

Actions for the conservation of two recently described threatened endemic tree species in wetlands of West Crete, Greece

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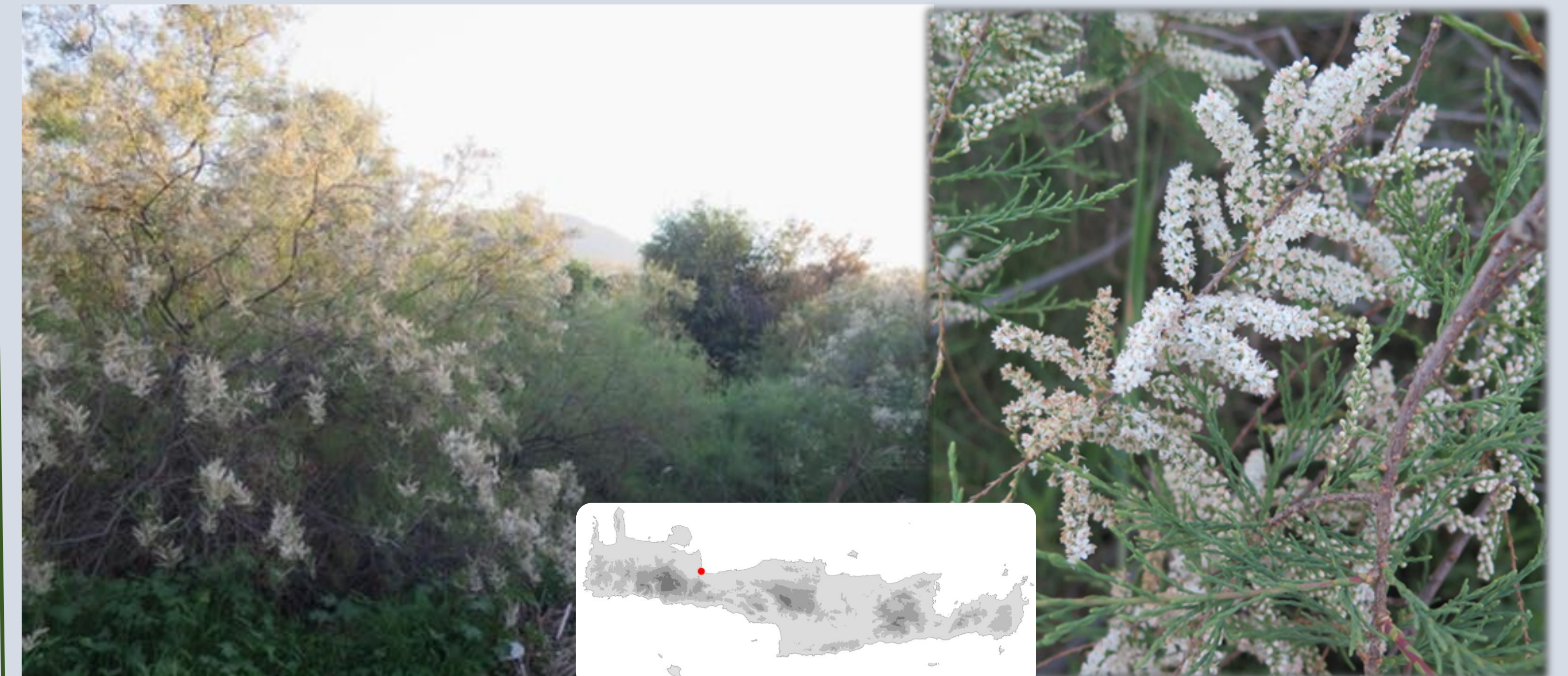
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Salix kaptarae Cambria, C. Brullo & Brullo (SALICACEAE)



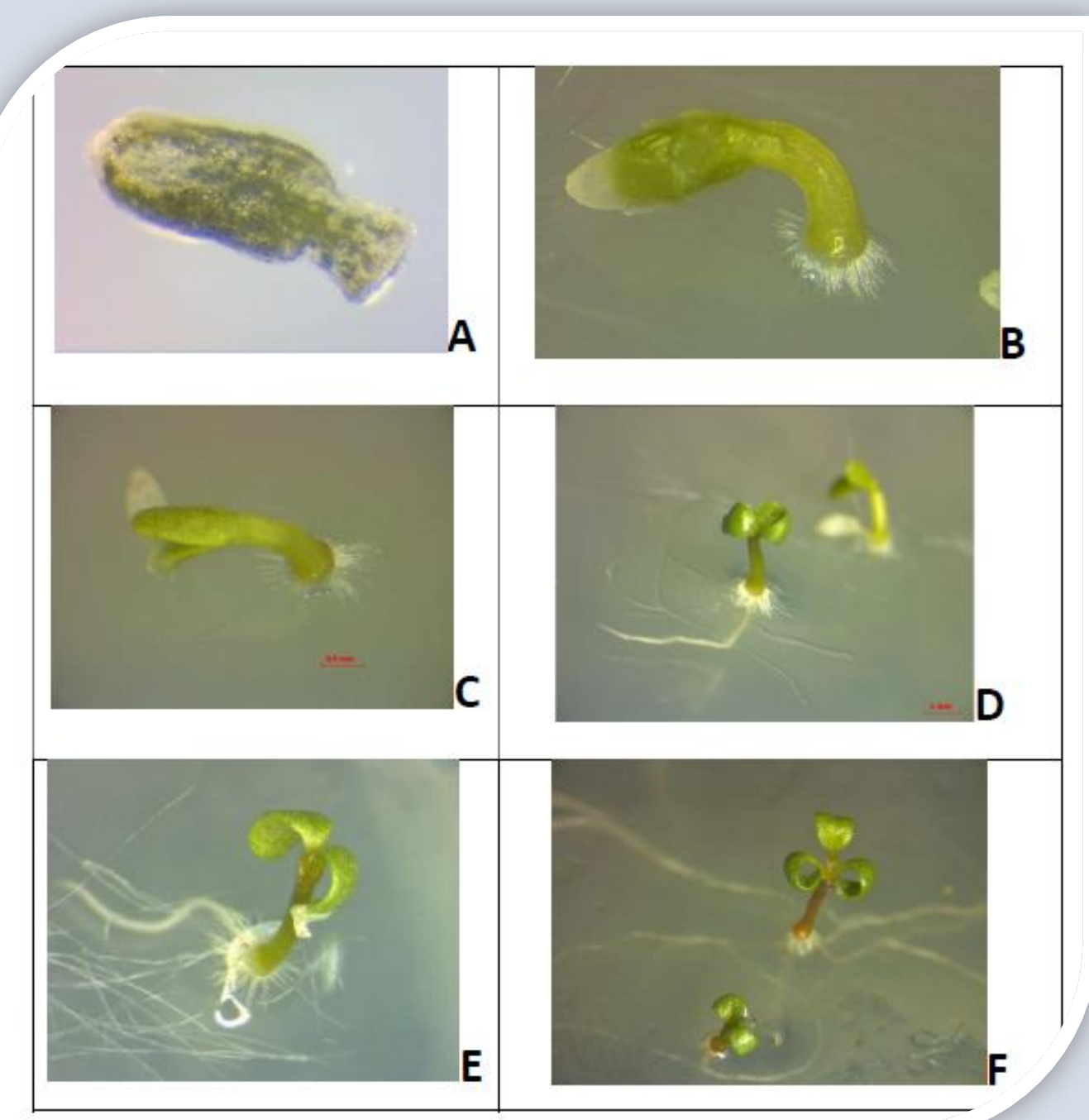
Tamarix minoa J.L. Villar et al. (TAMARICACEAE)



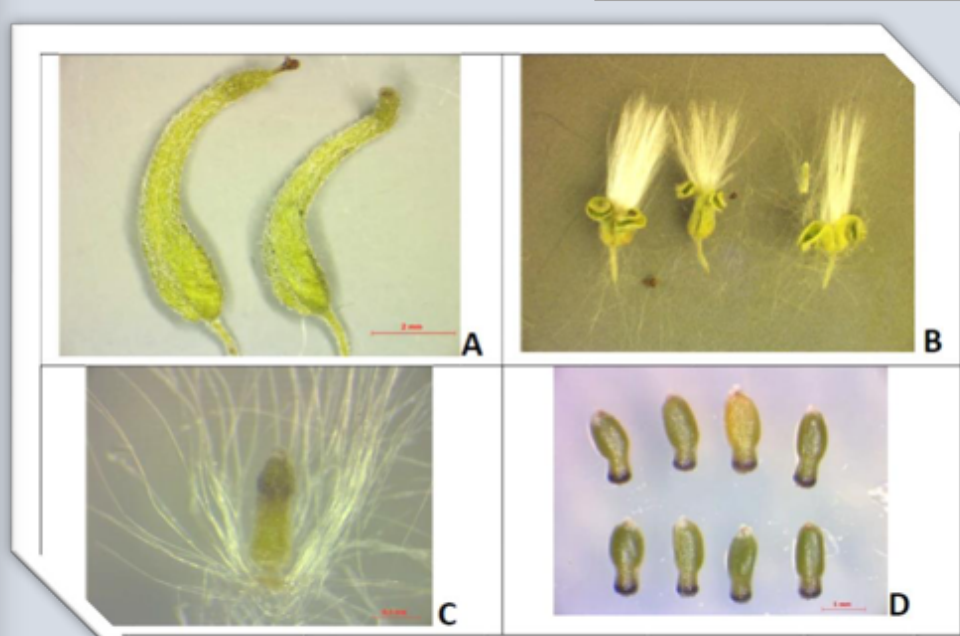
CONSERVATION ACTIONS

Ex situ conservation

Seed dormancy, germination and storage - Seedling development



Various stages of germination and seedling development of *Salix kaptarae* after onset of imbibition: Seed before imbibition (A), appearance of roots and cotyledons (1-2 days) (B, C), development of cotyledons and root (4 - 7 days) (D, E), appearance of the first leaf (~20 days) (F).

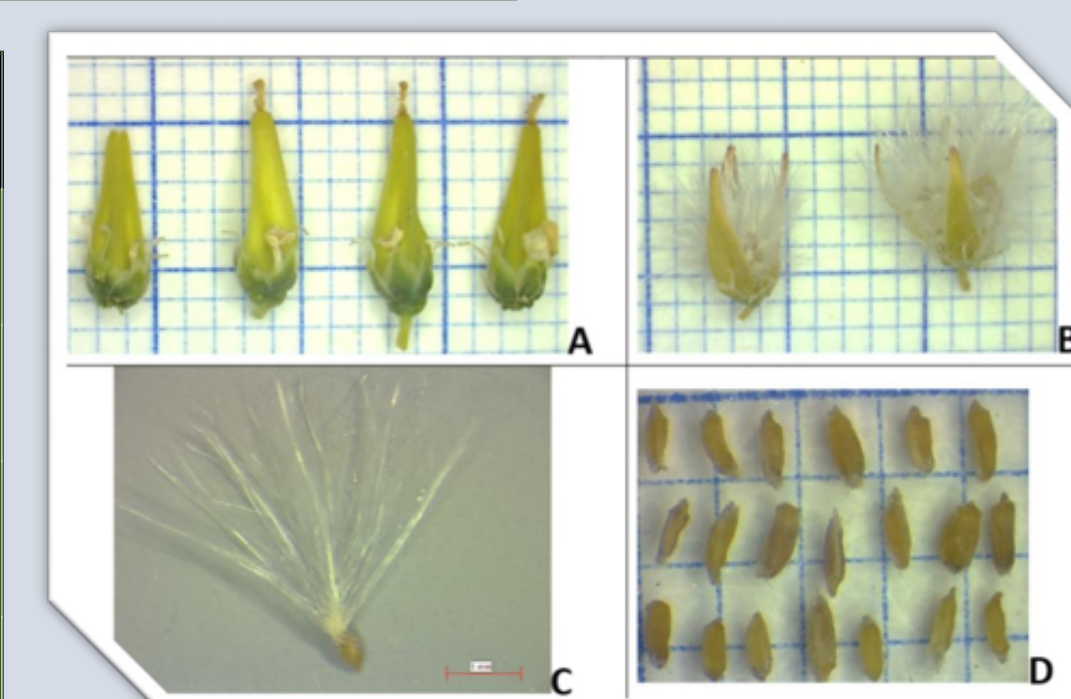


Fruits and seeds of *Salix kaptarae*: almost mature capsules at the time of collection (A), mature open capsules (B), seed surrounded by the coma of fine hairs (C) and seeds from which hairs have been removed (D).

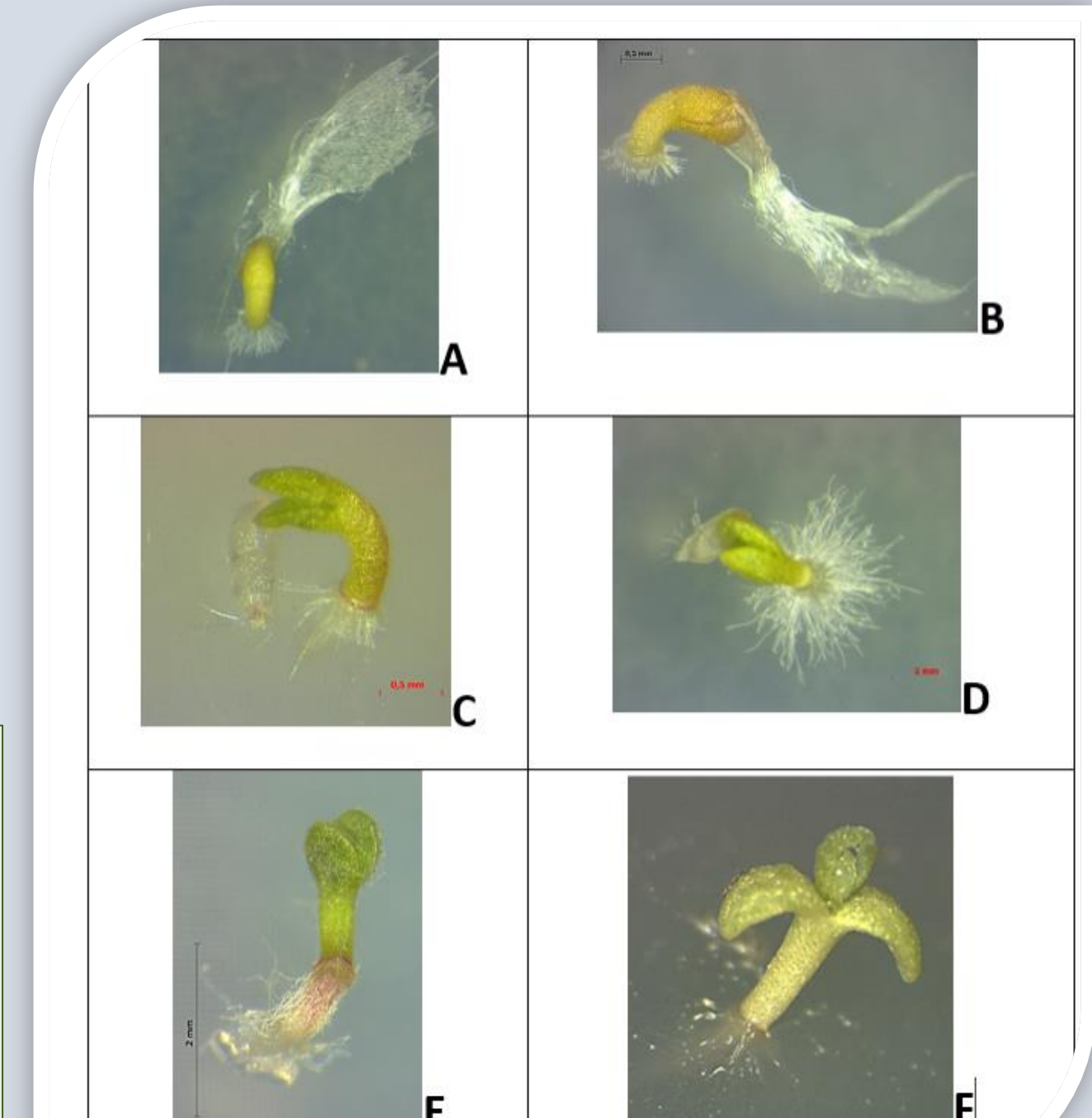
	<i>Salix kaptarae</i>	<i>Tamarix minoa</i>
Period of seed dispersal	Mid April	End of April
Dormancy	Nondormant	Nondormant
Optimum germination temperature (°C)	10, 15	10, 15 & 20
Light (L) or Dark (D) requirements for germination	L=D	L=D
Germination rate - T ₅₀ (days)	1	1.4 - 3.9
1000 Seed Weight (g)	0.23	0.5
Seed storage behaviour	Orthodox*	Orthodox**
Seed longevity	Short lived	Short lived

* It is not tested but the seeds of most species of the genus *Salix* are characterized by orthodox storage behaviour as they can be stored without loss of viability for several years at sub-zero temperature and low moisture content (Maroder et al. 2000, Simpson & Daigle 2009). It is recommended that seeds be stored at temperatures from -5 to -40 °C immediately after cleaning (Zasada et al. 2008).

**The seeds retained their viability after 4 months storage in the Dry Room, but after a year they lost their viability. Similar results are found for the species *Tamarix chinensis* L whose seeds can survive up to one year in cold storage (Shepherd 2008).



Fruits and seeds of *Tamarix minoa*: almost mature capsules at the time of collection (A), mature open capsules showing the seeds (B), seed with the tuft of hairs (C), and seeds from which the tuft of hairs has been removed (D).



Various stages of seedlings development of *Tamarix minoa*: gradual development of the rhizomes and removal of the seed coat that bears the tip of the hairs (A & B), appearance of the cotyledons and development of the roots (C, D & E), appearance of the first leaf (about 50 days after onset of imbibition) (F).

Vegetative propagation



Vegetative production of *Salix kaptarae* plants had ~ 75% success rate with winter stem cuttings without the use of rooting hormone.



Tamarix minoa plants were produced vegetatively with late spring stem cuttings and the rooting hormone indole-3-butyric acid (IBA) at a concentration of 3000 ppm.

In situ conservation

	<i>Salix kaptarae</i>	<i>Tamarix minoa</i>
Action plan	v	v
Mapping and assessment of natural populations	v	v
Small forestry works	v	v
Reinforcement	v	v



Information material



References:

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Acknowledgements:

The project was funded by the national Programme "Protection and Upgrading of Forests 2019" of the Green Fund.