PIE HONEYDEW HONEY IN TURKEY

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Turkey is the world’s largest producer of pine honeydew honey. This special honey is collected by bees from another insect, called Marchalina helenica. This pine tree parasite is found only on the Aegean coasts of Turkey, Greece and Italy. Marchalina helenica feeds on branches of the pine tree and its body produces a sweet secretion known as honeydew. This sugary secretion is then collected by honey bees and converted by them to the honey known as honeydew or pine honey.

Marchalina helenica lives on red pine and other pine species including coastal pine Pinus halepensis, Scotch pine Pinus sylvestris, and nut pine Pinus pinea. The honey obtained from red pine is the most important. The insect obtains nutrients from the pine’s sap (20% protein and 80% carbohydrate), however, to get enough nutrients to grow, the insect sucks more sap and fills it. Later it excretes the excess juice. This juice is sugary and is collected by honey bees. Bacandritsos et al. (2002) showed that the pine sap contains a high proportion of sucrose (>40%), considerable fructose and smaller amounts of glucose and maltose.

Depending on the climatic conditions of the region the female insect produces a cottony mass and deposits 200–300 eggs underneath this in late March. From mid May to June hatching starts and young insects leave the cottony mass and move to the pine twigs and branches, where they insert their mouthparts and feed on the plant saps (Schlimitschek 1944; Canakcioglu 1977). The larvae moult three times, each time changing their feeding position. The first drops of honeydew appear around mid August, and the quantity increases according to the size of the insect. These insects have been introduced to other regions of Turkey, but without success. There are some reports of successful introduction to other forest trees like firs (Bacandritsos, 2002).

Nowadays, due to global warming, the number of scale insects is decreasing, and this is influencing the amount of secretions produced, and directly reducing pine honey production.

The scale insect is economically important for Turkish Beekeepers.

Below: Honey bee colonies in the pine tree forest

However, for a long time it was regarded as a parasite that should be controlled to save the pine trees. Yet there was no evidence that the scale insects had any harmful effects, and the main activity period of the scale insects does not overlap with the main growth period of the pine trees. There is still some debate as to whether the scale insect is a harmful parasite, but its benefit for the beekeeping sector is well known.
Starting in late August, all of Turkey’s migratory beekeepers aggregate in this famous south-west corner where the Aegean meets the Mediterranean, in order to collect these precious sugary secretions. Thousands of colonies assemble on the roadsides by forests to get close to the insects on the pines. You should come and see the beauty of this congregation beside the high mountains!

In 2008 a group of people on the Beekeepers’ Safari (see below) witnessed the beekeeping, pine trees and the scale insects. We hope for success for both species, Apis mellifera and Marchalina hellenica, as well as for these beekeepers here in Turkey.

This article with references is on the BfD website Information Centre.

**SAFARI TO TURKEY**

August 2008 saw the first Beekeepers’ Safari to Turkey co-organised by TEMA Foundation and Bees for Development.

Participants followed a busy schedule and were rewarded with a trip of a lifetime, visiting bees and beekeepers in different areas of Turkey, while experiencing local culture, foods, and music, and the natural wonder of the areas visited. Comments from satisfied participants included:

"It was a pleasure to meet the beekeepers and see their beekeeping. Turkey is a very large, diverse country; the schedule was excellent. This was for me the best trip I have ever been on - when are we going again?"

The next Safari to Turkey takes place in 2010, provisional dates 7-19 August.

To read more, and for details of forthcoming Safaris see our website, or contact BfD - address page 16.