







# "BEES AND POLLINATION"

## an international course of Utrecht University and Universidad Nacional



Through their typical choice of pollen as food for their offspring, bees have evolved as unique insects. Their value as the most important insect pollinators in nature and agriculture is based on this behaviour. Bee pollination of wild plants and crops is central to the new course organized in the summer of 2016.

The international course "BEES AND POLLINATION" at the Universidad Nacional (UNA) in Costa Rica is an in-depth study of the relationship between bees and flowering plants.

Students will carry out observations in the field and in the lab on flower biology and bee behaviour. In addition to the pollination function of bees we will study general bee biology and behaviour.

## **Why Costa Rica**

Through the very rich biodiversity of Costa Rica, including many colony-living species of bees, this course will deepen insight in the living and significance of the bees. We will also study the fascinating biology of "stingless bees" (Apidae, Meliponinae), still held as in pre-Columbian times by the Maya as well in rationalized beekeeping systems. We will introduce the spectacular "orchid bees" (Apidae, Euglossinae) alongside different groups of solitary bees. Bumblebees, living at high altitudes, may also be included.

In the lectures and excursions other aspects of the beautiful tropical nature will be shown. Costa Rica is for nature lovers one of the most attractive countries to visit. The special geographical position brings flora and fauna of different continents together. Many impressive natural areas (rainforests, vulcanoes, cloud forests, marshes, and beautiful beaches) can in reasonable short time be visited. Several international ecological research stations are based in Costa Rica. This has also to do with the great hospitality and the relative high level of development of the "ticos". For a latinamerican country it is remarkable that a military force is completely absent, an aspect that is so cherished by the local people.



## Who may participate

The course is aimed at international students, but a limited number of non-students, such as professors of beekeeping or biologists can also participate. Our last course in Utrecht was attended by students and "young professionals" from Italy, Rumania, Uruguay Taiwan, Belgium and The Netherlands. The new course in Costa Rica is definitively a must for those seeking in-depth information about bees and pollination and on the global significance of bees. Besides that, it is an excellent opportunity to get acquainted with the beautiful tropical nature of Costa Rica. A basic knowledge of the honeybee or insects in general is desirable.



#### Course venue and accomodation

The course will be given in the Centro de Investigaciones Apicolas Tropicales of the Universidad Nacional in Heredia. This institute for bee research and training in beekeeping was established in the context of the former long-duration cooperation on bee research between Utrecht University and the UNA.

Apart from two nights in a very basic rainforst lodge we will stay in Heredia, a very attractive student town (10 Km north of the capital San José). Costa Rica offers a wide range of hotels and economic housing for participants is available in Heredia.



#### **Practical information**

For the information of participants who wish to stay for a longer time in Costa Rica we will be available in Heredia in the week prior to the course for suggestions and questions related to local travel and sight-seeing possibilities.

At request we will inform you by mail about further details (programme, lecturers etc.). For inquiries about the course you can target Prof. Dr. M.J. (Rinus) Sommeijer, m.j.sommeijer@uu.nl or M.Sc. Luis Alejandro Sánchez Chaves, luis.sanchez.chaves@una.cr

#### Dates and registration fee

The course is from 16 – 26 August 2016. The registration fee is 250 Euro. Not included: international travel, stay in Heredia, participation in the (low budget) rainforest excursion.