Smiljana Goreta Ban

*Current status of Allium collection in Croatia*

SafeAlliDiv meeting, Tallinn, 10-13 June
Croatia – basic facts

Area: 56.538 km$^2$ land + 33.200 km$^2$ sea
Population: 4.4 million
Capital: Zagreb (685,000)

Larger cities: Split (175,000)
Rijeka (145,000)
Osijek (91,000)
Program started in 2004 – Swedish Agency SIDA

It was stopped in 2010 and continued in 2014

New program was adopted: 2017 – 2020

**Working groups:**
- Vegetable
- Aromatic and medicinal plants
- Grape
- Cereals and corn
- Friut (Mediterranean and Continental)
- Industrial crops
- Legumes
Vegetable Working Group

Faculty of Agriculture - Zagreb
College of Agriculture - Križevci
Faculty of Agriculture - Osijek
CCAFV
The Agricultural Institute - Osijek
Institute of Agriculture and Tourism - Porec
Institute for Adriatic Crops - Split

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# Alliums in Croatia – official list

<table>
<thead>
<tr>
<th>Species</th>
<th>Genetic resources</th>
<th>potato onion (Allium cepa L. Aggregatum group)</th>
<th>onion (A. cepa L.)</th>
<th>leek (A. ampeloprasum L.)</th>
<th>chives (A. schoenoprasum)</th>
<th>bunching onion (A. fistulosum)</th>
<th>others species in collectiones</th>
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<tr>
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<td>number of accessions (acc.)</td>
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<td>type of conservation</td>
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<td>Current projects</td>
<td>Centre of Excellence for Biodiversity and Molecular Plant Breeding - under evaluation</td>
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<td>others activity with GR</td>
<td>preparing open days, presentation of GR in the media</td>
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<td>harvest area (ha)</td>
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Current situation

A. cepa Aggregatum group
(syn. A. ascalonicum, A. cepa var. ascalonicum)
- diploid classified within the common onion Allium cepa.
- produce seeds

A. × cornutum Clementi ex Vis.
- triploid commonly cultivated in South-coastal Croatia.
- sterile
- stamen morphology simple

A. × proliferum (Moench) Schrad
(also known al Egyptian onion or tree onion)
- diploid viviparous onion
- sterile.
Current situation

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Inflorescence morphology

**A. cepa Aggregatum group**
Spheric inflorescence with >30 flowers, no bulbils. Produces seeds.

**A. × cornutum**
Spheric inflorescence with >30 flowers, purple bulbils sitting on scape. Sterile.

**A. × proliferum**
Campanulate and prizmic inflorescence. Sterile. Grows from bulbils on top of the scape.
**A. cepa Aggregatum group**
Stamen morphology typical of *A. cepa*
Outer and inner stamens simple.
Stamens green.
Pistils lower then the stamens.

**A. × cornutum**
Stamen morphology typical of *A. cepa*
Outer simple, interior with an base and a small tooth on each side.
Stamens yellow.
Pistils taller then the stamens.

**A. × proliferum**
Stamen morphology simple no difference from outer and inner.
Stamens green.
Pistils taller then the stamens.
A. cepa Agregatum group - bulbs

Shape of mature bulb is rhomboid, broad elliptic, spindle or high top (7.1.11)
Mature bulb diameter 30.9 – 36.3 mm
Average number of bulbs in a cluster is 15 (7.1.25)
Bulb cluster average weight (7.1.26) 287.9 – 483.6 g
A. × cornutum - bulbs

Shape of mature bulb is broad oval, broad elliptic or even ovate (7.1.11)
Mature bulb diameter 27.8 – 34.5 mm
Average number of bulbs in a cluster is 19 - 30 (7.1.25)
Bulb cluster average weight (7.1.26) 252 - 356 g
A. × proliferum

Shape of mature bulb is ovate (7.1.11)
Mature bulb diameter 36.4 mm
Average number of bulbs in a cluster is 8 (7.1.25)
Bulb cluster average weight (7.1.26) 566 g
Future plans

Collection and Identification:
- Morphological
- Molecular
- Biochemical
Thank you!

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