QUEEN REARING AND SELECTION PRACTICES AND THEIR IMPACT ON THE GENETIC DIVERSITY AND FITNESS OF HONEY BEEColonies

M. Bouga; G. Arnold; M. Bienkowska; R. Büchler; L. Garnery; F. Hatjina; E. N. Ivanova; D. De Jong; P. De la Rúa; M. Kence; N. Kezic; P. Kryger; A. Murilhas; B. Oldroyd; R. Oliver; M. A. Palacio; P. Petrov; M. A. Pinto; A. Robertson; P. Rosenkranz; D. Šekulja; J. M. Flores; R. Vandame

1Lab of Agricultural Zoology & Entomology, Agricultural University of Athens, Athens, Greece; 2Laboratoire Evolution Génomes et Spéciation, CNRS - UPR 9034, Gif-sur-Yvette, France; 3Institute of Horticulture in Skiermierz, Pulawy, Poland; 4Landesbetrieb Landwirtschaft Hessen, Bee Institute Kirchhain, Germany; 5Laboratoire Evolution Génomes et Spéciation, CNRS - UPR 9034, Gif-sur-Yvette, France; 6Hellenic Institute of Apiculture, N.AG.B.E.F. - N. Moudania, , Greece; 7Department of Developmental Biology, University of Plovdiv, Plovdiv, Bulgaria; 8Genetics Dept., Faculty of Medicine, University of Sao Paulo, Ribeirao Preto, SP, Brazil; 9Área de Biología Animal, Dpto. de Zoología y Antropología Física, Facultad de Veterinaria, Universidad de Murcia, Murcia, Spain; 10Middle East Technical University, Department of Biology, Ankara, Turkey; 11Faculty of Agriculture, University of Zagreb, Croatia; 12Research Centre Flakkebjerg, Aarhus University, Slagelse, Denmark; 13University of Evora, Evora, Portugal; 14Behaviour and Genetics of Social Insects Lab, School of Biological Sciences A12, University of Sydney NSW, Australia; 15Golden West Apiaries—14744 Meadow Dr. - Grass Valley, CA, USA; 16Unidad Integrada INTA-FCa-UAndMoC.C. C.C. 276. 7620. Balcarce. Bs. As. Argentina; 17Agricultural University of Plovdiv, Plovdiv, Bulgaria; 18Mountain Research Centre. Polytechnique Institute of Bragança, Bragança, Portugal; 19Meadow Ridge Enterprises LTD, Saskatchewan, Canada; 20University of Hohenheim, Apicultural State Institute, Stuttgart, Germany; 21Polytechnic of Rijeka, Rijeka, Croatia; 22Departamento de Zoología Universidad de Córdoba, Campus de Rabanales, Córdoba, Spain; 23Linea de Investigacion “Abejas de Chiapas”, El Colegio de la Frontera SurSan Cristobal de las Casas, Chiapas, Mexico

APIMONDIA WORKING GROUP ON HONEY BEE DIVERSITY AND FITNESS (AWG 7 )

The Apimondia working group on honey bee diversity and fitness (AWG 7) was created on October 25, 2010 as a Scientific Working Group of Apimondia.

THE AIM

The aim of this AWG is to collect information on honey bee queen rearing practices, and examine their impact on the genetic variability and general health of honey bee colonies. The AWG consists of 23 members from 16 different countries. The world wide survey being conducted by this AWG is focused on gathering information on how selection methods, instrumental insemination, disease management procedures, introduction of exotic honey bee lines, queen replacement strategies, and loss of local colony populations due to introduced parasites and pathogens, affect the ability of our honey bees to survive and reproduce.

THE OUTPUT

The information collected in a common document will contribute on an international level to our understanding of how apiculture practices affect honey bee genetics, health and productivity. The main question is if selection, commercial queen rearing at a large scale, instrumental insemination and damage to feral colony populations due to Varroa, affect the genetic variability (and the health) of productive honey bee colonies.

PERSPECTIVES

The Apimondia working group on honey bee diversity and fitness is open to any useful contribution providing information from every continent, in order to support apicultural practice. Contributions can be forwarded to the group coordinator Maria Bouga (mbouga@aua.gr)