

PRESS RELEASE

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New information about neonicotinoids and bees

Neonicotinoid insecticides and bees have been much in the news recently, with controversy due to laboratory based studies which suggest that they are harmful, and field studies which are much less clear cut. Two new papers published today in the *Journal of Apicultural Research* add to our knowledge of the effects that these chemicals may have on social behaviour and learning in honey bees.

In the first paper, Nadège Forfert and Robin Moritz of Martin Luther University, Halle-Wittenberg, Germany, explore the effect of the neonicotinoid thiacloprid on social interactions among honey bee workers. They quantified interactions in experimental groups of workers to assess the effects of thiacloprid on social network structure, and the amount of food exchanged among worker individuals. They found that bees fed with thiacloprid significantly reduced their social interactions, suggesting that foraging bees which encounter high doses of insecticide in the field may be less likely to recruit others to these nectar sources, but they also exchanged more food to other group members, which resulted in a dilution of the contaminated food. The authors conclude that although thiacloprid may act to interfere with social network structure, it could also play a role in the dynamics of disease transmission in the colony if pathogens are transmitted via food exchange.

In the second paper, Anna Papach and colleagues from the University of Poitiers, France look at the effect of exposure of honey bee larvae to the neonicotinoid thiamethoxam and the honey bee brood disease American foulbrood on mortality and cognition. They exposed or co-exposed honey bee larvae to American foulbrood and to sub-lethal doses of thiamethoxam. They found no additive effect between the two stressors on larval mortality, but the results do provide the first evidence of impaired learning and memory in adult bees that had been fed thiamethoxam during the larval stage. They found no alterations in learning and memory in bees after infection with American foulbrood at the larval stage.

IBRA Science Director Norman Carreck says: "*These two new papers are significant because they fill in some gaps in our knowledge of the effects of neonicotinoid insecticides on social behaviour and learning in honey bees. As with previous studies, however, the question remains as to whether bees actually experience these effects in the field.*"

[Ends]

FOR FURTHER INFORMATION AND INTERVIEWS PLEASE CONTACT

Norman Carreck, Science Director, IBRA +44 (0)791 8670169 Email: carrecknl@ibra.org.uk

NOTES FOR EDITORS:-

1. The paper: "Thiacloprid alters social interactions among honey bee workers (*Apis mellifera*)" can be found here: <http://www.tandfonline.com/doi/full/10.1080/00218839.2017.1332542>

2. The paper: "Larval exposure to thiamethoxam and American foulbrood: effects on mortality and cognition in the honey bee *Apis mellifera*" can be found here: <http://www.tandfonline.com/doi/full/10.1080/00218839.2017.1332541>

3. The International Bee Research Association (IBRA), founded in 1949 is the world's longest established apicultural research publisher and promotes the value of bees by providing information on bee science and beekeeping worldwide.

4. In association with the Taylor & Francis Group, IBRA publishes *Bee World*, founded by the Apis Club in 1919. This is now an accessible and topical journal containing the latest bee research, news, reviews and other relevant information for the bee scientist, beekeeper, and anyone with an interest in bees. It is published four times a year: <http://www.tandfonline.com/loi/tbee#>.

5. In association with the Taylor & Francis Group, IBRA publishes the peer-reviewed scientific journal the *Journal of Apicultural Research*, founded by IBRA in 1962. It includes original research articles, theoretical papers; scientific notes and comments; together with authoritative reviews on scientific aspects of the biology, ecology, natural history, conservation and culture of all types of bee. It is published five times a year. The ISI Impact Factor (2016) is 1.364 and the ISI 5-year Impact Factor is 2.068: http://www.tandfonline.com/loi/tjar#.VdWK8_lVikp

6. IBRA publishes and sells books on bee science, bee conservation and beekeeping and also provides bee information services. IBRA is a Registered Charity, and its Council of Trustees boasts some of the world's leading bee scientists.

7. IBRA membership rates 2017:-

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