

Contents

Part I - Approaches in Botany

Rapid Radiations and Neoendemism in the Madagascan Biodiversity Hotspot	3
Harald Schneider, Thomas Janssen, Nadia Byrstiakova, Jochen Heinrichs, Sabine Hennequin, and France Rakotondrainibe	
Rapid Radiation in the Barley Genus <i>Hordeum</i> (Poaceae) During the Pleistocene in the Americas	17
Frank R. Blattner, Thekla Pleines, and Sabine S. Jakob	
Studying Adaptive Radiation at the Molecular Level: A Case Study in the Macaronesian Crassulaceae-Sempervivoideae	35
Mike Thiv, Korinna Esfeld, and Marcus Koch	
Key Innovations Versus Key Opportunities: Identifying Causes of Rapid Radiations in Derived Ferns	61
Harald Schneider, Hans-Peter Kreier, Thomas Janssen, Elisabeth Otto, Haiko Muth, and Jochen Heinrichs	
Evolution of the Mating System in the Genus <i>Capsella</i> (Brassicaceae)	77
Melanie Paetsch, Sara Mayland-Quellhorst, Herbert Hurka, and Barbara Neuffer	
Pollinator-Driven Speciation in Sexually Deceptive Orchids of the Genus <i>Ophrys</i>	101
Manfred Ayasse, Julia Gögler, and Johannes Stökl	

Population Genetics of Speciation and Demographic Inference Under Population Subdivision: Insights from Studies on Wild Tomatoes (<i>Solanum</i> sect. <i>Lycopersicon</i>)	119
Wolfgang Stephan and Thomas Städler	

Genetic Diversity, Evolution and Domestication of Wheat and Barley in the Fertile Crescent	137
Benjamin Kilian, William Martin, and Francesco Salamini	

Part II - Host-Plant Interaction

Mechanisms of Speciation in Southeast Asian Ant-Plants of the Genus <i>Macaranga</i> (Euphorbiaceae)	169
Kurt Weising, Daniela Guicking, Christina Fey-Wagner, Tim Kröger-Kilian, Tina Wöhrmann, Wiebke Dorstewitz, Gudrun Bänfer, Ute Moog, Miriam Vogel, Christina Baier, Frank R. Blattner, and Brigitte Fiala	

Speciation in Obligately Plant-Associated <i>Crematogaster</i> Ants: Host Distribution Rather than Adaption Towards Specific Hosts Drives the Process	193
Heike Feldhaar, Jürgen Gadau, and Brigitte Fiala	

Radiation, Biological Diversity and Host–Parasite Interactions in Wild Roses, Rust Fungi and Insects	215
Annette Kohnen, Roland Brandl, Roman Fricke, Friederike Gallenmüller, Katrin Klinge, Ines Köhnen, Wolfgang Maier, Franz Oberwinkler, Christiane Ritz, Thomas Speck, Günter Theissen, Teja Tscharnitke, Andrea Vaupel, and Volker Wissemann	

Speciation via Differential Host–Plant Use in the Tephritid Fly <i>Tephritis conura</i>	239
Jes Johannesen, Thorsten Diegisser, and Alfred Seitz [†]	

Part III - Approaches in Zoology

Solar Powered Seaslug (Opisthobranchia, Gastropoda, Mollusca): Incorporation of Photosynthetic Units: A Key Character Enhancing Radiation?	263
Heike Wägele, Michael J. Raupach, Ingo Burghardt, Yvonne Grzybowski, and Katharina Händler	

Are Cuticular Hydrocarbons Involved in Speciation of Fungus-Growing Termites (Isoptera: Macrotermitinae)?	283
Andreas Marten, Manfred Kaib, and Roland Brandl	
Electric Organ Discharge Divergence Promotes Ecological Speciation in Sympatrically Occurring African Weakly Electric Fish (<i>Campylomormyrus</i>)	307
Ralph Tiedemann, Philine G.D. Feulner, and Frank Kirschbaum	
Ongoing Phenotypic and Genotypic Diversification in Adaptively Radiated Freshwater Crabs from Jamaica	323
Christoph D. Schubart, Tobias Weil, Jesper T. Stenderup, Keith A. Crandall, and Tobias Santl	
The Herring Gull Complex (<i>Larus argentatus</i> - <i>fuscus</i> - <i>cachinnans</i>) as a Model Group for Recent Holarctic Vertebrate Radiations	351
Dorit Liebers-Helbig, Viviane Sternkopf, Andreas J. Helbig†, and Peter de Knijff	
Genetic Divergence and Evolution of Reproductive Isolation in Eastern Mediterranean Water Frogs	373
Jörg Plötner, Thomas Uzzell, Peter Beerli, Çiğdem Akin, C. Can Bilgin, Cornelia Haefeli, Torsten Ohst, Frank Köhler, Robert Schreiber, Gaston-Denis Guex, Spartak N. Litvinchuk, Rob Westaway, Heinz-Ulrich Reyer, Nicolas Pruvost and Hansjürg Hotz	
Inferring Multiple Corsican <i>Limax</i> (Pulmonata: Limacidae) Radiations: A Combined Approach Using Morphology and Molecules	405
Barbara Nitz, Gerhard Falkner, and Gerhard Haszprunar	
Palaeogeography or Sexual Selection: Which Factors Promoted Cretan Land Snail Radiations?	437
Jan Sauer and Bernhard Hausdorf	
Non-Ecological Radiations in Acoustically Communicating Grasshoppers?	451
Frieder Mayer, Dirk Berger, Brigitte Gottsberger, and Wolfram Schulze	
Beyond Sympatric Speciation: Radiation of Sailfin Silverside Fishes in the Malili Lakes (Sulawesi)	465
Fabian Herder and Ulrich K. Schliewen	

The Species Flocks of the Viviparous Freshwater Gastropod *Tylomelania* (Mollusca: Cerithioidea: Pachychilidae) in the Ancient Lakes of Sulawesi, Indonesia: The Role of Geography, Trophic Morphology and Color as Driving Forces in Adaptive Radiation 485
Thomas von Rintelen, Kristina von Rintelen, and Matthias Glaubrecht

Speciation and Radiation in a River: Assessing the Morphological and Genetic Differentiation in a Species Flock of Viviparous Gastropods (Cerithioidea: Pachychilidae) 513
Frank Köhler, Somsak Panha, and Matthias Glaubrecht

The Neglected Side of the Coin: Non-adaptive Radiations in Spring Snails (*Bythinella* spp.) 551
Thomas Wilke, Mandy Benke, Martin Brändle, Christian Albrecht, and Jean-Michel Bichain

Index 579