

Publications

Original articles in peer-reviewed journals

- Finke V, Baracchi D, Giurfa M, **Scheiner R**, AvarguèsWeber A. **2021**. Evidence of cognitive specialization in an insect: proficiency is maintained across elemental and higher-order visual learning but not between sensory modalities in honey bees. *J Exp Biol* in press
- Scheiner R**, Lim K, Meixner MD, Gabel MS. **2021**. Comparing the appetitive learning performance of six European honeybee subspecies in a common apiary. *Insects*. 12(9):768.
- Schilcher F, Thamm M, Strube-Bloss M, **Scheiner R**. **2021**. Opposing actions of octopamine and tyramine on honeybee vision. *Biomolecules*. 11(9), 1374.
- Thamm M, Wagler K, Brockmann A, **Scheiner R**. **2021**. Tyramine 1 receptor distribution in the brain of corbiculate bees points to a conserved function. *Brain behavior evolution*. Accepted
- Boff S, **Scheiner R**, Raizer J, Lupi D. **2021**. Survival rate and changes in foraging performances of solitary bees exposed to a novel insecticide. *Ecotoxicology and Environmental Safety*. 211: 111869.
- Scheiner R**, Strauß S, Thamm M, Farré-Armengol G, Junker RR. **2020**. The bacterium *Pantoea ananatis* modifies attractiveness of sugar solutions for honeybees. *Insects* 11:692, doi:10.3390/insects11100692
- Değirmenci L, Geiger D, Rogé Ferreira FL, Keller A, Krischke B, Beye M, Steffan-Dewenter I, **Scheiner R**. **2020**. CRISPR/Cas 9 mediated mutations as a new tool for studying taste in honeybees. *Chemical Senses* 45(8): 655-666
- Scheiner R**, Frantzmann F, Jäger M, Mitesser O, Helfrich-Förster C, Pauls D. **2020**. A novel thermal-visual place learning paradigm for honeybees (*Apis mellifera*). *Frontiers In Behavioral Neuroscience* 14:56.
- George EA, Bröger AK, Thamm M, Brockmann A, **Scheiner R**. **2020**. Inter-individual variation in honey bee dance intensity correlates with expression of the *foraging* gene. *Genes, Brain & Behavior* 9: e12592. doi/pdf/10.1111/gbb.12592
- Hesselbach H, Seeger J, Schilcher F, Ankenbrand M, **Scheiner R**. **2020**. Chronic exposure to the pesticide flupyradifurone can lead to premature onset of foraging in honeybees (*Apis mellifera*). *Journal of Applied Ecology*. 57: 609–618. doi/epdf/10.1111/1365-2664.13555
- Kablau A, Berg S, Härtel S, **Scheiner R**. **2020**. Hyperthermia treatment can kill immature and adult *Varroa destructor* mites without reducing drone fertility. *Apidologie*. 51, 307-315.
- Kablau A, Berg S, Rutschmann B, **Scheiner R**. **2020**. Short-term hyperthermia at larval age reduces sucrose responsiveness of adult honeybees and increases life span. *Apidologie* 51:570-582
- Hesselbach H, **Scheiner R**. **2019**. The novel pesticide flupyradifurone (Sivanto) affects honeybee motor abilities. *Ecotoxicology* 28: 354-366.
- Hesselbach H, **Scheiner R**. **2018**. Effects of the novel pesticide flupyradifurone (Sivanto) on honeybee taste and cognition, *Scientific Reports* 8: 4954.
- Thamm M, Sturm K, Schlossmann J, **Scheiner R**. **2018**. Levels and activity of cyclic guanosine monophosphate-dependent protein kinase in nurse and forager honeybees. *Insect Molecular Biology* 6: 815-823.

- Zanni V, Değirmenci L, Annoscia D, **Scheiner R**, Nazzi F. **2018**. The reduced brood nursing by mite-infested honey bees depends on their accelerated behavioral maturation, *Journal of Insect Physiology* 109: 47-54.
- Değirmenci L, Thamm M, **Scheiner R**. **2017**. Responses to sugar and sugar receptor gene expression in different social roles of the honeybee (*Apis mellifera*). *Journal of Insect Physiology* 106: 65-70.
- Reim T, Balfanz S, Baumann A, Blenau W, Thamm M, **Scheiner R**. **2017**. AmTAR2: Functional characterization of a honeybee tyramine receptor stimulating adenylyl cyclase activity. *Insect Biochemistry and Molecular Biology* 80: 91-100.
- Scheiner R**, Entler BV, Barron A, Scholl C, Thamm M. **2017**. The effects of fat body tyramine level on gustatory responsiveness of honeybees (*Apis mellifera*) differ between behavioral castes. *Frontiers in Systems Neuroscience*: 11: 55.
- Scheiner R**, Reim T, Søvik E, Entler BV, Barron AB, Thamm M. **2017**. Learning, gustatory responsiveness and tyramine differences across nurse and forager honeybees. *Journal of Experimental Biology* 220: 1443-1450.
- Thamm M, Scholl C, Reim T, Grübel K, Möller K, Rössler W, **Scheiner R**. **2017**. Neuronal distribution of tyramine and the tyramine receptor AmTAR1 in the honeybee brain. *Journal of Comparative Neurology* 525: 2615-2631.
- Reim T, **Scheiner R**. **2014**. Division of labour in honey bees: age- and task-related changes in the expression of octopamine receptor genes. *Insect Molecular Biology* 23: 833-841.
- Scheiner R**, Steinbach A, Claßen G, Strudthoff N, Scholz H. **2014**. Octopamine indirectly affects proboscis extension response habituation in *Drosophila melanogaster* by controlling sucrose responsiveness. *Journal of Insect Physiology* 69: 107-117.
- Pamir E, Szyszka P, **Scheiner R**, Nawrot MP. **2014**. Rapid learning dynamics in individual honeybees during classical conditioning. *Frontiers in Behavioral Neuroscience* 8: 313.
- Scheiner R**, Kulikowskaja L, Thamm M. **2014**. The honey bee tyramine receptor AmTYR1 and division of foraging labor. *Journal of Experimental Biology* 217: 1215-1217.
- Scheiner R**, Toteva A, Reim T, Søvik E, Barron AB. **2014**. Differences in the phototaxis of pollen and nectar foraging honey bees are related to their octopamine brain titers. *Frontiers in Physiology* 5: 116.
- Thamm M, **Scheiner R**. **2014**. PKG in honey bees: spatial expression, *Amfor* gene expression, sucrose responsiveness and division of labor. *Journal of Comparative Neurology* 522: 1786-1799.
- Reim T, Thamm M, Rolke D, Blenau W, **Scheiner R**. **2013**. Suitability of three common reference genes for quantitative real-time PCR in honey bees. *Apidologie* 44: 342-350.
- Scheiner R**. **2012**. Birth weight and sucrose responsiveness predict cognitive skills of honey bee foragers. *Animal Behaviour* 84: 305-308.
- Behrends A, **Scheiner R**. **2012**. Octopamine improves learning in newly emerged bees but not in old foragers. *Journal of Experimental Biology* 215: 1076-1083.
- Scheiner R**, Arnold G. **2010**. Effects of patriline on gustatory responsiveness and olfactory learning in honey bees. *Apidologie* 41: 29-37.
- Thamm M, Balfanz S, **Scheiner R**, Baumann A, Blenau W. **2010**. Characterization of the 5-HT_{1A} receptor of the honeybee (*Apis mellifera*) and involvement of serotonin in phototactic behavior. *Cellular and Molecular Life Sciences* 67: 2467-2479.

- Behrends A, **Scheiner R. 2010**. Learning at old age: a study on winter bees. *Frontiers in Behavioral Neuroscience* 4: 15.
- Behrends A, **Scheiner R. 2009**. Evidence for associative learning in newly emerged honey bees (*Apis mellifera*). *Animal Cognition* 12: 249-255.
- Scheiner R**, Amdam GV. **2009**. Impaired tactile learning is related to social role in honey bees. *Journal of Experimental Biology* 212: 994-1002.
- Behrends A, **Scheiner R**, Baker N, Amdam G. **2007**. Cognitive aging is linked to social role in honey bees (*Apis mellifera*). *Experimental Gerontology* 42: 1146-1153.
- Belay AT, **Scheiner R**, So AK-C, Douglas SJ, Chakaborty-Chatterjee M, Levine JD, Sokolowski M. **2007**. The *foraging* gene of *Drosophila melanogaster*: Spatial-expression analysis and sucrose responsiveness. *Journal of Comparative Neurology* 504: 570-582.
- Amdam GV, Norberg K, Page RE, Erber J, **Scheiner R. 2006**. Downregulation of vitellogenin gene activity increases the gustatory responsiveness of honey bee workers (*Apis mellifera*). *Behavioral Brain Research* 169: 201-205.
- Erber J, Hoorman J, **Scheiner R. 2006**. Phototactic behaviour correlates with gustatory responsiveness in honey bees (*Apis mellifera* L.). *Behavioural Brain Research* 174: 174-180.
- Scheiner R**, Kuritz-Kaiser A, Menzel R, Erber J. **2005**. Sensory responsiveness and the effects of equal subjective rewards on tactile learning and memory of honeybees. *Learning & Memory* 12: 626-635.
- Scheiner R**, Schnitt S, Erber J. **2005**. The functions of antennal mechanoreceptors and antennal joints in tactile discrimination of the honey bee (*Apis mellifera* L.). *Journal of Comparative Physiology A* 191: 857-864.
- Scheiner R. 2004**. Responsiveness to sucrose and habituation of the proboscis extension response in honey bees. *Journal of Comparative Physiology A* 190: 727-733.
- Scheiner R**, Sokolowski MB, Erber J **2004**. Activity of cGMP-dependent protein kinase (PKG) affects sucrose responsiveness and habituation in *Drosophila melanogaster*. *Learning & Memory* 11: 303-311.
- Scheiner R**, Barnert M, Erber J. **2003**. Variation in water and sucrose responsiveness during the foraging season affects proboscis extension learning in honey bees. *Apidologie* 34: 67-72.
- Scheiner R**, Müller U, Heimbürger S, Erber J. **2003**. Activity of protein kinase A and gustatory responsiveness in the honey bee (*Apis mellifera* L.). *Journal of Comparative Physiology A* 189: 427-434.
- Scheiner R**, Plückhahn S, Öney B, Blenau W, Erber J. **2002**. Behavioural pharmacology of octopamine, tyramine and dopamine in honey bees. *Behavioural Brain Research* 136: 545-553.
- Scheiner R**, Page RE, Erber J. **2001**. Responsiveness to sucrose affects tactile and olfactory learning in preforaging honey bees of two genetic strains. *Behavioural Brain Research* 120: 67-73.
- Scheiner R**, Page RE, Erber J. **2001**. The effects of genotype, foraging role and sucrose perception on the tactile learning performance of honey bees (*Apis mellifera* L.). *Neurobiology of Learning and Memory* 76: 138-150.
- Scheiner R**, Weiß A, Malun D, Erber J. **2001**. Learning in honey bees with brain lesions: how partial mushroom-body ablations affect sucrose responsiveness and tactile antennal learning. *Animal Cognition* 3: 227-235.

Scheiner R, Erber J, Page RE. **1999**. Tactile learning and the individual evaluation of the reward in honey bees (*Apis mellifera* L.). *Journal of Comparative Physiology A* 185: 1-10.

Peer-reviewed book chapters and review articles

Scheiner R, Abramson CI, Brodschneider R, Crailsheim K, Farina WM, Fuchs S, Grünewald B, Hahshold S, Karrer M, Koeniger G, Koeniger N, Menzel R, Mujagic S, Radspieler G, Schmickl T, Schneider C, Siegel AJ, Szopek M, Thenius R. **2013**. Standard methods for behavioral studies of *Apis mellifera*. In: Dietemann V, Ellis JD, Neumann P (Hrsg). *The COLOSS BEEBOOK: standard methodologies for Apis mellifera research*. IBRA Cardiff.

Scheiner R, Erber J. **2009**. Sensory thresholds, learning and the division of foraging labor in the honey bee. In Gadau J, Fewell JH (Hrsg.). *Organization of Insect Societies - From genomes to socio-complexity*. Harvard University Press. Cambridge MA. S. 335-356.

Page RE, **Scheiner R**, Erber J, Amdam GV. **2006**. The developmental evolution of division of labor and foraging specialization in a social insect (*Apis mellifera* L.). *Current Topics in Developmental Biology* 74: 253-286.

Scheiner R, Blenau W, Baumann A. **2006**. Aminergic control and modulation of honeybee behaviour. *Current Neuropharmacology* 4: 259-276.

Erber J, **Scheiner R**. **2004**. Honeybee learning. In Adelman G, Smith BH (Hrsg.). *Encyclopedia of Neuroscience*. Elsevier (CD-Rom).

Scheiner R, Page RE, Erber J. **2004**. Sucrose responsiveness and behavioral plasticity in honey bees (*Apis mellifera*). *Apidologie* 35: 133-142.

Others

Scheiner R. **2013**. Die Tricks der Gedächtniskünstler. *Unterricht Biologie* 383: 38-40.

Scheiner R. **2015**. Arbeitsteilung bei Honigbienen. *Deutsches Bienenjournal* 6: 58-59.

Grauberger J, Illies I, Loidolt F, Körber K, **Scheiner R**. **2020**. Klimabäume – Bienenbäume der Zukunft? *Deutsche Baumschule* 12/2020.

Grauberger J, Illies I, Loidolt F, Körber K, **Scheiner R**. **2021**. Wie bienenfreundlich sind Klimabäume? *Bienen und Natur* 07/2021.