

CHINESE HONEY 2016

Maria Lucia Piana

Microscopic observation of main pollens in the analyzed samples

Lucia Piana lucia.piana@pianaricerca.it

The Chinese honey: so widespread, so unknown

- Focke E., 1968. The pollen spectrum of Chinese honey. Z. Bienenforsch., 9:195-206
- Louveaux J., 1970. Annexes Microphotographiques aux methods officielles d'analyses. Tome III Atlas photographique d'analyse pollinique des miels. Service de la repression des frauds et du controle de la qualité. Paris
 - Unifloral honey from: Trifolium, Lotus. Robinia, Frangula, Tilia, Lamium type and unknown type. Fagopyrum almost always present
- Ricciardelli d'Albore G. C., 1997. Textbook of melissopalynology. Apimondia. Bucharest.
 - Unifloral honey from Rhamnus, Tilia (high percentages), Robinia, Myosotis, Brassica, Fabaceae similar to Galega; multifloral honeys with Fagopyrum, Poterium (high percentages), Polygala, Polemonium, Thalictrum (high percentage), Cucumis, Citrullus, small Lamiacea. Sediment abundant with humus particles.
- Ricciardelli d'Albore G.C., 2007. Differenziazione dei mieli italiani e stranieri in base allo spettro pollinico. In Persano Oddo L., Piana M.L., Ricciardelli d'Albore G.C. I Mieli regionali italiani. Caratterizzazione melissopalinologica. MIPAF, Roma
 - Organoleptic indication (iron and fermented taste); sediment with many big and round yeasts. Often prevalence of Brassicaceae. Typical markers Astragalus sinicus and Weinmannia. In Robinia honey, Brassicaceae, Vicia, Fagopyrum, Cunoniaceae, Astragalus sinicus, Dimocarpus, Litchi. In other honey kinds: Rhamnaceae, Scrophulariaceae, Polygala, Polemonium, Thalictrum, Cucumis, Citrullus, Sanguisorba major, Evodia, Sesamum.

The reasons?

- Inaccessible information (language, mentality?)
- Even if Chinese honey is now the second most imported origin in Italy, few samples arrives in commercial laboratories



My experience

- Only few samples in my database: 75 honey samples, 33 royal jelly, 1 pollen, less than 1,5%, in the last 7 years
- Generally country of origin is not declared or misidentified
- Problem: how to conclude about Chinese origin in unknown samples?
 - Main pollen types generally are not so useful because they are too widespread in the world (Brassicaceae, Robinia, Tilia).
 - Secondary pollen types are very useful when they are very typical in morphology and not very common in other origins (Sesamum, Camellia, Sanguisorba major, Acanthaceae, Flueggea), even if they are not always present
 - High frequencies of unidentified pollen types is a good indication, but not for sure
 - Sediment with humus, yeasts, grey pollen were common once, but not now (quality is much better)
 - Organoleptic may give an help, but it is not a proof

Let observe our samples!

As guideline we will use:

- Katharina Von der Ohe (34) analysis LAVES – Institut für Bienenkunde Celle
- Celia Beaudouin analysis (out of the ring trial) <http://www.pollen-cores.com>



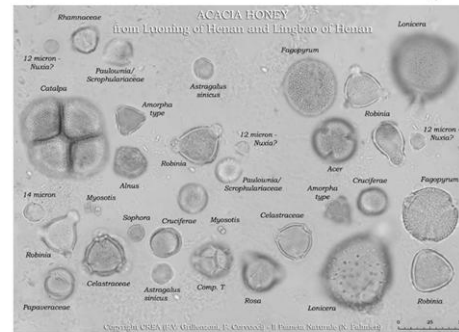
Honey pollen plates

(www.pollenatlas.it)

Sample 1 – Acacia honey from Luoning of Henan and Lingbao of Henan

Main pollen types

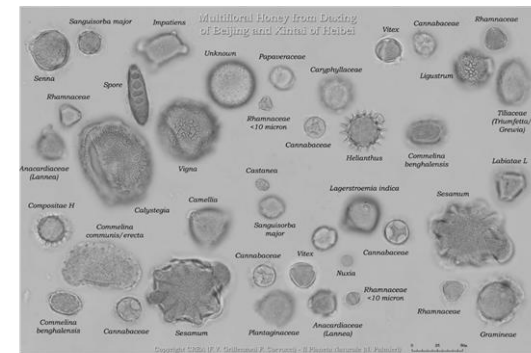
- Robinia
- Brassicaceae
- Amorpha type
- Little pollen types, different sizes
- Glaucium
- Rosaceae



Sample 2 – Multifloral honey from Daxing of Beijing and Xintai of Heibe

Main pollen types

- Cannabaceae
- Vitex
- Rhamnaceae (2 types)
- Caryophyllaceae
- Little pollen type
- Artemisia
- Commelina (2 types)



Sample 3 – Vitex honey from Liaoning Jilin and Zhejiang province

Main pollen types

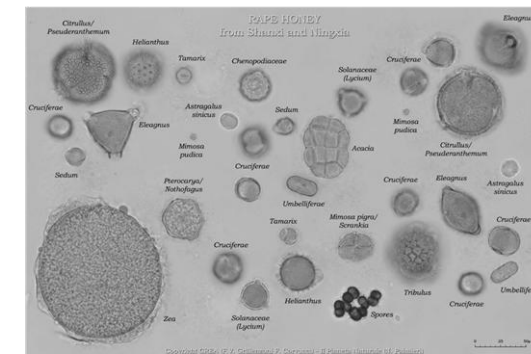
- Vitex (different types)
- Flueggea
- Brassicaceae
- Artemisia
- Unknown/Eurya
- Rhamnaceae



Sample 4 – Rape honey from Shanxi and Ningxia

Main pollen types

- Brassicaceae
- Citrullus
- Apiaceae
- Mimosaceae (different types)
- Pterocarya
- Tamarix
- Solanaceae
- Viburnum
- Mutisia



Others, not found in these samples

Acanthaceae, dicolporate, 25-30 micron (P), very typical and useful indicator in Chinese royal jelly



Other elements in sediment



