOPP, JANA A. ECCARD

**The relevance of behavioural categories in the laboratory for behaviour in the  
wild**

BB.31

JANA A. ECCARD, ANTJE HERDE, THILO LIESENJOHANN, TATJANA KNOPP

**Dispersal and Personality**

Poster BB.32

ANJA GÜNTHER, FRITZ TRILLMICH

**Individual differences in physiology and behaviour in a precocial rodent:  
Personality traits?**

## **Developmental Biology**

DB.1

DANIEL ČAPEK, PETRA POKORNY, LAURA BISCHOF, BRIAN METSCHER

**X-ray micromorphological approach to avian digit development**

DB.2

FLEMMING DAHLKE

**Mortality and development during early life phases of Atlantic cod (*Gadus morhua*) in relation to paternity and water temperature.**

DB.3

MARCUS FRANK, CORDULA TSCHUCH, HENRIETTE BERTEMES

**Expression and function of gamma-protocadherins in the developing mouse lung**

DB.4

HEIKE GRUBER, EVA PHILIP<sup>1</sup>

**Investigation of the molecular ageing process of the long-lived bivalve *Arctica islandica***

DB.5

CONRAD HELM, STEFANIE HARTMANN, MATTHIAS MEYER, CHRISTOPH BLEIDORN

**A survey of the expression of developmental genes in adult myzostomids (Protostomia, Myzostomida)**

DB.6

INGA KARCH, SARA KHADJEH, NIKOLA-MICHAEL PRPIC

**Late function of Hox genes in *Tribolium castaneum***

DB.7

ANIKA SCZIBILANSKI, NICOLE REBSCHER

**Identification of molecular mechanisms of germ cell specification in the polychaete *Platynereis dumerilii***

# Evolutionary Biology

EB.1

*ERICH EDER, KATHARINA TURIC, NORBERT MILASOWSZKY, KATHERINE VAN ADZIN, ANDREAS HERGOVICH*

**Darwin or God? ID, Creationism, and other Superstitions at Secondary Schools in Austria**

EB.2

*PETER REHM, BORNER JANUS, BURMESTER THORSTEN*

**Arthropod relationships: Can expressed sequence tags (ESTs) resolve the phylogenetic position of Myriapoda?**

EB.3

*P BJOERN M. VON REUMONT, KAREN MEUSEMANN, BERNHARD MISOF, JOHANN-WOLFGANG WÄGELE*

**Phylogenomics of crustaceans**

EB.4

*MARIA GOMEZ, SUZANNE WILLIAMS, DAVID REID, MATTHIAS GLAUBRECHT*

**How “clusterwinks” cluster. A phylogeny of the family Planaxidae (Gastropoda: Cerithioidea)**

EB.5

*MASAKI SUEFUJI, JÜRGEN HEINZE*

**The early evolution of the socially parasitic ant genus *Myrmoxenus*: Reconstruction of the phylogenetic tree**

EB.6

*VIVIANA FIORENTINO, GIUSEPPE MANGANELLI, FOLCO GIUSTI, RALPH TIEDEMANN, VALERIO KETMAIER*

**The radiation of Sicilian *Murella* (Mollusca, Gastropoda): a population genetics study**

EB.7

*J. SUSANNE HAUSWALDT, CLAUDIO ANGELINI, ANDY POLOK, CARLO UTZERI, SEBASTIAN STEINFARTZ*

**Phylogeography and small scale population genetics of the genus *Salamandrina* (Spectacled Salamanders) from Italy**

EB.8

*JAN SAUER, JENS OLDELAND, BERNHARD HAUSDORF*

**Phylogeographic patterns of mitochondrial and AFLP markers across the range of an endemic land snail species on Crete**

EB.9

*FRANK ZACHOS, ANN-CHRISTIN HONNEN, NORBERT KENNTNER, LENKA DUBSKA, IVAN LITERAK, FRANK HAILER*

**Genetic diversity and phylogeography of the European white-tailed sea eagle (*Haliaeetus albicilla*)**

EB.10

*MAXIMILIAN SCHWEINSBERG, KATHRIN P. LAMPERT, SEBASTIAN STRIEWSKI,, RALPH TOLLRIAN*

**Genetic diversity and gene flow in in the reef building coral *Acropora humilis***

EB.11

CHRIS EBERLEIN, SHOBHIT AGRAWAL, CHRISTOPH HELD

**Molecular and morphological evidence for cryptic species in the abundant Antarctic crustacean megafauna: the Antarctic mysid *Antarctomysis maxima***

EB.12

VOLKER SCHMID, STEFANIE KAUTZ, THOMAS RÖSSLER, JÜRGEN HEINZE

**Sociogenetics and population genetics of *Pseudomyrmex gracilis* (Formicidae)**

EB.13

BARBARA CASPERS, SEBASTIAN STEINFARTZ

**The scent of speciation - odour based mate choice in a diverging fire salamander (*Salamandra salamandra*) population**

EB.14

MARC FRIEDRICH, THOMAS SCHMITT

**Chemical signals as territorial markers: A comparative study on male marking pheromones in the digger wasp genus *Cerceris***

EB.15

CHRISTIAN KÖNIG, JOHANNES L.M. STEIDLE, TILL TOLASCH

**The click to speciation: A closer look at the click beetle *Idolus picipennis***

EB.16

CHRISTIAN TRITSCH, STEFAN PENTZOLD, MARTIN PÄCKERT

**Gene flow and biological species limits in the *Parus ater* - *P. melanolophus* complex**

EB.17

SANDRA DAMM, HEIKE HADRYN

**Cryptic speciation via habitat shift – Discovery of the first cryptic dragonfly species**

EB.18

SEBASTIAN VETTER, BÜLLESBACH JAN, SCHMITT THOMAS

**Differences in cuticular hydrocarbon-mediated mate discrimination behaviour between closely related genera of parasitic wasps**

EB.19

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**Analyzing CFTR plasma membrane insertion following cAMP activation in different human cell lines**

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**Hypoxia induces surveillance in the airway epithelium of the fruit fly *Drosophila melanogaster***

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PH.9

MIRIAM MARASLIOGLU, SAMIR EL MOUSSAOUI, DIRK HENRICH, MARK LEHNERT, ROLAND PRINZINGER, ELKE SCHLEUCHER, INGO MARZI

**Investigations on hepatic injury and the immunomodulatory effect of chronic alcohol exposure using a transgenic *cis*-NF- $\kappa$ B<sup>EGFP</sup> reporter gene mouse (Supported by DFG LE 1346/2-1)**

PH.10

SANDRA GÖTZE, REINHARD SABOROWSKI

**Proteasomal activity during the larval development of the European lobster, *Homarus gammarus***

PH.11

SANDRA TIPPEL, REINHARD SABOROWSKI

**Polymorphism of digestive enzyme in the midgut gland of North Sea shrimp, *Crangon crangon***

PH.12

**Digestive enzymes, pH, and the degradation of marine algae by invertebrates**

Poster PH.13

CORA R. ALBRECHT<sup>1</sup>, STEFANIE KREPPPEL, LARS GUTOW, REINHARD SABOROWSKI

SANDRA DITZLER, REINHARD SABOROWSKI

**Extracellular alkaline phosphatases from European lobster (*Homarus gammarus*) - purification and sequence analysis**

PH.14

ULF BICKMEYER, ALEXANDRA SCHWENDKE, SANDRA GÖTZE, PETER KARUSO, REINHARD SABOROWSKI

**Measurements of the pH in midgut gland tissue and cells of crustaceans using the fluorescent dyes LysoSensor DND160 and Ageladine A**

PH.15

JAN-PETER HILDEBRANDT, CHRISTIAN MÜLLER

**Regulation of organ size in response to environmental triggers – comparative aspects**

PH.16

JORGE A. ENCARNÇÃO, NINA I. BECKER, MATTHIAS OTTO

**Waste not, want not – Thermoregulation in male Daubenton's bats**

PH.17

KIRSTEN GRIMPO, EVA-NINA HEPPE, MAXIMILIAN VÖLKER, GERHARD HELDMAIER

**Visualizing morphological and functional changes in brown adipose tissue of cold acclimated mice**

PH.18

JONATHAN BANK, ANSGAR POPITZ, RALF ELVERT, GERHARD HELDMAIER, CAROLA W. MEYER

**Temperature preferences of wildtype and UCP1-KO mice in a thermal gradient**

PH.19

ANNA DEWERT, CORNELIA EXNER, GERHARD HELDMAIER, CAROLA W. MEYER

**Behavioural thermoregulation in wildtype and UCP1-KO mice**

PH.20

ELISABETH LIPKE, PETER BRÄUNIG

**Talking while walking - locust leg afferents activate neuromodulatory descending DUM neurons of the suboesophageal ganglion**

PH.21

WENCKE REIHER, JÖRG KAHNT, STEFAN BAUMEISTER, CHRISTIAN WEGENER

**Peptidomics and processing of brain-gut peptides in the fruit fly *Drosophila melanogaster***

PH.22

LISA FENK, AXEL SCHMID

**A Comparison of the Eye Muscles in a Ctenid and a Sparassid Spider**

PH.23

STEFANIE STIEB, ULRICH HOEGER

**Lipoprotein endocytosis and storage in hemocytes of the crayfish, *Astacus leptodactylus*.**

PH.24

ULRICH HOEGER, SVEN SCHENK

**Lipid accumulation and metabolism in polychaete spermatogenesis.**

PH.25

VANESSA MÖLLER<sup>1</sup>, GEBAUER WOLFGANG, LIEB BERNHARD, MARKL JÜRGEN

**Tracing hemocyanin and its possible function in the red-blooded planorbid snails**

PH.26

CHRISTOPH KÜHNE, EVEN SOLEM, RAFAEL GRONEBERG, CUMHUR KAYA, FRANK DEPOIX, WOLFGANG GEBAUER, BERNHARD LIEB, JÜRGEN MARKL

**Structure of the 4x6mer hemocyanin from the mud shrimp *Callinassa truncata***

PH.27

SAMANTHA SCHERBAUM, BEYHAN ERTAS, CINDY HEFENBROCK, THORSTEN BURMESTER

**Recombinant insect hexamerin and arthropod hemocyanin**

PH.28

JESSICA TIEDKE, THORSTEN BURMESTER

**Oxidative stress in fish gills triggered by environmental acidification**

PH.29

MARCO SCHNEUER, U. NICOLE CZECH, URSULA SIEBERT, LARS P. FOLKOW, THORSTEN BURMESTER

**Brain metabolism of diving mammals: O<sub>2</sub>-supply vs. O<sub>2</sub>-protection**

PH.30

JASMIN LINDNER, MARCO SCHNEUER, U. NICOLE CZECH, P. LARS FOLKOW, THORSTEN BURMESTER

**1000 meters beyond the sea: Remarkable performance requires exceeding strategies - Biochemical mechanisms in hooded seal brain (*Cystophora cristata*)**

PH.31

SVEN FLACHSBARTH, MARCO SCHNEUER, URSULA SIEBERT, THORSTEN BURMESTER

**The harbour seal: A mammal adapted for short term diving?**

PH.32

NATALIE ROTERMUND, MIRIAM BLANK, THORSTEN BURMESTER

**Analysis of cytoglobin function in cell culture**

PH.33

JULIA MARXEN, CHRISTIAN PICK, THORSTEN BURMESTER

**Identification of four hemocyanin subunits in the freshwater shrimp *Caridina japonica* (Decapoda, Malacostraca)**

PH.34

STEFANIE LILLA, MARCO SCHNEUER, U. NICOLE CZECH, P. LARS FOLKOW,  
THORSTEN BURMESTER

**Biochemical mechanisms of hypoxia tolerance: Gen expression of oxidative markers in various brain regions of the harp seal (*Pagophilus groenlandicus*)**

Poster PH.35

KATHARINA KRUSZEWSKI, MIRIAM BLANK, THORSTEN BURMESTER

**Globin origins: Analyzing the globin repertoire in lampreys**

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**The DNA Bank Network - A service for Scientific Research**

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SASKIA BRIX, TORBEN RIEHL, KAREN JESKULKE, AMY DRISKELL

**Barcoding deep-sea Isopoda**

ZS.3

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**The marine fauna of the North Sea: species identification using molecular methods**

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**Deep-sea isopod biodiversity and distribution in the Sea of Japan and the Kuril–Kamchatka area**

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**Comparative analysis of mtDNA and nuclear gene fragments for DNA barcoding of macrostyliid isopods**

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FABIAN KILPERT, LARS PODSIADLOWSKI

**Significant mtDNA rearrangements within the Amphipoda (Crustacea: Peracarica)**

ZS.7

VERENA KUTSCHERA, JOACHIM T. HAUG, CAROLIN HAUG, ANDREAS MAAS, DIETER WALOBEK

**Pleon morphology of *Anaspides tasmaniae* THOMSON, 1894 (Crustacea, Malacostraca) investigated by using new imaging techniques**

ZS.8

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**Revealing Unexpected Diversity Among Indo-Pacific Mangrove Crabs of the Family Sesarmidae (Decapoda: Brachyura): The Genus *Parasesarma* DE MAN, 1895**

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**Western Australian troglofauna and the biodiversity and phylogeny of the Diplura (Hexapoda)**

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**Evolution of amblypygid and uropygid hemocyanins and implications for arachnid phylogeny**

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**Preliminary sequence data of cerithioid mega-hemocyanin**

ZS.13

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**Comparing phylogenomic and amplicon based tree topologies to infer deep molluscan phylogeny**

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**Basal bilaterian or early divergent deuterostome? The phylogenetic position of Acoela as revealed by the complete mitochondrial genome of *Symsagittifera roscoffensis***

ZS.15

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**Compositional heterogeneity and phylogenomic inference of metazoan relationships**

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**Phylogenetic relationships of Echiura (spoonworms) based on molecular data and implications for echiuran character evolution**

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ANJA GOLOMBEK, GÜNTER PURSCHKE, TORSTEN H. STRUCK

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ZS.18

SASKIA BRAUER, HARALD HAUSEN

**Ultrastructure of prostomial sense organs hints to a closer relationship of the annelid taxa Cirratulidae and Flabelligeridae**

ZS.19

ANGELA SCHMITZ, KARL-L. SCHUCHMANN

**Phylogeny and taxonomy of the hummingbird genus *Topaza* based on continuous plumage color spectral data using generalized frequency coding.**

ZS.20

ALEXANDER KIENEKE, DIEGO FONTANETO

**Holocene population history of common marine gastrotrich species in the North Sea / Baltic Sea area inferred from mtDNA sequence data**





## ab Grindelhof - Richtung Rathausmarkt, Hauptbahnhof/ZOB, Marco-Polo-Terrassen

### Abfahrtszeiten Montag bis Freitag

0	09B 28B 48B	12	02 12A 22 32A 42 52A
1		13	02 12A 21 31A 42 52A
2		14	02 12A 22 32A 42 52A
3		15	02 12A 22 32A 42 52A
4		16	02 12A 22 32A 42 52A
5	00B 20B 37B 52B	17	02 12A 22 32A 42 52A
6	07B 26B 36A 50	18	02 12A 22 32A 44 54A
7	00A 12 22 32A 42 52A	19	04 14A 24 34A 44 54
8	02 12A 22 32A 42 52A	20	04 14 24 34 44 54B
9	02 12A 22 32A 42 52A	21	04B 13B 23B 33B 49B
10	02 12A 22 32A 42 52A	22	09B 29B 49B
11	02 12A 22 32A 42 52A	23	09B 29B 49B

### Abfahrtszeiten Sonnabend

0	09B 28B 48B	12	01B 11 21B 31 41B 51
1		13	01B 11 21B 31 41B 51
2		14	01B 11 21B 31 41B 51
3		15	01B 11 21B 31 41B 51
4		16	01B 11 21B 31 41B 51
5		17	01B 11B 21B 31B 41B 51B
6	59B	18	01B 11B 21B 31B 41B 51B
7	25B 45B	19	01B 11B 21B 31B 41B 51B
8	05B 25B 45B	20	01B 11B 21B 31B 41B 51B
9	05 25 41B 51	21	01B 09B 19B 29B 49B
10	01B 11 21B 31 41B 51	22	09B 29B 49B
11	01B 11 21B 31 41B 51	23	09B 29B 49B

## Abfahrtszeiten Sonn- und Feiertags

<b>0</b>	09B 28B 48B	<b>12</b>	19B 39B 59B
<b>1</b>		<b>13</b>	19B 39B 49B 59B
<b>2</b>		<b>14</b>	09B 19B 29B 39B 49B 59B
<b>3</b>		<b>15</b>	09B 19B 29B 39B 49B 59B
<b>4</b>		<b>16</b>	09B 19B 29B 39B 49B 59B
<b>5</b>		<b>17</b>	09B 19B 29B 39B 49B 59B
<b>6</b>		<b>18</b>	09B 19B 29B 39B 49B 59B
<b>7</b>		<b>19</b>	09B 19B 29B 39B 49B 59B
<b>8</b>	39B 59B	<b>20</b>	09B 19B 29B 39B 49B 59B
<b>9</b>	19B 39B 59B	<b>21</b>	09B 19B 29B 49B
<b>10</b>	19B 39B 59B	<b>22</b>	09B 29B 49B
<b>11</b>	19B 39B 59B	<b>23</b>	09B 29B 49B

### Linienweg Haltestellen ab Grindelhof Fahrzeit Preis Tarifzone

o	o	Universität/Staatsbibliothek	2	2	1,30	000
o	o	Bf. Dammtor	4	4	1,30	
o	o	U Stephansplatz	6	6	1,70	
o	o	U Gänsemarkt	8	8		
o	o	U S Jungfernstieg	9	9		
o	B	Rathausmarkt	11	11		
o		Gerhart-Hauptmann-Platz	12			
o		HBF/Mönckebergstraße	14			
o		Hauptbahnhof/ZOB	16			
	o	Rathausmarkt (Petrikirche)	12			
	o	Brandstwiete	14			
	o	Bei St. Annen	15			
	o	Am Dalmannkai	17			
	A	Marco-Polo-Terrassen	18	1,70	000	

Gültigkeit: 17.08.2010 - 11.12.2010. Alle Angaben ohne Gewähr. geofox1  
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## ab Grindelhof - Richtung Wildacker

### Abfahrtszeiten Montag bis Freitag

<b>0</b>	08 28 48	<b>12</b>	07 17 27 37 47 57
<b>1</b>		<b>13</b>	07 17 27 37 47 57
<b>2</b>		<b>14</b>	07 17 27 37 47 57
<b>3</b>		<b>15</b>	07 17 27 37 47 57
<b>4</b>		<b>16</b>	07 17 27 37 47 57
<b>5</b>		<b>17</b>	07 17 27 37 47 57
<b>6</b>	15 25 35 45 55	<b>18</b>	07 17 27 37 47 57
<b>7</b>	05 17 27 37 47 57	<b>19</b>	07 17 27 37 47 57
<b>8</b>	07 17 27 37 47 57	<b>20</b>	07 17 27 37 48 58
<b>9</b>	07 17 27 37 47 57	<b>21</b>	08 18 38 58
<b>10</b>	07 17 27 37 47 57	<b>22</b>	18 38 58
<b>11</b>	07 17 27 37 47 57	<b>23</b>	18 28 48

### Abfahrtszeiten Sonnabend

<b>0</b>	08 28 48	<b>12</b>	05 15 25 35 45 55
<b>1</b>		<b>13</b>	05 15 25 35 45 55
<b>2</b>		<b>14</b>	05 15 25 35 45 55
<b>3</b>		<b>15</b>	05 15 25 35 45 55
<b>4</b>		<b>16</b>	05 15 25 35 45 55
<b>5</b>		<b>17</b>	05 15 25 35 45 55
<b>6</b>	04 24 44	<b>18</b>	05 15 25 35 45 55
<b>7</b>	04 24 44	<b>19</b>	05 15 25 35 45 55
<b>8</b>	04 24 44	<b>20</b>	05 15 28 38 48 58
<b>9</b>	05 25 45	<b>21</b>	08 18 38 58
<b>10</b>	05 15 25 35 45 55	<b>22</b>	18 38 58
<b>11</b>	05 15 25 35 45 55	<b>23</b>	18 28 48

## Abfahrtszeiten Sonn- und Feiertags

<b>0</b>	08 28 48	<b>12</b>	04 24 44
<b>1</b>		<b>13</b>	04 14 24 34 44 54
<b>2</b>		<b>14</b>	04 14 24 34 44 54
<b>3</b>		<b>15</b>	04 14 24 34 44 54
<b>4</b>		<b>16</b>	04 14 24 34 44 54
<b>5</b>		<b>17</b>	04 14 24 34 44 54
<b>6</b>		<b>18</b>	04 14 24 34 44 54
<b>7</b>		<b>19</b>	04 14 24 34 44 54
<b>8</b>	05 25 45	<b>20</b>	04 18 28 38 48 58
<b>9</b>	05 25 45	<b>21</b>	08 18 38 58
<b>10</b>	05 25 45	<b>22</b>	18 38 58
<b>11</b>	05 24 44	<b>23</b>	

## Linienweg Haltestellen ab Grindelhof Fahrzeit Preis Tarifzone

o	Bundesstraße	3	1,30	000
o	U Schlump	6		101 103
o	Schlankreye	9		000 101 103
o	Kaiser-Friedrich-Ufer	10		101 103
o	Schulweg	13	1,30	
o	U Osterstraße	15	1,70	103
o	Apostelkirche	17		
o	Sartoriusstraße	18		
o	Högenstraße	20		
o	Langenfelder Damm	23		
o	Basselweg	24		
o	Volksparkstraße	28	1,70	101 203
o	BAB-Auffahrt Stellingen	30	2,75	203
o	Wördemanns Weg	32		
o	Reichsbahnstraße	33		
o	Mühlenuweg	34		
o	Eidelstedter Platz	36		
o	A Eidelstedt Zentrum	38		
o	Pflugacker	39		
o	Furchenacker	40		
o	Dallbregen	41		
o	Grenzacker	42		
o	Pinneberger Chaussee	43		
o	Wildacker	45	2,75	203

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## ab Grindelhof - Richtung Hauptbahnhof/ZOB

### Abfahrtszeiten Montag bis Freitag

0	04a 14 34 54a	12	00 05 10 15 20 25 30 35 40 45 50 55
1		13	00 05 10 15 20 25 30 35 40 45 50 55
2		14	00 05 10 15 20 25 30 35 40 45 50 55
3		15	00 05 10 15 20 25 30 35 40 45 50 55
4	23 55	16	00 05 10 15 20 25 30 35 40 45 50 55
5	18 28 38 48 58	17	00 05 10 15 20 25 30 35 40 45 50 55
6	10 20 30 40 45 50 55	18	00 05 10 15 20 25 30 35 40 45 50 55
7	01 05 10 15 20 25 30 35 40 45 50 55	19	00 05 10 15 19 24 29 34 39 44 49 54 59
8	00 05 10 15 20 25 30 35 40 45 50 55	20	04 09 14 19 24 34 44 54
9	00 05 10 15 20 25 30 35 40 45 50 55	21	04 14 24 34 43 50
10	00 05 10 15 20 25 30 35 40 45 50 55	22	00 10 20 30 40 47 57
11	00 05 10 15 20 25 30 35 40 45 50 55	23	07 17 24 34 44 54

### Abfahrtszeiten Sonnabend

0	04 14 34 54	12	04 09 14 19 24 29 34 39 44 49 54 59
1	14 34 54	13	04 09 14 19 24 29 34 39 44 49 54 59
2	14 34 54	14	04 09 14 19 24 29 34 39 44 49 54 59
3	14 34 54	15	04 09 14 19 24 29 34 39 44 49 54 59
4	14 34	16	04 09 14 19 24 29 34 44 54
5	00 18 38 58	17	04 14 24 34 44 54
6	19 41	18	04 14 24 34 44 54
7	01 21 41	19	04 14 24 34 44 54
8	01 21 43 52	20	04 14 24 34 44 54
9	03 12 23 29 34 39 44 49 54 59	21	04 14 24 34 43 50
10	04 09 14 19 24 29 34 39 44 49 54 59	22	00 10 20 30 40 47 57
11	04 09 14 19 24 29 34 39 44 49 54 59	23	07 17 34 54

## Abfahrtszeiten Sonn- und Feiertags

<b>0</b> 14 34 54	<b>12</b> 00 10 20 30 40 50
<b>1</b> 14 34 54	<b>13</b> 00 10 20 30 40 50
<b>2</b> 14 34 54	<b>14</b> 00 10 20 30 40 50
<b>3</b> 14 34 54	<b>15</b> 00 10 20 30 40 50
<b>4</b> 14 34	<b>16</b> 00 10 20 30 40 50
<b>5</b> 00 20 40	<b>17</b> 00 10 20 30 40 50
<b>6</b> 00 20 40	<b>18</b> 00 10 20 30 40 50
<b>7</b> 00 20 40	<b>19</b> 00 10 20 30 40 50
<b>8</b> 00 20 40 50	<b>20</b> 00 10 20 30 40 50
<b>9</b> 00 10 20 30 40 50	<b>21</b> 00 10 20 30 40 50
<b>10</b> 00 10 20 30 40 50	<b>22</b> 00 10 20 30 40 47 57
<b>11</b> 00 10 20 30 40 50	<b>23</b> 07 17 34 54

a = dienstags + mittwochs + donnerstags + freitags

### Linienweg Haltestellen ab Grindelhof Fahrzeit Preis Tarifzone

o	Universität/Staatsbibliothek	2	1,30	000
o	Bf. Dammtor	4		
o	U Stephansplatz	6	1,30	
o	U Gänsemarkt	8	1,70	
o	U S Jungfernstieg	9		
o	Rathausmarkt	11		
o	Gerhart-Hauptmann-Platz	12		
o	HBF/Mönckebergstraße	14		
o	Hauptbahnhof/ZOB	16	1,70	000

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## **ab Grindelhof - Richtung Nedderfeld, U Niendorf Markt, A Burgwedel**

### **Abfahrtszeiten Montag bis Freitag**

<b>0</b> 13 33A 53	<b>12</b> 02 07B 12 17B 22 27B 32 37B 42 47B 52 57B
<b>1</b>	<b>13</b> 02 07B 12 17B 22 27B 32 37B 42 47B 52 57B
<b>2</b>	<b>14</b> 02 07B 12 17B 22 27B 32 37B 42 47B 52 57B
<b>3</b>	<b>15</b> 02 07B 12 17B 22 27B 32 37B 42 47B 52 57B
<b>4</b> 53	<b>16</b> 02 07B 12 17B 22 27B 32 37B 42 47B 52 57B
<b>5</b> 13 33 53	<b>17</b> 02 07B 12 17B 22 27B 32 37B 42 47B 52 57B
<b>6</b> 03 13 23 33 43 53	<b>18</b> 02 07B 12 16B 21 26B 31 36B 41 46B 51 56B
<b>7</b> 03 13 21 31 41 51 56B	<b>19</b> 01 06B 11 16B 21 26B 31 36 41B 46 51B 56
<b>8</b> 01 06B 11 17B 22 27B 32 37B 42 47B 52 57B	<b>20</b> 01B 06 11B 16 21B 26 31B 36 41B 46 54
<b>9</b> 02 07B 12 17B 22 27B 32 37B 42 47B 52 57B	<b>21</b> 04 14 23 33A 43 53A
<b>10</b> 02 07B 12 17B 22 27B 32 37B 42 47B 52 57B	<b>22</b> 03 13A 23 33A 43 53A
<b>11</b> 02 07B 12 17B 22 27B 32 37B 42 47B 52 57B	<b>23</b> 03A 13A 23 33B 43A 57B

### **Abfahrtszeiten Sonnabend**

<b>0</b> 13 33A 53	<b>12</b> 01 06B 11 16B 21 26B 31 36B 41 46B 51 56B
<b>1</b> 06A 26A 46A	<b>13</b> 01 06B 11 16B 21 26B 31 36B 41 46B 51 56B
<b>2</b> 06A 26A 46A	<b>14</b> 01 06B 11 16B 21 26B 31 36B 41 47B 52 57B
<b>3</b> 06A 26A 46A	<b>15</b> 02 07B 12 17B 22 27B 32 37B 42 47B 52 57B
<b>4</b> 06A 26A 49	<b>16</b> 02 07B 12 17B 22 27B 32 37B 42 47B 52 57B
<b>5</b> 09A 29 49A	<b>17</b> 02 12 22 32 42 52
<b>6</b> 09 29A 49	<b>18</b> 02 12 22 32 42 52
<b>7</b> 09 29 49	<b>19</b> 02 12 22 32 44 54
<b>8</b> 09 29 49 59A	<b>20</b> 04 14 24 34 44 54
<b>9</b> 09 21 31A 41 51 56B	<b>21</b> 04 14 23 33A 43 53A
<b>10</b> 01 06B 11 16B 21 26B 31 36B 41 46B 51 56B	<b>22</b> 03 13A 23 33A 43 53A
<b>11</b> 01 06B 11 16B 21 26B 31 36B 41 46B 51 56B	<b>23</b> 03A 13A 23 33B 43A 57B

## Abfahrtszeiten Sonn- und Feiertags

<b>0</b>	13 33A 53	<b>12</b>	04 14A 24 34 44 54
<b>1</b>	06A 26A 46A	<b>13</b>	04 14 24 34 44 54
<b>2</b>	06A 26A 46A	<b>14</b>	04 14 24 34 44 54
<b>3</b>	06A 26A 46A	<b>15</b>	04 14 24 34 44 54
<b>4</b>	06A 26A 49A	<b>16</b>	04 14 24 34 44 54
<b>5</b>	09A 29 49A	<b>17</b>	04 14 24 34 44 54
<b>6</b>	09 29A 49	<b>18</b>	04 14 24 34 44 54
<b>7</b>	09A 29 49A	<b>19</b>	04 14 24 34 44 54
<b>8</b>	09 29 44 54A	<b>20</b>	04 14 24 34 44 54
<b>9</b>	04 14A 24 34A 44 54A	<b>21</b>	04 14 23 33A 43 53A
<b>10</b>	04 14A 24 34A 44 54A	<b>22</b>	03 13A 23 33A 43 53A
<b>11</b>	04 14A 24 34A 44 54A	<b>23</b>	03A 13A 23 33B 43A 57B

Linienweg	Haltestellen ab Grindelhof	Fahrzeit	Preis	Tarifzone
o	Bezirksamt Eimsbüttel	2	1,30	000
o	U Hoheluftbrücke	5	1,30	000 101 103
o	Eppendorfer Weg (Ost)	7	1,70	101 103
o	Gärtnerstraße	8		
o	Veilchenweg	10		
o	Brunsborg	12		
o	Siemersplatz	14	1,70	101 103 203
B	Nedderfeld	16	2,75	103 203
o	Niendorfer Straße	17		203
o	Vogt-Cordes-Damm	19		
A	U Niendorf Markt	21		
o	Bindfeldweg	24		
o	Freizeitbad Bondenwald	25		
o	Sellhopsweg/Albertinen-Haus	28		
o	Frohmestraße (Mitte)	29		
o	Oldesloer Straße	32		203 303
o	Peter-Timm-Straße	34		303
o	Burgwedelkamp	37		
o	Graf-Otto-Weg	38		
o	A Burgwedel	39	2,75	303

Gültigkeit: 17.08.2010 - 11.12.2010. Alle Angaben ohne Gewähr. geofox2  
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