

# Beekeeping Pollen Atlas 1.0 CD – 2017

ShiNET & Rőzséné dr. Büki Etelka, Hungary



## **System requirements:**

- Windows operation system
- 600 MB free capacity on HDD
- min. 1024 x 600 pixels on monitor

## **Useful operating information**

- Language English/Hungarian: with the selection of the flags in the lower right corner of the startpage

**Technical support:** [shinet@shinet.hu](mailto:shinet@shinet.hu)

**More information:** [roezseetelka@gmail.com](mailto:roezseetelka@gmail.com)



# Beekeeping Pollen Atlas 1.0 CD with search



# Menu: "INTRODUCTION"

**Print Preview**

**INTRODUCTION**

Geographical and botanical origin of honeys and their hygienic aspects can be determined with pollen or melissopalynological analysis.

Melissopalynological analysis together with sensory and physico-chemical analyses are used for distinguishing uniflora, multiflora or honeydew honeys, and for monitoring of the compliance of the EU and national regulations.

Uniflora honey is a type of honey, which relative frequency of the pollen of that taxon exceeds 45 %, however some under-represented species such as black locust, sunflower, alfalfa, dandelion or linden; or some over-represented species such as rape or sweet chestnut are exceptional, for which specific national regulations apply.

Determination of geographical origin is based on the specific flora of a particular region i.e. the entire pollen spectrum. With appropriate experience and detailed pollen spectrum knowledge the geographical origin of the honey can be determined as well as the labelled country or countries of origin where the honey has been harvested (country name, "blend of EC honeys", "blend of non-EC honeys" or "blend of EC and non-EC honeys") can be controlled.

Microscopic examination of honey brings to light other shaped elements, such as starch granules, yeast cells, honeydew elements or other foreign substances.

Melissopalynological analyses are carried out by the internationally standardized method of the

Page 1 of 2

Start | HU | BP Atlas HONLPr... | BeekeepingPollenA... | 13:07

# Menu: "SPECIES"

## Species and family name scientific and English

BeekeepingPollenAtlas-english.odp - OpenOffice.org Impress

Beekeeping Pollen Atlas 1.0

\*\*\* All species \*\*\*

Grouping:  species  family name

Scientific plant name	English plant name	Scientific family name	English family name
▶ Acanthus longifolius POIR.	Bear's breech	Acanthaceae	Acanthus family
Acer campestre L.	Hedge maple	Aceraceae	Maple family
Acer negundo L. var. violaceum H. JAEGER	Boxelder	Aceraceae	Maple family
Acer platanoides L.	Norway maple	Aceraceae	Maple family
Acer pseudoplatanus L.	Sycamore maple	Aceraceae	Maple family
Achillea millefolium L.	Common yarrow / Milfoil	Asteraceae (Compositae)	Aster family
Adonis vernalis L.	Spring pheasant's eye	Ranunculaceae (incl. Anemonaceae + Helleboraceae)	Buttercup family
Aesculus hippocastanum L.	Horse chestnut	Hippocastanaceae	Horse-chestnut family
Agrimonia eupatoria L.	Churchsteeple agrimony	Rosaceae	Rose family
Ailanthus altissima (MILL.) SCHWINGLE	Tree of heaven	Simaroubaceae	Quassia family
Ajuga genevensis L.	Blue bugle	Lamiaceae (Labiatae)	Mint family
Albizia julibrissin DURAZZ.	Silk tree	Fabaceae (Papilionaceae, Leguminosae)	Pea family
Allium schoenoprasum L.	Wild chives	Liliaceae	Lily family
Allium ursinum L.	Bear garlic	Liliaceae	Lily family
Althaea officinalis L.	Marsh mallow / Hollyhock	Malvaceae	Mallow family
Amaranthus caudatus L.	Foxtail amaranth	Amaranthaceae	Amaranth family
Amaryllis belladonna L.	Belladonna lily	Liliaceae	Lily family
Ambrosia artemisiifolia L.	Annual or Short ragweed	Asteraceae (Compositae)	Aster family
Amorpha fruticosa L.	False indigo bush	Fabaceae (Papilionaceae, Leguminosae)	Pea family
Anchusa officinalis L.	Common bugloss / Alkanet	Boraginaceae	Borage family
Anethum graveolens L.	Dill	Apiaceae (Umbelliferae)	Carrot family

Number of marked lines: 0

Export Print Narrow Next Exit

Start HU BP Atlas HONLAPra... BeekeepingPollenAtl... 12:08



# "SPECIES" menu: 'Next' Morphological features of plant species

BeekeepingPollenAtlas-english.odp - OpenOffice.org Impress

Beekeeping Pollen Atlasz 1.0

**Aceraceae**  
Maple family

**Acer campestre L.**  
Hedge maple



Polarity:  
isopolar

Outline:  
circular

Shape:  
spheroidal

Aperture type:  
tricolpate

Exine structure:  
striate, perforate

Flowering time:  
IV-V

Remark:  
exine yellowish or colourless

/Reference: PalDat/

Hungarian Robinia honey pollen spectrum type species; quite frequently visited pollen and sometimes visited nectar source; underrepresented

Print Exit

Start HU BP Atlas HONLAPra... BeekeepingPollenAtl... 12:10

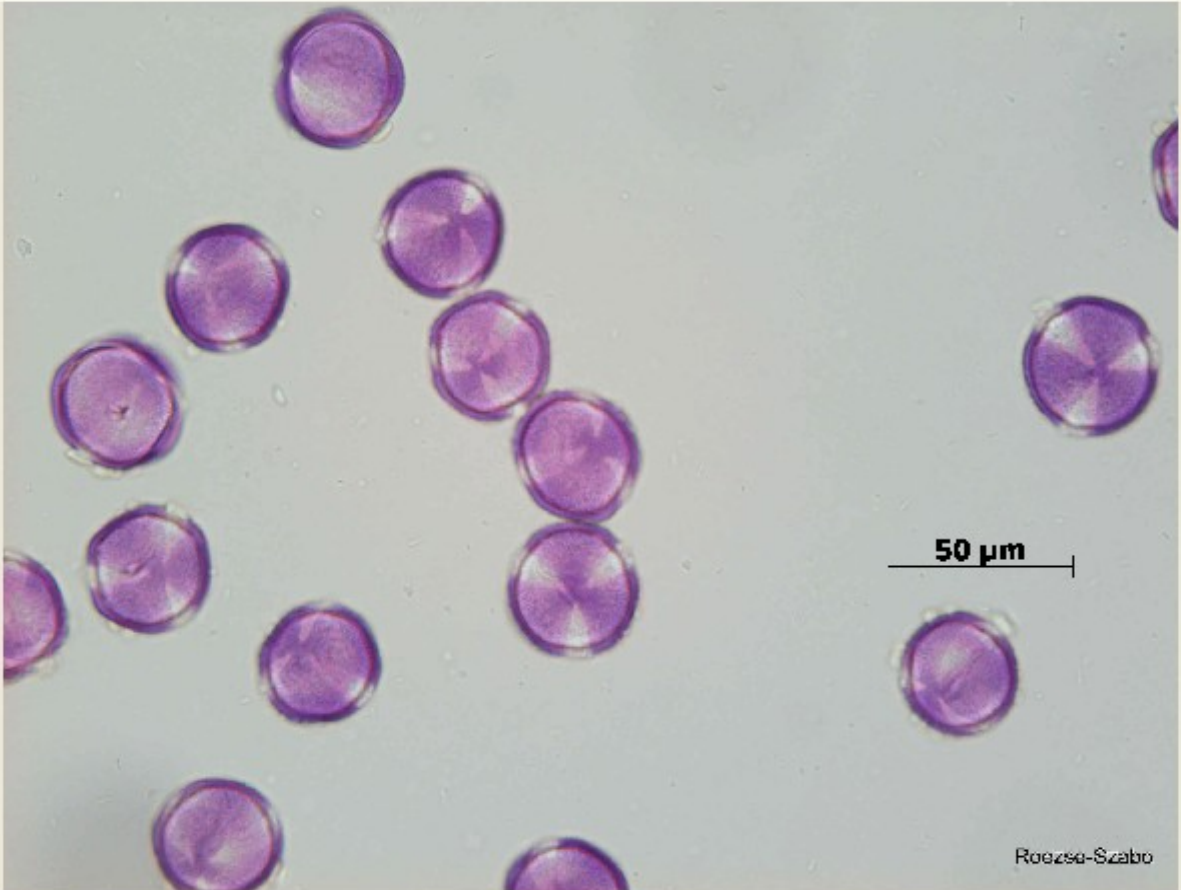
# Sample of magnification

BeekeepingPollenAtlas-english.odp - OpenOffice.org Impress

Beekeeping Pollen Atlasz 1.0

**Aceraceae**  
Maple family

**Acer campestre L.**  
Hedge maple



50 µm

Roezsa-Szabo

Polarity:  
isopolar

Outline:  
circular

Shape:  
spheroidal

Aperture type:  
tricolpate

Exine structure:  
striate, perforate

Flowering time:  
IV-V

Remark:  
exine yellowish or colourless

/Reference: PalDat/

Hungarian Robinia honey pollen spectrum type species; quite frequently visited pollen and sometimes visited nectar source; underrepresented

Print Exit

Start

HU

BP Atlas HONLAPra-...

BeekeepingPollenAtl...

12:12

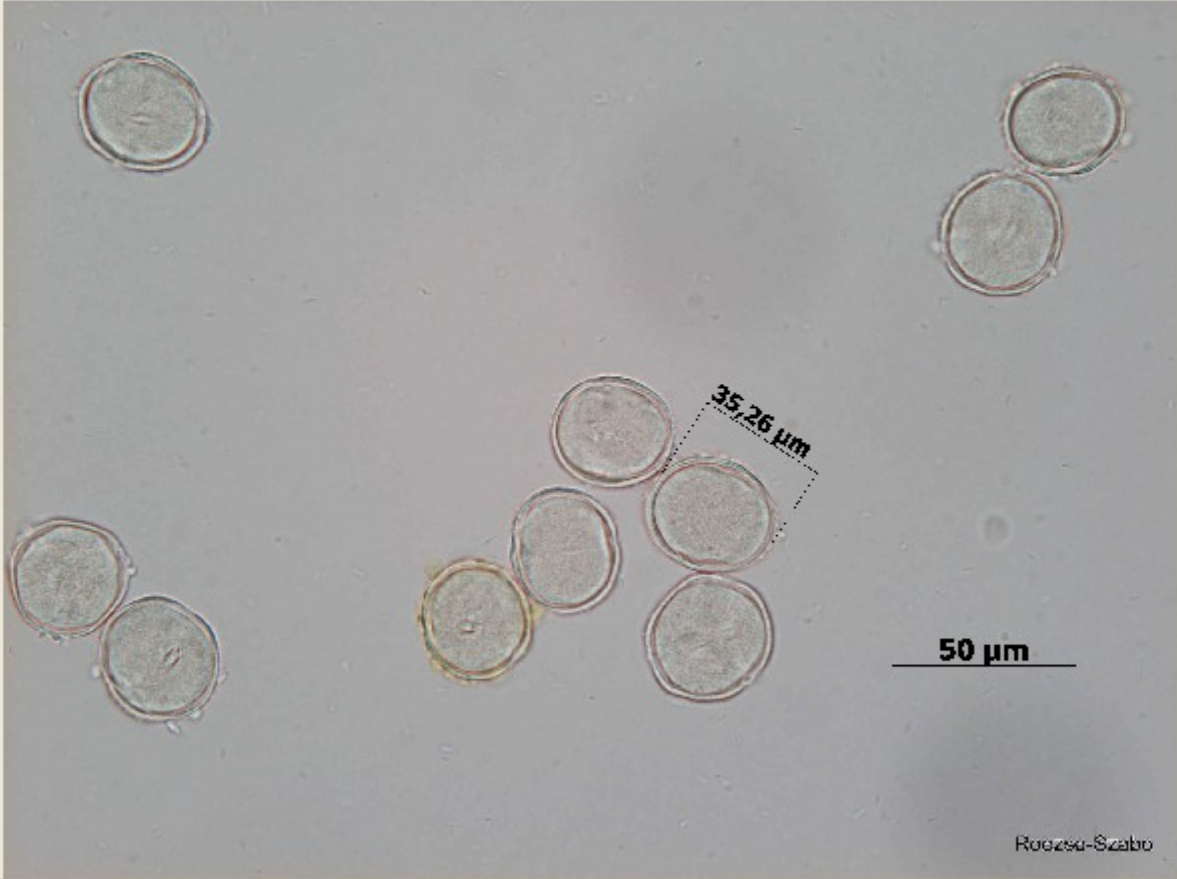
# Sample of magnification

BeekeepingPollenAtlas-english.odp - OpenOffice.org Impress

Beekeeping Pollen Atlasz 1.0

**Aceraceae**  
Maple family

**Acer campestre L.**  
Hedge maple



Polarity:  
isopolar

Outline:  
circular

Shape:  
spheroidal

Aperture type:  
tricolpate

Exine structure:  
striate, perforate

Flowering time:  
IV-V

Remark:  
exine yellowish or colourless

/Reference: PalDat/

Rozsa-Szabo

Hungarian Robinia honey pollen spectrum type species; quite frequently visited pollen and sometimes visited nectar source; underrepresented

BeekeepingPollenAtlas-english.odp - OpenOffice.org Impress

Start

HU

BP Atlas HONLAPra-...

BeekeepingPollenAtl...

12:12



# "SPECIES" menu: 'Grouping' family name Morphological features of plant species

BeekeepingPollenAtlas-english.odp - OpenOffice.org Impress

**Beekeeping Pollen Atlasz 1.0**

**Asteraceae (Compositae)**  
Aster family

**Ambrosia artemisiifolia L.**  
Annual or Short ragweed

Polarity: isopolar

Outline: circular

Shape: spheroidal

Aperture type: tricolporate/brevicolporate

Exine structure: echinate, perforate

Flowering time: VI-X

Remark: nectarless species; exine greyish, light yellow

/Reference: PalDat/



**Hungarian Robinia honey pollen spectrum type species; sometimes visited pollen source**

Print Exit

Start HU BP Atlas HONLAPra... BeekeepingPollenAtl... 12:13

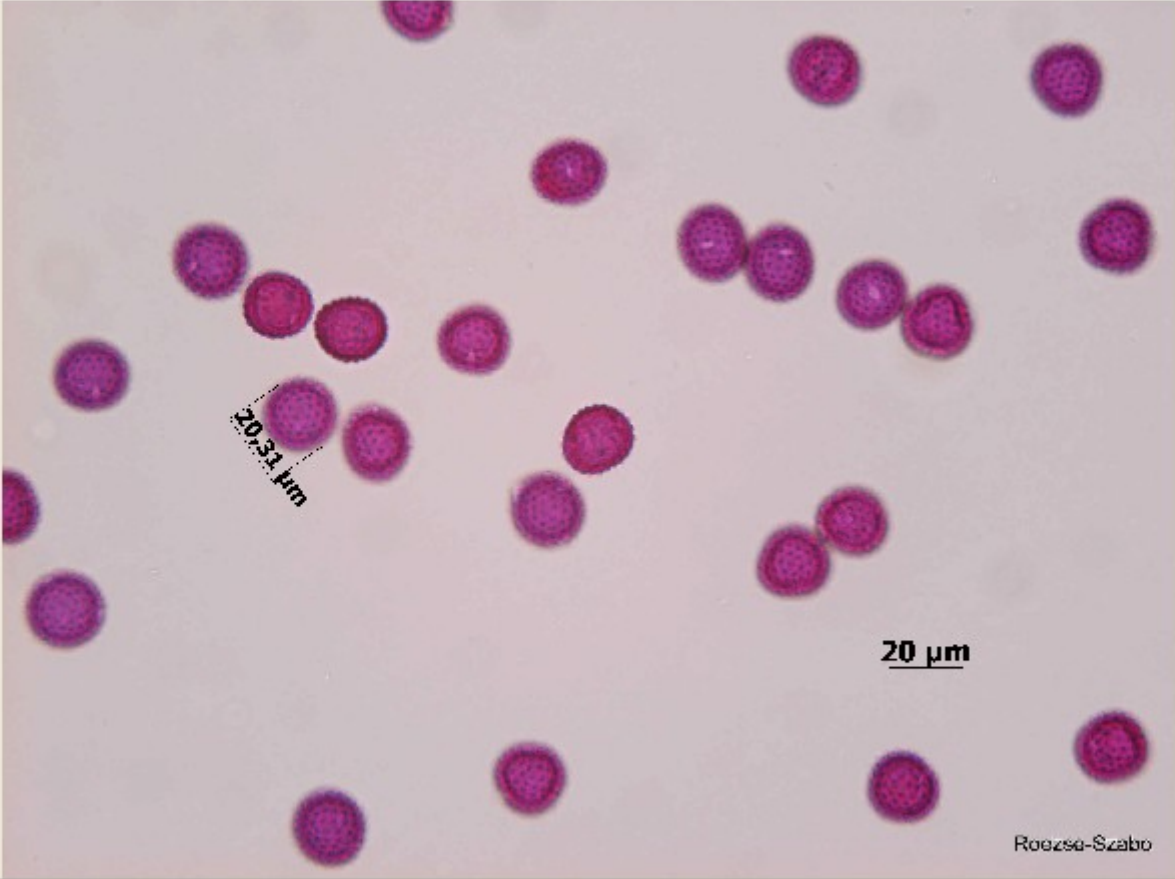
# Sample of magnification

BeekeepingPollenAtlas-english.odp - OpenOffice.org Impress

Beekeeping Pollen Atlasz 1.0

**Asteraceae (Compositae)**  
Aster family

**Ambrosia artemisiifolia L.**  
Annual or Short ragweed



20.32  $\mu\text{m}$

20  $\mu\text{m}$

Rozsa-Szabo

Polarity: isopolar

Outline: circular

Shape: spheroidal

Aperture type: tricolporate/brevicolporate

Exine structure: echinate, perforate

Flowering time: VI-X

Remark: nectarless species; exine greyish, light yellow

/Reference: PalDat/

Hungarian Robinia honey pollen spectrum type species; sometimes visited pollen source

Print Exit

Start HU BP Atlas HONLAPra... BeekeepingPollenAtl... 12:14

# "SPECIES" menu: 'Narrow' species of Robinia and non Robinia honey; pollen morphological features

The screenshot shows the 'Beekeeping Pollen Atlas 1.0' application window. The 'Species' menu is open, displaying a list of pollen morphological features. The 'Term of narrow' section is set to 'All species'. The 'Number of marked lines' is 0 for all categories.

**Term of narrow:**

- Species of Robinia honey
- Non species of Robinia honey
- All species

**Polarity** (Number of marked lines: 0)

- ▶ apolar
- apolar (and simmetry: bilateral)
- heteropolar
- heteropolar (and simmetry: bilateral)
- heteropolar (and simmetry: radial)
- heteropolar/polyad

**Outline** (Number of marked lines: 0)

- ▶ angulaperturate or triangular
- circular
- elliptic
- hexagonal-oval
- pollinium with corpusculum
- quadrangular

**Shape** (Number of marked lines: 0)

- ▶ compressed oval
- depressed oval
- irregular
- oblate
- oval
- pear shaped

**Aperture** (Number of marked lines: 0)

- ▶ [penta]-hexa-colpate, aperture membrane ornamented
- 1-leptoma
- 10-porate, pantoaperturate, aperture membrane ornamented, annulate
- 4-5 colporate
- 8-10 colporate, pantoaperturate, aperture exine remnants
- >6 colpate, stephanoaperturate

**Exine structure** (Number of marked lines: 0)

- ▶ baculate, fossulate
- baculate, verrucate
- clavate, microechinate
- clypeate, reticulate, semitectate
- echinate
- echinate, granulate

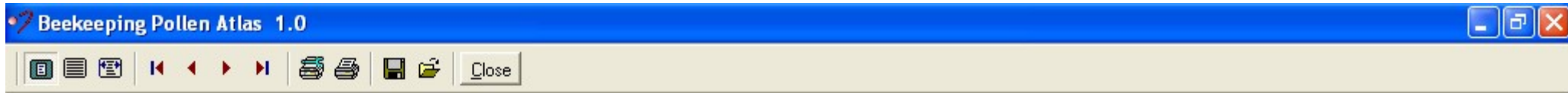
**Remark** (Number of marked lines: 0)

- ▶ exine grey
- exine grey, light violet coloured
- exine grey, light violet coloured; oil colourless
- exine grey, light violet coloured; similar to Carduus sp.
- exine grey, light violet coloured; similar to Cirsium sp.

Buttons:  OK,  Restore selections

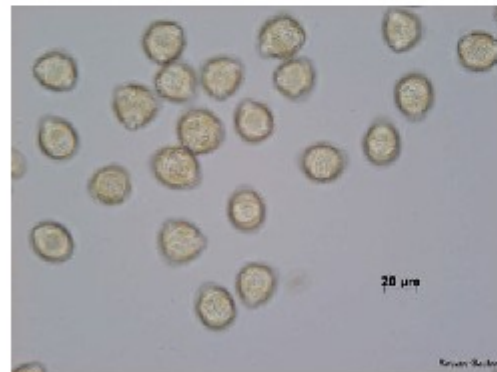
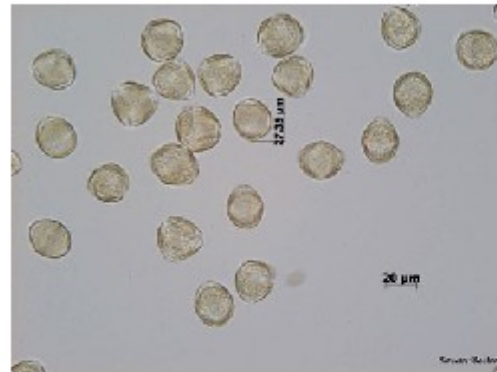


# "SPECIES" menu: 'Print'



*Simarouba* sp.  
Class: Simulifera

*Alantus altissima* (MILL.) SCHWINGLE  
Tree of leaves



Hungarian Robinia honey pollen spectrum type species; rarely visited pollen and nectar source



# "SPECIES" menu: 'Export' excel table with date of marked species

Microsoft Excel - BeekeepingPollenAtlas1

Fájl Szerkesztés Nézet Beszúrás Formátum Eszközök Adatok Ablak Súgó

BeekeepingPollenAtlas 1.0

A	B	C	D	E
<b>BeekeepingPollenAtlas 1.0</b>	<b>Data of marked species</b>			
Date: 2018.03.21.				
Scientific plant name	English plant name	Scientific family name	English family name	TeX
Achillea millefolium L.	Common yarrow / Milfoil	Asteraceae (Compositae)	Aster family	Hu...
Ambrosia artemisiifolia L.	Annual or Short ragweed	Asteraceae (Compositae)	Aster family	Hu...
Anthemis arvensis L.	Corn chamomille	Asteraceae (Compositae)	Aster family	Hu...
Arctium minus (HILL) BERNH.	Lesser burdock	Asteraceae (Compositae)	Aster family	Hu...
Arctium tomentosum MILL.	Woolly burdock	Asteraceae (Compositae)	Aster family	Hu...
Artemisia vulgaris L.	Common wormwood / Mugwort	Asteraceae (Compositae)	Aster family	Hu...
Aster dumosa L.	Rice button aster / Bushy aste	Asteraceae (Compositae)	Aster family	Hu...
Calendula officinalis L.	Pot marigold	Asteraceae (Compositae)	Aster family	Hu...
Carduus acanthoides L.	Spring plumeless thistle	Asteraceae (Compositae)	Aster family	Hu...
Carduus nutans L.	Nodding plumeless thistle / Mu	Asteraceae (Compositae)	Aster family	Hu...
Carthamus tinctorius L.	Safflower	Asteraceae (Compositae)	Aster family	Hu...
Centaurea cyanus L.	Garden cornflower / Bluebottle	Asteraceae (Compositae)	Aster family	Hu...
Centaurea jacea L.	Brownray knapweed	Asteraceae (Compositae)	Aster family	Hu...
Centaurea micranthos S.G. GMEL.	Knapweed / 1	Asteraceae (Compositae)	Aster family	Hu...
Centaurea ruthenica LAM.	Knapweed / 2	Asteraceae (Compositae)	Aster family	Hu...
Centaurea scabiosa L.	Greater knapweed	Asteraceae (Compositae)	Aster family	Hu...
Cichorium intybus L.	Chicory	Asteraceae (Compositae)	Aster family	Hu...
Cirsium arvense (L.) SCOP	Canada thistle / Creeping thistl	Asteraceae (Compositae)	Aster family	Hu...
Cnicus benedictus L.	Blessed thistle	Asteraceae (Compositae)	Aster family	Hu...
Echinops sphaerocephalus L.	Great globe thistle / Glandular	Asteraceae (Compositae)	Aster family	Hu...
Eupatorium cannabinum L.	Hemp agrimony	Asteraceae (Compositae)	Aster family	Hu...

Kész

Start | HU | BP Atlas HO... | Beekeeping... | Microsoft Ex... | 12:39

# LIST OF INDEX

**Beekeeping Pollen Atlas 1.0**

Introduction Species **List of index** Bibliography Help Exit

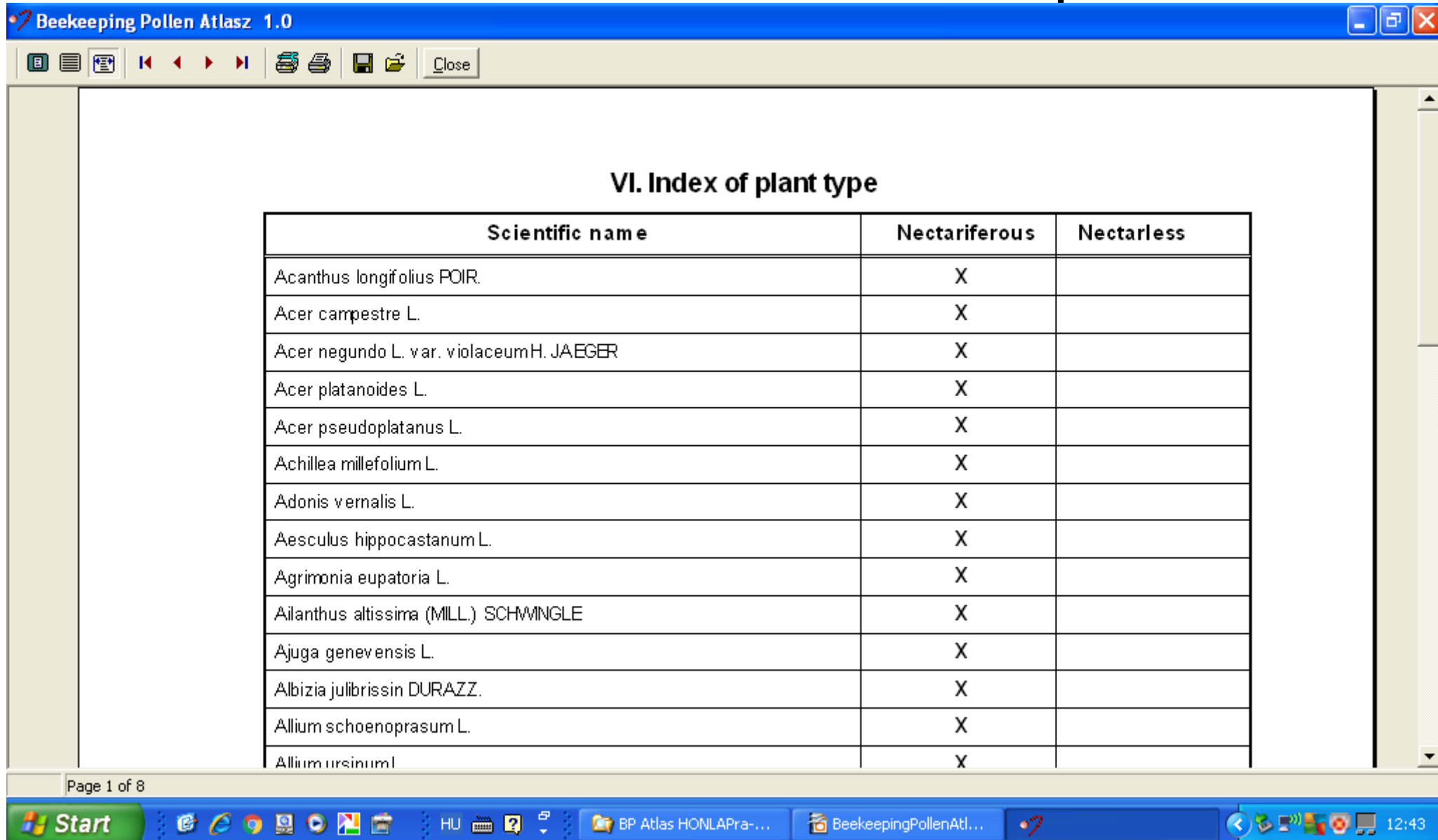
- I. Index of scientific name
- II. Index of English plant name
- III. Index of scientific family name
- IV. Index of English family name
- V. Index of species of Hungarian Robinia honey
- VI. Index of plant type (nectariferous or nectarless)
- VII. Index of frequency of bee visits
- VIII. Index of representation of plant species
- IX. Index of morphological features
- X. Index of flowering time in Hungary

Made by ShiNET Ltd. www.shinet.hu  
Coordinated by Rózséné Dr. Büki Etelka

Start | HU | BP Atlas HONLAPr... | BeekeepingPollenA... | 12:59



# "LIST OF INDEX" menu: 'VI. Index of plant type' nectariferous or nectarless species

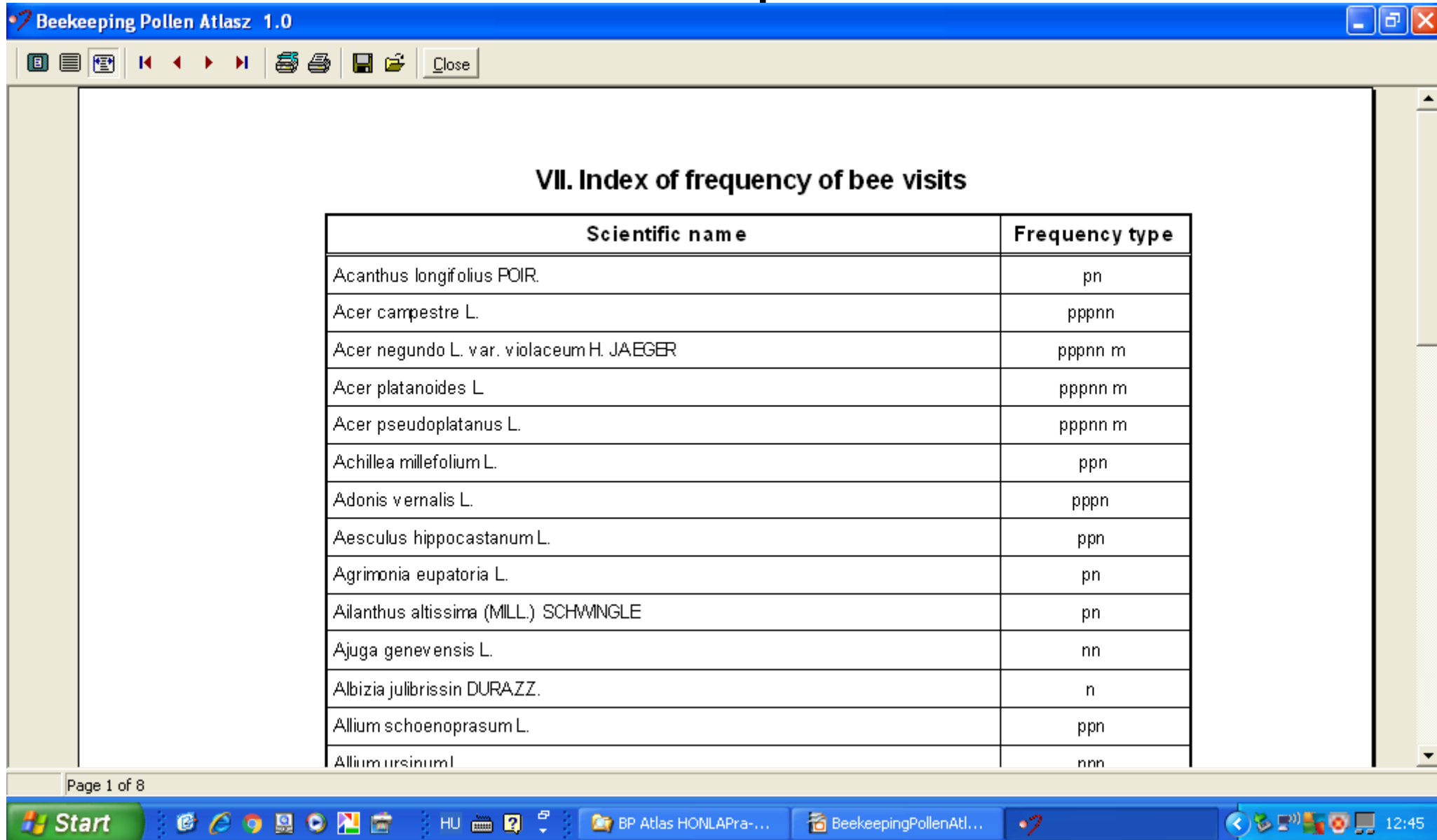


The screenshot shows a software window titled "Beekeeping Pollen Atlasz 1.0". The main content area displays a table titled "VI. Index of plant type". The table has three columns: "Scientific name", "Nectariferous", and "Nectarless". The table lists 14 plant species, with an 'X' in the "Nectariferous" column for each. The "Nectarless" column is empty for all species. The software interface includes a menu bar with icons for home, list, print, and close, and a taskbar at the bottom with the Windows Start button and various application icons.

Scientific name	Nectariferous	Nectarless
<i>Acanthus longifolius</i> POIR.	X	
<i>Acer campestre</i> L.	X	
<i>Acer negundo</i> L. var. <i>violaceum</i> H. JAEGER	X	
<i>Acer platanoides</i> L.	X	
<i>Acer pseudoplatanus</i> L.	X	
<i>Achillea millefolium</i> L.	X	
<i>Adonis vernalis</i> L.	X	
<i>Aesculus hippocastanum</i> L.	X	
<i>Agrimonia eupatoria</i> L.	X	
<i>Ailanthus altissima</i> (MILL.) SCHWINGLE	X	
<i>Ajuga genevensis</i> L.	X	
<i>Albizia julibrissin</i> DURAZZ.	X	
<i>Allium schoenoprasum</i> L.	X	
<i>Allium ursinum</i> L.	X	

# "LIST OF INDEX" menu:

## 'VII. Index of frequency of bee visits' nectar source - pollen source



The screenshot shows a software window titled "Beekeeping Pollen Atlasz 1.0". The main content area displays a table titled "VII. Index of frequency of bee visits". The table has two columns: "Scientific name" and "Frequency type". The table lists 14 different plant species and their corresponding frequency types.

Scientific name	Frequency type
<i>Acanthus longifolius</i> POIR.	pn
<i>Acer campestre</i> L.	ppnn
<i>Acer negundo</i> L. var. <i>violaceum</i> H. JAEGER	ppnn m
<i>Acer platanoides</i> L.	ppnn m
<i>Acer pseudoplatanus</i> L.	ppnn m
<i>Achillea millefolium</i> L.	ppn
<i>Adonis vernalis</i> L.	ppn
<i>Aesculus hippocastanum</i> L.	ppn
<i>Agrimonia eupatoria</i> L.	pn
<i>Ailanthus altissima</i> (MILL.) SCHWINGLE	pn
<i>Ajuga genevensis</i> L.	nn
<i>Albizia julibrissin</i> DURAZZ.	n
<i>Allium schoenoprasum</i> L.	ppn
<i>Allium ursinum</i> L.	nnn

Page 1 of 8

# BIBLIOGRAPHY

Print Preview

Close

## BIBLIOGRAPHY

AUTOREN TEAM (2012): Bienenweidekatalog. Verbesserung der Bienenweide und des Artenreichtums. MLRV Baden-Württemberg, Stuttgart

BUCHER E. Et al. (2004): Das Pollenbild der Südtiroler Honige. Landesagentur für Umwelt und Arbeitsschutz, Leifers (BZ), Italy

DARÓK J. (2011): Növényanatómiai-botanikai terminológiai szótár. Akadémiai Kiadó, Budapest

ERDTMAN G. (1969): Handbook of Palynology. Morphology-Taxonomy-Ecology. Munksgaard, Sweden

ERDTMAN G. (1986): Pollen morphology and Plant taxonomy, Angiosperm. Brill, Great Britain

FAEGRI K. - IVERSEN J. (1964): Textbook of Pollen Analysis (second revised edition), Blackwell Scientific Publications, Oxford

HALBRITTER H. et al. (2008): PalDat - Illustrated Handbook on Pollen Terminology, Vienna, Austria

HALMÁGYI L. - KERESZTESI B. (1991): A méhlegelő. Akadémiai Kiadó, Budapest

HESSE M. et al. (2009): Pollen terminology. An illustrated handbook. Springer-Verlag, Wien

LENGYEL G. (1943): Méhek és virágok. Az Országos Magyar Méhészeti Egyesület kiadása, Budapest

MAURIZIO A. - SCHAPER F. (1994): Das Trachtpflanzenbuch. Nektar und Pollen - die wichtigsten Nahrungsquellen der Honigbiene. (4. Auflage) Ehrenwirth, München

Page 1 of 2

BeekeepingPollenAtlas-english.odp - OpenOffice.org Impress

Start

HU

BP Atlas HONLAPr...

BeekeepingPollenA...

12:51



# HELP

**Print Preview**

**HELP**

**Recommended screen resolution:** 1024 x 600 pixels

**Menu:** [Introduction](#) - [Species](#) - [Lists](#) - [Help](#)

**Introduction** menu contains a short description about melissopalynological analysis and basic technical information offered by the software.

**Species** menu contains the scientific and English plant and family names of all species represented in the Beekeeping PollenAtlas. Columns can be sorted alphabetically by clicking on the title. By default plants are grouped by species, which can be switched to family names. Additional features are available by clicking **Export**, **Print**, **Narrow** or **Next**.

**Export:** detailed information about all plants or the selected and sorted species appear in an excel sheet which can be saved or printed. The excel sheet includes the following information: scientific and English plant and family names, spectrum range, type of the plant, frequency of bee visits, representation, subtitle of the photos and the pollen morphological features such as polarity, outline, shape, aperture, exine structure and some major information added to the comments.

**Print:** by default all species - 4 photos per species - are printable with their dimensional specification and descriptions.  
Photos of the coloured glycerine fuchsin jelly preparations and uncoloured glycerine jelly

0% Page 1 of 1

Start | Internet Explorer | Google Chrome | Microsoft Office Word | HU | BP Atlas HONLAPr... | BeekeepingPollenA... | 12:52

**Thank you  
for your interest!**

