



Rare plants of Akrotiri Marsh FACTS & CONSERVATION ACTIONS

June 2024



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1. INTRODUCTION

This report is prepared in the frame of Darwin Plus Project: **DPLUS141: Habitat & Wise Use for Akrotiri & Cape Pyla**. The 3-year Project (2021-2024), which is funded by Darwin Plus in UK, aims to restore important wildlife habitats within the Cyprus Sovereign Base Areas, focusing on Akrotiri wetlands and native scrub on Cape Pyla (Dhekelia), to promote wise use of the area and at the same time to develop eco-tourism opportunities to support the local economy. The project partners are BirdLife Cyprus (with the leading role), Terra Cypria, the Cyprus Sovereign Base Areas Administration - Environment Department (SBAA ED) and the Royal Society for the Protection of Birds (RSPB).

This report describes **mapping results**, conservations **actions** and proposed **targets** for the four threatened plant species that are included in the scope of DPLUS141 project. It introduces the four threatened species present at Akrotiri marsh, describes all conservation actions that took place in

<u>Mentha aquatica</u> <u>Euphorbia hisruta</u> <u>Ipomoea sagittata</u> <u>Schoenoplectus tabernaemontani</u>

the duration of the project and then proposes specific future actions, outcomes and targets. These aim to **improve the recovery and status** of the targeted species that will also benefit other species and/or ecological communities. The proposed actions include new and existing initiatives.

All four targeted plant species have been classified under the red list criteria of IUCN. They grow in wetland habitats. In general, plants that grow in wetland habitats are of particular interest, as they are usually unable to migrate to other sites, which in a climate change context, could act as refugial.





NON – TECHNICAL ILLUSTRATIVE SUMMARY

Mentha aquatica factsheet



Herbaceous rhizomatous perennial plant growing to 100 cm tall. The stems are square in cross-section, green or purple, and variably hairy to glabrous. The rhizomes are wide-spreading, fleshy, and bear fibrous roots. The leaves are ovate to ovate-lanceolate, 2-4 cm long and 1-4 cm broad, green, sometimes purplish, opposite, toothed, and vary from hairy to nearly hairless. The flowers are small, tubular arranged in whorls around the stem, pinkish to lilac in colour. All parts of the plant have a distinctly minty smell.



Public outreach and education

It occurs in the shallow margins of streams, pools, and marshes. If the plant grows in the water itself, it rises above the surface of the water. It generally occurs on mildly acid to calcareous mineral or peaty soils.

Habitat & Ecology

M. aquatica occurs in east and north Africa, Macaronesia and Europe, East to West Asia, It has been reported from all countries in Europe except Gibraltar. It is regarded as introduced to Iceland, Bolivia, Brazil and southern South America.

World native range

In Cyprus, the best-established population is in Akrotiri marsh. It has also been reported from a pool near Pera Vasa, picnic area and Listovounos (Limassol forest).

National range

Conservation measures

Mentha aquatica L.

Watermint/ Βασιλικόδυοσμος,φλισκούνι

Family: Lamiaceae

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				Range indicators*
	Habitus and growth type	Plant height [m]: Life span: Life form:	0.56 -1 Perennial Hemicryptophyte	
	Leaf	Specific leaf area [mm2/mg]:	30.02	
	Fruit, seed and dispersal	Seed mass [mg]: Dispersal mode & distance class:	0.16 Local non-specific dispersal: 1-5 m Anthropochory: 500-5000m	
	Trophic mode	Autotroph Non-carnivorous		
entha aquatica		Substrate humidity relationship: Substrate reaction relationship:	Wet Alkaline	
Ŵ	Ecology	Nutrient relationship: Salinity relationship: Light indicator value:	Mesotrophic Non-saline 7.1	1 (dense shade)- 9 (completely exposed)
		Moisture indicator value:	8.8	1(dry)-12 (submerged)
		Reaction indicator value:	6.6	1 (acidic) – (alkaline)
		Nutrient indicator value:	5	1 (low) – 9 (excess)
		Salinity indicator value:	0.3	0(no)-9 (hypersaline)
	Disturbance indicator values	Disturbance frequency at community level:	1.02	0-2.63

(the species optimal positioning within disturbance gradients)			
	Disturbance frequency at herb layer:	1.68	0.40-2.63
	Disturbance severity at community level:	0.4	0.10-0.96
	Disturbance severity at herb layer:	0.34	0.10-0.96
	Mowing frequency:	0.36	0-2.12
	Grazing pressure:	0.19	0-0.78
	Soil disturbance:	0.13	0-0.94

* FloraVeg.EU (accessed 06/2024)

Euphorbia hirsuta factsheet



Perennial herb growing up to 80 cm tall. Hemicryptophyte. The stem is erect, hairy, sometimes with a reddish hue. The leaves are opposite, oblong to lanceolate, covered with fine hairs and with toothed margins. The flowers are small, yellow-green, grouped in cyathia. The plant, when cut, releases latex rich in the chemical compounds called diterpenes, which are used for defensive purposes.



Strong partnerships and research networking

Public outreach and education

Conservation

measures



Euphorbia hirsuta L. Hairy Spurge

Family: Euphorbiaceae

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			Range indicators*
Habitus and growth type	Plant height [m]: Life span: Life form:	0.8 Perennial Hemicryptophyte	
Seed dispersal	Seed mass [mg]: Seed dispersal mode & distance class:	0.16 Myrmecochory: 2-5 m	
Trophic mode	Autotroph Non-carnivorous No nitrogen-fixing symbionts		
	Substrate humidity relationship:	Wet	
	Substrate reaction relationship:	Alkaline	
	Nutrient relationship:	Eutrophic	
	Salinity relationship:	Non-saline	
Ecology	Light indicator value:	7.7	1 (dense shade)- 9 (completely exposed)
	Moisture indicator value:	7	1(dry)-12 (submerged)
	Reaction indicator value:	7	1 (acidic) – (alkaline)
	Nutrient indicator value:	6.3	1 (low) – 9 (excess)
	Salinity indicator value:	0	0(no)-9 (hypersaline)
Disturbance indicator values (the species optimal	Disturbance frequency at community level:	1.08	0-2.63
positioning within disturbance gradients)	Disturbance frequency at herb layer:	1.79	0.40-2.63
	Habitus and growth type Seed dispersal Trophic mode Ecology Disturbance indicator values (the species optimal positioning within disturbance gradients)	Habitus and growth typePlant height [m]: Life span: Life form: Seed dispersalSeed dispersalSeed mass [mg]: Seed dispersal mode & distance class: Autotroph Non-carnivorous No nitrogen-fixing symbiontsTrophic modeSubstrate humidity relationship: Substrate reaction relationship: Salinity relationship: Salinity relationship: Light indicator value: Notisture indicator value: Salinity indicator value: Salinity indicator value: Disturbance indicator values (the species optimal positioning within disturbance gradients)Disturbance frequency at community level: Disturbance frequency at herb layer:	Habitus and growth typePlant height [m]: Life span: Life form: Seed dispersal0.8 Perennial Hemicryptophyte 0.16Seed dispersalSeed mass [mg]: Seed dispersal mode & distance class: Autotroph Non-carnivorous No nitrogen-fixing symbionts0.48 Perennial Hemicryptophyte 0.16Trophic modeSubstrate humidity relationship: Substrate reaction relationship:WetLight indicator value: Light indicator value:On-salineMoisture indicator value: (Light indicator value:7Disturbance indicator values (the species optimal positioning within disturbance gradients)Disturbance frequency at herb layer:Disturbance indicator values (the species optimal positioning within disturbance gradients)Disturbance frequency at herb layer:Item Second

	Disturbance severity at community level:	0.36	0.10-0.96
	Disturbance severity at herb layer:	0.31	0.10-0.96
	Mowing frequency:	0.55	0-2.12
	Grazing pressure:	0.23	0-0.78
	Soil disturbance:	0.13	0-0.94

* FloraVeg.EU (accessed 06/2024)

Ipomoea sagittata factsheet



Herbaceous perennial trailing or climbing plant. It can grow up to 2 m. The leaves are alternate, arrow shaped (sagittate), to narrow tilled, with long petioles, 4-10 cm long. They are acute, with linear to lanceolate basal lobes, often as long as the apical. The flowers are generally solitary, axillary. Funnel shaped, typically pink to purple 6-9 cm long and 6-8 cm wide. Fruit is a brown sub-globose to ovoid capsule 10-13 mm in diameter. The seeds are 7-8 mm long, oblong, with woolly tomentum edges.



Insect pollination Rhizomes

2007: 20 plants 2024: 450 plants

July

September- October

July-August



Habitat & Ecology

World native range

National range





Monitoring period



Prefers humid, alkaline, eutrophic substrate. The species has high salinity tolerance. It occurs in areas where it forms characteristic liana communities that climb the stems of tall reeds. In addition to the floral nectaries, that attract pollinators, it also has defence nectaries at the sepals, which serve an antiherbivory function. They attract insects -usually ants- which prey on or exclude herbivores. Moreover, the presence of indole alkaloids, as a defence mechanism is also known for the loomoeagenus.

Native to southeastern United States, which was first reported in 1720s. 50 years earlier -in 1675- it was described from Zakynthos in Greece. This amphi- Atlantic distribution was a botanical puzzle, since there were no loomoee representatives in Europe before the contact with the New World. Austin (2014) suggested that the species was transported to Europe either for medicinal purposes -it was known to be used in the New World to treat snake bites- as ornamental or seeds, probably introduced in boat ballast. Once seeds arrived, they may have been washed into nearby wetlands and established. The seeds of *I*, segittete, are at least partly water dispersed, in that they have hairs that allow them to float. In the eastern Atlantic and the Mediterranean region,

In Cyprus, the only known population is in Akrotiri marsh.

National Red List Classification Critically endangered

Set tangible, clear and measurable targets Process & performance monitoring

Strong partnerships and research networking

In -situ conservation actions

Ex-situ conservation actions

Public outreach and education



Saltmarsh Morning Glory Family: Convolvulaceae



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				Range indicators*
	Habitus and growth type	Plant height [m]: Life span: Life form:	2 Perennial Hemicryptophyte, Herbaceous liana	
	Seed dispersal	Seed dispersal mode & distance class:	Local non-specific dispersal: 1-5 m	
	Trophic mode	Autotroph Non-carnivorous No nitrogen-fixing symbionts		
sagittata		Substrate humidity relationship: Substrate reaction relationship:	Mesic Alkaline	
ротоеа		Nutrient relationship:	Eutrophic	
4	Ecology	Salinity relationship: Light indicator value:	Saline 8.5	1 (dense shade)- 9 (completely exposed)
		Moisture indicator value:	5	1(dry)-12 (submerged)
		Reaction indicator value:	7.5	1 (acidic) – (alkaline)
		Nutrient indicator value:	6	1 (low) – 9 (excess)
		Salinity indicator value:	4.5	0(no)-9 (hypersaline)

* FloraVeg.EU (accessed 06/2024)

Schoenoplectus tabernaemontani factsheet



Herbaceous perennial plant, with scaly, stout, horizontal rhizomes that can grow up to 3.5 m. The stems are obscurely three-sided and spongy. The leaves are highly modified into long sheaths that closely hug stem bases. The flowers are borne in an open inflorescence of many stalked, budlike spikelets, covered by reddish brown scales below the top of the stem. The fruit is a brownish grey achene.





Softstem bulrush

Family: Cyperaceae

- Strong partnerships and research networking
 - Public outreach and education

Conservation

measures

DPLUS141: HABITAT RESTORATION & WISE USE FOR AKROTIRI & CAPE PYLA -Rare plants of Akrotiri Marsh – Facts & Conservation Actions-

				Range indicators*
	Habitus and growth type	Plant height [m]: Life span: Life form:	3.5 Perennial Geophyte	
	Seed dispersal	Seed mass [mg]: Seed dispersal mode & distance class:	1.86 Local non-specific dispersal: 1-5 m	
	Trophic mode	Autotroph Non-carnivorous No nitrogen-fixing symbionts		
aemontani		Substrate humidity relationship: Substrate reaction relationship:	Water Alkaline	
tus tabern	Ecolomy	Nutrient relationship: Salinity relationship:	Eutrophic Slightly saline or brackish	1 (dense shade)- 9 (completely exposed)
oenopleci	LCOOGy	Light indicator value: Moisture indicator value:	8.1	1(dry)-12 (submerged)
Sch		Reaction indicator value:	7.1	1 (acidic) – (alkaline)
		Salinity indicator value:	2	0(no)-9 (hypersaline)
		Disturbance frequency at community level:	1.71	0-2.63
	(the species optimal positioning within disturbance	Disturbance frequency at herb layer:	1.81	0.40-2.63
	gradients)	Disturbance severity at community level:	0.25	0.10-0.96

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	Disturbance severity at herb layer:	0.25	0.10-0.96
	Mowing frequency:	0.37	0-2.12
	Grazing pressure:	0.09	0-0.78
	Soil disturbance:	0.09	0-0.94

* FloraVeg.EU (accessed 06/2024)

The risk of extinction for each species was assessed according to the IUCN Red List Categories and Criteria.

A species assessed as 'Critically Endangered' is considered to be facing an extremely high risk of extinction in the wild. A species assessed as 'Endangered' is considered to be facing a very high risk of extinction in the wild.

Calendar of recommended conservation actions

Activity	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
On-going Monitoring to evaluate status												
												ļ
Controlled grazing - Open gates												
Controlled grazing - Closed gates												
										-		
Removal of competing species		R				Ŧ	-					
D. Rubus construct T. Tomorius		-										
R. Rubus sunctus, 1: Tumarix sp.		к				1	-					
Ex- situ conservation/ seed banking - Seed collection												
												<u> </u>
Ex. situ conservation / Plant production Phizama collection												
Ex- situ conservation/ Plant production - Kinzome conection												
Evisity concentration (Plant production - Cuttings collection												
Ex- situ conservation/ Plant production - Cuttings collection												
In situ conservation - Reinforcement & Introduction												
(augusta augusta august												
(supplementary weeding)												
Facilitate & strengthen management body, regional												
collaboration, research partnerships & networking												
Foster public awareness												
Smell it, take a picture of it, enjoy it!												

Mentha aquatica	Euphorbia hirsuta	Ipomoea sagittata	Schoenoplectus tabernaemontani	Horizontal

2. METHODS

2.1 Monitoring - Population recording - Mapping

Monitoring

The initial step for planning the monitoring program was to obtain existing information (maps, publications, expert knowledge). Monitoring was planned during the species optimum period during which the most distinct identifying features are present, i.e. usually the flowering period, and was always conducted by a team of at least two people. Monitoring rare plants in wetlands is a rather resource demanding activity, but also fun and enables the collection of information that is otherwise unavailable. It is noted that a great part of Akrotiri marsh is not accessible either due to flooding, dense stands of reeds or sometimes by the presence of non-friendly bulls in mating mode.

Population recording

The population size of each species was estimated in individuals (describing mature individuals), acknowledging the guidelines of IUCN (2012, 2024).

"Mature individuals" is the number of individuals known, estimated or inferred to be capable of reproduction. Reproducing units within a clone are counted as individuals,

Since all four plants grow in forming dense colonies and the exact estimation of the population potentially entails errors (over-/under- estimation), the area covered by each taxon in m² is also reported. It is noted that although the area covered is an indication of distribution and not a biologically meaningful population unit, however it provides an additional indication of the taxa's population. The population size estimated in the context of the project, was compared to the numbers provided in the Red Data Book of the Flora of Cyprus (Tsintides et al. 2007), and the recent publication of Christodoulou et al (2021), but also to the initial recording of population, prior to any conservation actions, at the beginning of the Darwin Plus project. This provided an evaluation of the change achieved due to the project's conservation actions.

Mapping

The boundaries of the extent of occurrence (EOO) of each taxon were marked during field work so that the delimitation of the EOO was possible. The EOO was compared to the data provided from the Environment Department of the Sovereign Base Areas (SBA) and the Department of Forests of the Republic of Cyprus, to assess the change achieved.

EOO is a parameter that measures the spatial spread of the areas occupied by a taxon. It is the area contained within the shortest continuous boundary which can be drawn to encompass all the known sites of present occurrence of a taxon, excluding cases of vagrancy. (IUCN 2018)

2.2 Planning conservation actions

The priorities of conservation vary both at species and spatial level. A plant has different conservation needs depending on the conditions in which it grows, thus conservation measures were planned on a local scale.

Obtain adequate **knowledge of the subject** *in terms of biological and ecological requirements, time and financial resource involved*

Set **SMART** (S-specific, M-Measureable, A- Attainable, R-realistic, T-Timely), **tangible and clear targets**

Monitoring

- Implement monitoring and measures timely and according to guidelines

- Performance monitoring – Creating, restoring, implementing measures

Create a strong network of **collaborators** and set open means of communication

Outreach activities

2.3 Conservation actions

In-situ conservation actions

Throughout the project it is acknowledged that the best methods for preserving plant taxa are the in-situ actions aiming at improving the conservation status of the selected taxa. The actions consisted of plant reinforcements and/or introduction to new areas, but also other management measures such as passive defence measures, such as fencing the area where the threatened species occur, controlled access, managed grazing patterns spatially and temporally, controlling competing plants, or restoring the natural vegetation within or around the area of interest.

In order to define whether the reinforcement or introduction actions of the target taxon to an area were feasible, a preliminary survey took place based on existing data, current distribution range, distance from the nearest natural population and availability of potential suitable sites. In addition, the availability of data on the life cycle, reproductive and population biology as well as ecological requirements of the particular taxon were verified and this information was considered crucial for implementing reliable in situ actions.

Ex- situ conservation actions

Ex-situ conservation provides an alternative and complementary method for preventing extinction. One of the most effective ways to preserve the plant diversity through ex-situ conservation is the collection and storage of seeds in seed banks, which allows conserving large amounts of genetic material under suitable conditions, for a long time with minimum risk of genetic degradation.

Seed banking

In the frame of the DPLUS141 Project, seed collection, curation and storage for germplasm (seed lots) conservation was carried out for the target taxa adhering to national and international regulations and standards. The seeds were stored in the seed bank of Agricultural Research Institute (ARI) of the Ministry of Agriculture, Rural Development and Environment, of the Republic of Cyprus. The germplasm was collected following criteria aiming at maximizing the representativeness of the genetic diversity of the populations (Fenu et al. 2019).

The collection of seeds was conducted by the DPLUS141 field team, while the curation and storage of seeds preservation were performed at ARI genebank.

Plant production

During the duration of the DPLUS141 project, active collection of the targeted plants was taking place, for (a) the implementation of in situ actions (b) the availability of plants for use in population reinforcement actions and (c) for outreach activities. This took place at the nurseries of the Department of Forest at Fasouri and Athalassa. Plants were produced from seeds, rhizome or cuttings mostly by nursery officers specializing in the production of local plants.

3. RESULTS

3.1 Monitoring - Population recording - Mapping

The monitoring plan for the target species is presented below. A proposed population

monitoring template for each species and habitat assessment is provided in Annex I.

Species Monitoring Plan

Tasks

Assess species population size

) - N

Monitor species habitat quality

Monitoring Period

Mid-Term Monitoring Plan:

- Annual or biennial for a period of 6 years following which a re-assessment will take place
- Data assessment every 6 years
- Monitoring plan revision every 6 years

Species Monitoring sub-tasks

Annual or biennial assessment of the population size, by counting all mature individuals (flowering or seeding). This is conducted on each species suitable period (in relevance to the calendar of recommended conservation actions*see 1. Introduction*). It is noted that the species suitable period can vary largely depending on the climatic conditions, thus investigative surveillance is suggested.

Depending on the species and the area covered, its monitoring extend is marked by tape measure or rope and the number of individuals is recorder within that area. In case of high population density, the use of frames is also advisable.

The boundaries of the species extent are delimited by recording of a geolocation (gps point) every 20-50 meters. It is noted that the distance between the points depends on the species extent.

Description of the habitat, relevant environmental conditions and pressures and threats is recorded. It is advisable to record the flora composition within the extent of occurrence of each species. This is done by recording all flora species within at least 2 plots of 5x5 m. The location of the plots is randomly selected within the target species EOO. The cover of each species in the plots, is assessed using the 9—step Braun Blanquet scale.

Climatic information such as mean, minimum and maximum monthly temperature and precipitation can be obtained by the closest meteorological station. Notes on the duration of the flooding period can be empirically noted.

The data assessment regarding each species viability, can be conducted every 6 years, along with analyses on changes in the plants' communities in relation to environmental variables.

- Extent of Occurrence
- Population size
- Biotic & abiotic variables

Table 1 shows the number of individuals and area (m²) covered by each target taxon within the Akrotiri Marsh. Figures 1 to5 present the distribution of each taxon and their Extent of Occurrence (EOO) at Akrotiri Marsh. In the digital version of this report, maps in .kmz and .shp formats are also available. The population size of each target species along with geographic information, is provided in Annex II.

For all four species, updated distributions and population sizes are provided in the context of the project DPLUS141. Overall, the cover and population size of the target species -with the exception of *Mentha aquatica*- has increased manyfold, following implementation of the project's conservation actions.

In relation to *M. aquatica,*, some locations that were previously recorded to host *M. aquatica* in Akrotiri marsh, during the project's field work no plants of this species were found. Not confirming the species presence, consequently, narrows its EOO. Moreover, reinforcing the population with seeds, was not proved effective. A number of plants were successfully introduced in an area outside the Akrotiri marsh- thus their number does not increase the indicators of change. The population of *M. aquatica* established at the plant micro-reserve at Eucalyptus forest (see Section In-Situ conservation), is not mentioned in Table 1. A population of about 400 individuals is supported there.

Additionally, a population of about 100 individuals of *E. hirsuta*, is also established at the microreserve. A number of locations mentioned in the past as hosting *I. sagittata* have been unsuccessfully searched, however, new locations that the species has been established at Akrotiri marsh, are being recorded. Both the population size and the area covered by *E. hirsuta*, *I. sagittata* and *S. tabernaemontanti*, have increased, compared to the previous reference values.

	Pre project ta 20	xa estimations - 007-	Beginning of taxa estimatio	project ons-2022-	End of projec	ct taxa estimations - 2024-	% change	acquired ct duration	Notes
Species	Population	EOO (m²)	Population	EOO (m ²)	Population	EOO (m²)	Population % change	EOO %	Regarding the period of project duration
Mentha aquatica	700	39000	500	150	610*	150	↑ 22%	0%	Updated distribution map. The presence of the species was not be confirmed in areas that was previously reported
Euphorbia hisruta	1	2200	450	2130	1230*	6700	个 170%	个 215%	Updated distribution map. The species population and distribution has been expanded.
Ipomoea sagittata	20	3300	280	980	450	90300	个 61%	个 9115%	Updated distribution map. The species population and distribution has been expanded.
Schoenoplectus tabernaemontani	200	20000	350	56500	6460	230000	个1750%	个 307%	Updated distribution map. The species population and distribution has been expanded.

Table 1: Comparative population numbers and extent of occurrence for each target species, pre- and post- DPLUS 141 project active

* The population established at the plant micro-reserve of Eucalyptus forest is not reported in this table (see section In – situ conservation actions)

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Figure 1: Distribution of target plant species at Akrotiri Marsh, 2024

Akrotiri marsh

- 0 Ipomoea sagittata
- Mentha aquatica
- 0 Schoenoplectus tabernaemontani







Euphorbia hirsuta Extent of Occurrence- Pre & Post- project- Akrotiri marsh 2024

<u>Legend</u>

Euphorbia hirsuta distribution - Akrotiri Marsh 2024

Ν

- Euphorbia hirsuta- Post project EOO
- Euphorbia hirsuta- Pre project EOO

Figure 3: Euphorbia hirsuta Extent of Occurrence- Pre & Post- DPLUS141 project activities, Akrotiri marsh 2024.



Ipomoea sagittata Extent of Occurrence- Pre & Post- project- Akrotiri marsh 2024

<u>Legend</u>

• Ipomoea sagittata distribution - Akrotiri Marsh 2024

Ν

Ipomoea sagittata- Post project EOO

Ipomoea sagittata- Pre project EOO

Figure 4: Ipomoea sagittata Extent of Occurrence- Pre & Post- DPLUS141 project activities, Akrotiri marsh 2024.



- Schoenoplectus tabernaemontani- Post project EOO
- Schoenoplectus tabernaemontanii- Pre project EOO

Figure 5: Schoenoplectus tabernaemontani Extent of Occurrence- Pre & Post- DPLUS141 project activities, Akrotiri marsh 2024.

3.2 In situ conservation actions

Overall, a total of 20 in situ conservation actions related to the 4 target plant taxa, were implemented. These included plant reinforcement (4 actions), introduction to new areas (5 actions), management measures in the form of protective fences establishment (5 actions) and managed grazing by controlled access (3 actions), selective removal of competing or invasive taxa (2 actions) and lastly restoring natural vegetation (1 action).

The majority of actions were related to the reinforcement of the existing target species populations and introduction at sites with suitable ecological conditions. The selection of the microsites for planting was based on expert judgement. Local reinforcement and introductions have been implemented by using different plant material from the active collection (see section on ex-situ conservation), mainly seedlings, juvenile plants and seeds, followed by reproductive plants. Most of the above actions, required complementary actions (pre-and/or post- reinforcement and introduction), such as fencing, control of invasive alien plants or weeding.

For all four targeted species, local reinforcement actions took place, by planting seeds and individuals from the active collections to Akrotiri Marsh. In the case of *Ipomoea sagittata*, artificial pollination was also undertaken at about 25% of the individuals, to investigate the species responses to its pollinator density. Based on field observations, it was confirmed that at least one of the species pollinators is a wild solitary bee of the genus *Megachile* (F. Megachilidae). A specimen has been submitted to the Department of Agricultural Sciences, Biotechnology and Food Science of the Cyprus University of Technology for lower taxonomic identification.





In addition, all four targeted species were introduced to new areas (plant micro-reserve), depending on the local conditions and their ecological requirements. More specifically, *Mentha aquatica*, was planted at a suitable site at the Eucalyptus forest. *M. aquatica*, was translocated in 2019 at the specific location, by the Environment Department of the SBA, thus the population established there was reinforced with more individuals within the context of the project. A total of about 400 individuals of *M. aquatica* are established there. *Euphorbia hirsuta*, was also introduced at the Eucalyptus forest site. The species was planted there for the first time, with promising results. The 1st year monitoring, resulted in reproducing individuals. About 100 individuals have been recorded there. To further support the establishment of the

populations of the two taxa, the site is being irrigated by the Department of Forests, during the dry period. Actions for the removal of invasive species (*Acacia saligna*) have also taken place. *Schoenoplectus tabernaemontani* was introduced at the banks of retention ponds downstream of Symvoulas reservoir. The presence of the species there was confirmed in September 2023, during which local reinforcement actions took place. Additionally, individuals of the species, were introduced at the Botanical Garden of the Department of Forests, at Athalassa- Nicosia and the Botanical Garden of the Akrotiri Environmental Education Centre.

While monitoring the taxa at Akrotiri marsh, it was reported, that several individuals of *Ipomoea sagittata*, were infested by a moth larva. The larvae consumed the petals and the reproductive organs of the flower. It was thus decided that it might be meaningful to translocate individuals of the species to an area far from the local population, maximising the possibilities of the absence of the moth. *Ipomoea sagittata*, was also introduced at the Botanical Garden of the Department of Forests, at Athalassa- Nicosia.

As mentioned earlier, all target species except *Euphorbia hirsuta*, are being grazed or trampled. In a means to control the grazing intensity, spatially and temporally, four areas at Akrotiri marsh were fenced in the context of the project. Two areas at the north-eastern part of the marsh – $1190m^2$ and 75 m^2 – were fenced for the protection of *Ipomoea sagittata* and *Euphorbia hirsuta*. Two smaller areas at the western end of the marsh were fenced -30 m² and 120 m² –for the protection of *Schoenoplectus tabernaemontani*. The latter are among the few areas of Akrotiri marsh, where flowering individuals







can be observed. In most areas of the marsh, the species is heavily grazed, thus asexual reproduction is promoted. Supplementary, individual fencing boxes were placed in areas of the marsh, at which *Schoenoplectus tabernaemontani* is present and the cattle density is high.

To temporally control the grazing intensity, a form of managed grazing was applied. The access of cattle herds in areas where the target species are observed and fenced, was regulated by controlling the gates. Gates were closed and grazing was not allowed, during the flowering and seeding period of the target species, thus permitting a complete reproduction cycle and limiting herbivory, but at the same time allowing the beneficial effects of grazing in the marsh.

Selective removal of competing species was also applied as in – situ conservation action in Akrotiri marsh. *Rubus sanctus* expanding stands, were selectively removed in late winter, to allow space for the more heliophilic plants such as *M. aquatica* and *I. sagittata*. Since *I.sagittata* is a climber, climbing support was supplementary provided to about 25% of the individuals. At the populations of *M. aquatica* and *E. hirsuta*, established ex-situ, at the Eucalyptus forest, selective removal of the invasive alien species *Acacia saligna* was applied.

The past few years, there is a declining trend in the flooding extend and period at the Akrotiri marsh. This has inevitably impacted the vegetation. At areas of relatively higher elevation, which remain flooded for shorter period, the wet grassland is being slowly replaced by tamarisk thickets. As an in-situ conservation action, we restored the vegetation, by removing the shrubs of *Tamarix sp.* in areas within which *E. hirsuta* and *I. sagittata* are present.

All in- situ conservation actions were carried out on legally protected sites managed by competent administrations i.e. the Environment Department- SBA and the Department of Forests- Republic of Cyprus.

A map -in .kmz and .shp format- of the areas that conservation actions took place is provided with the report.

3.3 Ex- situ Conservation Actions

Seed banking

The ex-situ conservation action of seed banking included a total of 8 germplasm accessions (seed lots) collected from the 4 target taxa. The germplasm accessions were submitted to ARI, as presented in Table 2 and Annex III. The germplasms were carefully cleaned to remove debris and empty seeds, following international standards. They were then preserved at ARI genebank to the base (-20°C) and active (2°C) collections.

Species	Date	Seeds' Number	Total seeds per species
Mentha aquatica	Feb-23	25	25
	May-22	5000	
Euphorbia hisruta	Feb-23	250	5500
	Apr-23	250	
In our on an elitterter	Oct-22	11	22
	Jul-23	12	23
	Jun-23	1000	6000
schoenopiectus tabernaemontani	Jul-23	5000	0000

Table 2: Germplasm accessions preserved at the ARI genebank.

Plant production

A total of around 500 plants were propagated (corresponding to the 4 target taxa) at the nurseries of the Department of Forests at Fasouri and Athalassa, specializing in the production of local plants. The plants were made available for in situ conservation actions: reinforcement, introduction, but also during outreach activities, during which plant pods were given to the public along with information on the species conservation.



4. CONCLUSION - DISCUSSION

- Acting for conservation is a complex process, especially in managed areas linked to financial revenue expectations.
- Designing conservation actions requires adequate knowledge of the subject, that feed the setting of tangible and smart goals.
- The effectiveness of the actions in relation to the goals set, has to be closely monitored, supplying a feedback loop of assessments, adjustments and actions. Process

SMART goals S- specific M- measurable A-attainable R-realistic

T-timely

and performance monitoring is essential throughout the conservation activities, as it is not only providing information in terms of ecological effectiveness, but also in terms of financial and technical efficacy. Given the above, it should be noted that conservation actions, should be linked with a-priori acknowledgement that biodiversity responses could be lengthy -in terms of time- or even resistant to positive change, despite previous knowledge on best practices, expertise and equipment. Nature sometimes is reluctant to respond positively due to undetermined or complex reasons.

- Planning ahead is desired, as bureaucratic procedures for obtaining permissions are inevitable.
- The success of conservation works is also linked to the strong bonds developed between the network of collaborators, but also provides ground for research partnerships and expanding networking.
- Evidently, any results -positive or negative- on the conservation works undertaken, should be reported in a clear and transferable manner, so that practitioners, scientists, decision makers, and stakeholders can benefit from the shared experience.
- Outreach activities, that increase awareness and sensitization on the conservation subject, increase the potential of sustainability and legacy of the conservation works.
- The priorities of conservation vary both at species and spatial level. A plant has different conservation interests depending on the conditions in which it grows, thus conservation measures should be planned on a local small- scale.
- In-situ conservation is preferable if the ecological conditions for the long-term survival of the target species are present. Yet, a combination of in-situ and ex-situ actions can maximize and guarantee the conservation of threatened plants. However, it is noted that ex-situ actions should be considered complementary and supportive to the in-situ actions.
- The openings created by cattle in the dense reed stands seem to provide new potential establishment grounds for the target species to expand their distribution. The annual/biennial monitoring should include these newly opened accessible areas.

The DPUS141 project, has set the foundations for long-term conservation of the threatened target species, by providing updated information on their population and distribution at Akrotiri marsh, by applying in-situ, exsitu and supplementary management measures and actions. The grazing in the area, requires systematic monitoring and seasonal adaptations to the target species needs. The cattle herds provide opportunities to the threatened species to occupy new areas, but at the same time, they potentially exert a number of pressures (grazing, trampling, alteration of soil eutrophic status etc.). A sustainable conservation approach, entails the operation of an informed management body, that will take into account in a holistic manner the needs of the area, in terms of biodiversity sensitivity (flora, habitats, fauna), but also socio-economic, recreation, agro-tourism.



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ANNEXES



ANNEX I- Species population monitoring & habitat assessment

Species					
	G	ENERAL INFORMATION	I		
		Date		Habitat	
Data recorder		Altitude (m)		Relief	
Location		Soil type		Soil depth - A ₀ (cm)	
		Aspect		Inclination (°)	
Photos		Geological substrate			
Sub-population		Locality			
				LONG (X)	
Notes			Coordinates	LAT	
				(Y)	

	PRESSURES / THREATS										
Description /											
Comments											

A/A	Pressure / Threat code	Timing (1,2,3,4)	Impact (H, M, L)	Refers to (Pop / Hab)	Cover (Wh, Maj, Min)	Description
1						
2						
3						
4						
5						
6						
7						
8						
9						

	Invasive non-native species												
A/A	Species name	Area (m²)	A/A	Species name	Area (m²)								
1			3										
2			4										

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								НДР	RITAT										
Habitat desc	ription																		
Quality	Sufficie	ent Ins	ufficient	Unknow	n	Trend	+	=	-	ur	ocertain	unk	known	Res	toration sibilities	eas	y po	ssible	difficult/ impossible
Area Sufficient Insufficient Unknown Trend +								=	-	ur	ncertain	unk	known	Res	toration	eas	y po	ssible	difficult/ impossible
A/A Special Structures / Functions											Fav	orab	le	Suffic	ient		Not Su	ufficie	nt
1																			
2																			
4																			
5 6 7																			
6	6																		
	Habitat's sampling plot (plant collection, if nessecary)																		
(m ²)	mpling pi	ot size						Samp	ling p	lot's	coordin	nates	s (x,y)						
Geographic	file name	2																	
		Cover %	6 Ma	x Height						C	Cover %		Max I	Height				(Cover %
Tree layer (T)				Her	b layer 1 (H	11)								Total ve	egetation	cover	-	
Shrub layer :	1 (S1)				Her	b layer 2 (H	12)								Moses/ layer	Bryophy	rtes		
Shrub layer	2 (S2)				Tota	al (H1+H2)									Lichens	layer			
Total T (+S)	c list				Oth	er	1.01/0		Diar	+	ocioc lic	•			Bare ro	cks/ston	S		lavor
riant specie	5 1151					Jover	Laye	21	riaf	it sp	ecies IIS	L					cover		Layel
					T														
Notes																			

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Species																	
Unit		Indiv.		Surface (m ²)		Cell 1 km	ı x 1	. km	Oth	er (Descriptic	on)				 	
Monitori ng method	1.	Full survey	2.	Indicative	Rando m	Sampli Sy	ng (plot) /stematic		Adapted	3.	Presence	<mark>e / A</mark> l	osence in e	cell			
Notes																	

Geographic file	Notes relevant to geographic	Notes relevant to geographic information Plot size (m x m)		Veg	ye Surface		Vitality	Special structure	Comments					
name	information		Т	C1	C2	Т	C3	Т	C4	(m²)	1, 2, 3			

The form shall be completed for each location (geographically defined) in which the species is monitored.

. . .

It is suggested to fill in a different form for each habitat type of the species at the site and for different conditions in terms of threat / pressure. The sampling of the habitat is carried out on a sampling plot within the site but does not necessarily occupy the entire area of the site.

1: Habitat - Threats	
Sheet data	Explanation
Sheet num.	The sheet number will be in the form " yymmdd_nmbr " where: yy-year (2 digits), mm – month (2 digits), dd – day (2 digits), nmbr – consecutive number of the sheet within the day per field researcher (2 digits). Example form code: 240602_02 (refers to the 2nd form completed by a researcher on 2 June 2024). The numbering per day is independent of the species.
Species	One of the species on the finalized list of flora species of Community interest under its Latin name shall be selected.
General information	
Data recorder	Name of the field researcher completing the sheet.
Location	Place name/description of the location.
Date	Date of sampling (DD/MM/YYYY).
Altitude (m)	Altitude or elevation range of the habitat.
Soil type	Soil texture in habitat: sandy (granules visible to the naked eye), silty (flour-like texture), clayey (approximately the same amounts of sand-silt-clay), loamy (elastic-sticky when moistened), rocky (with very little or no fine-grained material).
Aspect	Habitat exposure in degrees or categories (multi-exposure, level, N, NE, NW, etc.).
Habitat	Habitat type(s) according to the current Annex I of the habitats' directive. To be completed where possible. For areas where data are available, it shall be completed by habitat type mapping and confirmed in the field. If identification in the field is not possible, an attempt is made to fill it in at the office.
Relief	Mountainous configuration of the habitat (Slope, Plateau, Cavity, Ridge, Variable).
Soil depth-A ₀ (cm)	0: Absence of soil (rocks, stones); Shallow: -5 cm; Medium: -20 cm; Deep: >20 cm.
Inclination (°)	Inclination or range of inclination of the habitat location in degrees.
Photos	Photos from the location.
Geological substrate	Geological substrate at the site of the habitat. To be completed where possible.
Sub-population	Sub-population code.
Locality	Location Code (where applicable).
Natura 2000 site	Natura 2000 site code.
Notes	Other remarks / information not included in the fields provided for in the form.
Coordinates	Indicative point within the habitat of the species. As far as possible, preference should be given to a characteristic location. This position will be accompanied by photographic documentation. The coordinates are written in WGS 1984 UTM Zone 36N.
Pressures / Threats	
Description / Comments	Free text on threats or pressures on habitat and/or species.
Pressure / Threat code	Code according to the current EU list (provided as a separate form). Please note that disturbances that favor the species should not be recorded as pressures/threats. The main ones shall be indicated and those in force shall be stated. Different threats are added under the existing ones.
Timing	1. in the past but now suspended due to measures, 2. ongoing, 3. ongoing and likely to be in the future, 4. only in future
	Options 1, 2 and 3 apply to pressures, and options 3 and 4 apply to threats.
Impact	H: high; M: medium; L: low (according to the EU definitions for options 3 and 4 of the Timing).
Refers to	Pop: population; Hab: Habitat.
Cover (Wh, Maj, Min)	Percentage of population affected by pressure/threat according to EU categories (Wh: whole >90%; Maj : majority 50- 90%; Min : minority <50%)
Description	Verbal specialization of pressure/threat where required (e.g., trampling, intensive cultivation, disturbance from vehicles).
Invasive non-native species of EU interest	In case the pressures record non-native invasive species of European interest (according to the current list), the name of each species and the area it occupies in m ² are indicated in the table.
Other invasive non-native species	Where other non-native invasive species are recorded under pressure, the name of each species and the area occupied in m ² shall be indicated in the table.

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Sheet data	Explanation								
Habitat [Description of the ha	abitat in the sampling plot/site (e.g., vegetation unit), required)]								
Habitat description	Free text describing the habitat of the species.								
Quality / Area	The Quality and Area of the habitat are assessed. To be filled in for both parameters								
	Receives the values: Sufficient, Insufficient, Unknown (the option is marked with X).								
Trend	labitat Area and Quality Trend. To be filled in for both parameters.								
	t takes the values: +: increase; =: stable; -: decrease, uncertain, unknown (the option is marked with X).								
Restoration possibilities	Ability to restore Area and Habitat Quality. To be filled in for both parameters.								
It receives the values: easy = easy recovery; possible = recovery possible with moderate effort; difficult / impos difficult or impossible (marked with X option).									
Special Structures / Function	IS								
Special Structures / Functions	The condition of specific structures and functions important for the survival of the species (e.g., presence of host species, protective shrub, typical species of the habitat, presence of dispersal agent or pollinator, abundance of trunks or openings).								
	The specific structures will be defined by the investigator per species.								
Favorable	Structures present in favorable abundance-conservation status.								
Sufficient	Structures present in sufficient abundance-conservation status.								
Not sufficient	Structures absent or present in inadequately abundance-conservation status.								
Habitat's sampling plot (plan	nt collection, if necessary)								
Habitat's sampling plot size (m ²)	Sampling plot size for habitat in m ² .								
Sampling plot's coordinates (x,y)	Additional GPS points that define the polygon of the sampling area of the habitat, which are recorded to assist the researcher in field work. The coordinates are listed in WGS 1984 UTM Zone 36N.								
Geographic file name	The file name containing the geographical information of the polygon of the sampling plot of the habitat where the measurement is made (corrected or completed in the office). The GIS (polygon) file is in WGS 1984 UTM Zone 36N coordinates.								
Cover %	% coverage per layer in sampling plot.								
Max height	Maximum height per layer T, S1, S2, H1, H2 on the sampling plot.								
Tree layer (T)	Woody species, including climbing plants > 5 m high.								
Shrub layer 1 (S1)	Woody species, including climbing plants 1-5 m high.								
Shrub layer 2 (S2)	Woody species, including climbing plants < 1 m high.								
Total T (+S)	% coverage of all layers of woody species (layer S1, S2 and layer T if available).								

Herb layer (H)	Herbs (non-woody spe	Herbs (non-woody species and seedlings).										
Herb layer 1 (H1)	Herbs (non-woody spe	erbs (non-woody species and seedlings) > 1 m (if required).										
Herb layer 2 (H2)	Herbs (non-woody spe	erbs (non-woody species and seedlings) < 1 m (if required).										
Total (H1+H2)	% coverage of all herba	ό coverage of all herbaceous layers.										
Total vegetation cover	% coverage of all plant	6 coverage of all plants in the polygon or sampling plot.										
Moses / Bryophytes layer	For Bryophytes.	For Bryophytes.										
Lichens layer	For Lichen.	For Lichen.										
Bare rocks / stones	% coverage of bare roo	sks/stones.										
Plant species list	Plant species present i	n the sampling plot (indicate cover) or present in the location.										
Plant species list / Cover	Coverage according	to the 5-point DAFOR scale:										
	D - Dominant	> 75%										
	A - Abundant 51 - 75%											

	F - Frequent	26 - 50%							
	O - Occasional	11 - 25%							
	R - Rare	1 - 10%							
Plant species list / Layer	Enter the layer where t	he species is located according to the above categories.							
Comments	Free text, with comments on the location or condition of the plant, or on sampling conditions (e.g., accessibility or weather conditions), notes on photographic material, etc.								

2: Mapping – Population size

Sheet data	Explanation						
Species	One of the species on the finalized list of flora species of Community interest under its Latin name shall be selected.						
Unit	Measurement unit for counting the species and estimating the total size of its population.						
Indiv.	Distinct individuals of the species are counted. Where it is not possible to establish an absolute value, population size may refer to one of 14 EU-defined classes (from 0-50 to 50,000,000-100,000,000 individuals).						
Surface (m²)	Area covered by the population in m ² for those species where it is impossible to distinguish individuals in the field and the population is measured through the area covered by the individuals in m ² .						
Cell 1 km x 1 km	The estimation unit of the total population size for the species will be the number of cells with a size of 1 km x 1km in which the species is present.						
Other	Another unit if considered necessary by the data recorder. The unit should be described and then the measurements should be reduced to number of individuals.						
Monitoring method	The measurement method for estimating the total population size of the species.						
Full survey	Counting of all plants (individuals / area m ²) in the location / subpopulation of the species.						
Sampling (plot)	Counting of individuals on sampling plots.						
	(a) Indicative: subjectively selected plots that may be used for longitudinal monitoring of the number of people.						
	(b) <i>Random</i> : plots placed by random method.						
	(c) Systematic: plots mounted by a systematic method.						
	(d) Adapted: plots selected by adaptive clustering.						
Presence/Absence in cell	For the species whose population size will be calculated exclusively by the number of cells 1 x 1 km where the species is present.						
Notes	Free text with supplementary information.						
Population size							
Geographic file name	Name of a file or files containing the geographical information of the polygon in which the measurement is made (corrected or completed in the office). The GIS (polygon) file is in WGS 1984 UTM Zone 36N coordinates.						
Notes relevant to geographic information	Additional notes concerning geographical information (e.g., coordinates, GPS points, etc.) collected to support the researcher during field work. The coordinates are written in WGS 1984 UTM Zone 36N.						
Plot size (m x m)	Wherever sampling is chosen as the measurement method, its size in meters (m x m) shall be recorded for each sampling plot.						
Reproductive	Number of reproductive individuals in the counting polygon. Reproductive individuals are those individuals capable of reproduction which exhibit flowers or fruits during the time of measurement. If no measurement is made, X (present) is noted.						
1	Number of intact reproductive individuals.						
C1	Number of reproductive individuals in which flowering or fruiting stems have been fully consumed (by predators) (these individuals are not included in I).						
C2	Number of reproductive individuals having signs of consumption by predators but flowering or fruiting stems are not fully consumed (these individuals are not included in I).						
Seedlings	Number of seedlings in the measurement polygon. Plantlets that develop from the embryo after seed germination. If no measurement is made, X (present) is noted.						
I	Number of intact seedlings.						
C3	Number of seedlings indicating signs of consumption by predators.						
Vegetative	Number of individuals in the vegetative phase (without flowers or fruits) in the measuring polygon. These individuals may be young (in cases where it is not possible to distinguish them from mature individuals that do not bloom) or mature individuals that do not bloom during the time of measurement. If no measurement is made, X (present) is noted.						

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Sheet data	Explanation
I	Number of intact individuals in the vegetative phase.
C4	Number of intact individuals in the vegetative phase bearing signs of consumption by predators.
Surface	Area covered by population in m ² .
Vitality	Vitality of individuals when it is desirable to record these elements (e.g., in the case of trees appearing in herbaceous or shrubby form). Preliminary vitality categories: 1: stunted plants that are not able to complete their life cycle, 2: stunted plants with few flowers or fruits, 3: plants with a sufficient number of flowers/fruits and typical bioform. If there are individuals of different vitality in the same GPS polygon/point(s), the number of category individuals shall be recorded on
	a different row in the table.
Special structure	The specific structure to which reproductive individuals/population surfaces are related (e.g., presence of host species, protective shrub, typical species of the habitat, presence of dispersal agent or pollinator, abundance of trunks or openings) shall be recorded.
	If in the same GPS polygon/point(s) there are individuals presented with different special structures, the number of individuals per structure is recorded on a different row of the table.
Comments	Free text with supplementary information. Where only one GPS point is marked, it is suggested to determine the area of coverage of the plant or cluster(s).

ANNEX II- Population size and geographic information of each target species at Akrotiri marsh

Species	IUCN cat.	Locality	Population size	Population range	Date	Surveyor	x	Y
Euphorbia hirsuta	CR	Akrotiri marsh	40	<50	06/2024,	DPLUS141 Team	494501	3831760
Eunhorhia hirsuta	CR	Akrotiri	10	<50	06/2024	DPLUS141	494532	3831770
Laphonola ini sata	en	marsh	10	100	07/2023	Team	13 1332	5051770
Euphorbia hirsuta	CR	Akrotiri	30	<50	06/2024.	DPLUS141	494512	3831780
		marsh			07/2023	Team		
Euphorbia hirsuta	CR	Akrotiri	20	<50	06/2024,	DPLUS141	494521	3831800
,		marsh			07/2023	Team		
Euphorbia hirsuta	CR	Akrotiri	50	<50	06/2024,	DPLUS141	494554	3831790
		marsh			07/2023	Team		
Euphorbia hirsuta	CR	Akrotiri	10	<50	06/2024,	DPLUS141	494546	3831800
		marsh			07/2023	Team		
Euphorbia hirsuta	CR	Akrotiri	20	<50	06/2024,	DPLUS141	494520	3831860
		marsh			07/2023	Team		
Euphorbia hirsuta	CR	Akrotiri	10	<50	06/2024,	DPLUS141	494517	3831890
		marsh			07/2023	Team		
Euphorbia hirsuta	CR	Akrotiri	50	<50	06/2024,	DPLUS141	494574	3831790
		marsh			07/2023	Team		
Euphorbia hirsuta	CR	Akrotiri	20	<50	06/2024,	DPLUS141	494586	3831790
		marsh			07/2023	Team		
Euphorbia hirsuta	CR	Akrotiri	40	<50	06/2024,	DPLUS141	494587	3831800
		marsh			07/2023	Team		
Euphorbia hirsuta	CR	Akrotiri	150	100-500	06/2024,	DPLUS141	494573	3831810
		marsh			07/2023	Team		
Euphorbia hirsuta	CR	Akrotiri	150	100-500	06/2024,	DPLUS141	494575	3831840
		marsh			07/2023	Team		
Euphorbia hirsuta	CR	Akrotiri	400	100-500	06/2024,	DPLUS141	494558	3831830
		marsh			07/2023	Team		
Euphorbia hirsuta	CR	Akrotiri	100	50-100	06/2024,	DPLUS141	494549	3831840
		marsh			07/2023	Team		
Euphorbia hirsuta	CR	Akrotiri	70	50-100	06/2024,	DPLUS141	494538	3831840
Freehaulte bierrete	CD.	marsh	60	50.400	07/2023	Team	404554	2024.050
Euphorbia hirsuta	CR	AKrotiri	60	50-100	06/2024,	DPLUS141	494551	3831850
	CD	marsn	20		07/2023	Team	40.41.00	2021/00
ipomoea sagittata	CK	AKrotiri	20	<50	06/2024	DPLUS141	494180	3831690
Inomoog cagittata	CP	Akrotiri	20	~50	06/2024		404170	2021600
ipomoeu sugittutu	CK	marsh	20	<50	00/2024	DPL03141	494170	2021000
Inomoea saaittata	CR	Akrotiri	10	<50	06/2024		10/160	3831670
ipomoeu sugittutu	CN	marsh	10	<50	00/2024	Team	494109	3831070
Inomoea saaittata	CR	Akrotiri	10	<50	06/2024	DPLUS141	494327	3831630
ipolilocu sugittutu	Ch	marsh	10	100	00/2024	Team	454527	3031030
Inomoea saaittata	CR	Akrotiri	30	<50	06/2024	DPLUS141	494323	3831670
ipolilocu sugittutu	en	marsh	50	100	07/2023	Team	13 1323	50510/0
Inomoea saaittata	CR	Akrotiri	20	<50	06/2024	DPLUS141	494527	3831730
.pomoca oagittata	0.11	marsh			00,202	Team		0001/00
Ipomoea saaittata	CR	Akrotiri	20	<50	06/2024	DPLUS141	494498	3831740
		marsh				Team		
Ipomoea saaittata	CR	Akrotiri	30	<50	06/2024	DPLUS141	494500	3831750
,		marsh			,	Team		
Ipomoea saaittata	CR	Akrotiri	10	<50	06/2024	DPLUS141	494585	3831800
,		marsh				Team		
Ipomoea sagittata	CR	Akrotiri	20	<50	06/2024,	DPLUS141	494587	3831800
		marsh			07/2023	Team		

Species	IUCN	Locality	Population	Population	Date	Surveyor	х	Y
	cat.		size	range				
Ipomoea sagittata	CR	Akrotiri	5	<50	06/2024,	DPLUS141	494593	3831800
		marsh			07/2023	Team		
Ipomoea sagittata	CR	Akrotiri	30	<50	06/2024,	DPLUS141	494590	3831810
		marsh			07/2023	Team		
Ipomoea sagittata	CR	Akrotiri	30	<50	06/2024,	DPLUS141	494586	3831810
		marsh			07/2023	Team		
Ipomoea sagittata	CR	Akrotiri	10	<50	06/2024,	DPLUS141	494590	3831820
		marsh			07/2023	Team		
Ipomoea sagittata	CR	Akrotiri	30	<50	06/2024,	DPLUS141	494577	3831810
		marsh			07/2023	Team		
Ipomoea sagittata	CR	Akrotiri	5	<50	06/2024,	DPLUS141	494578	3831840
		marsh			07/2023	Team		
Ipomoea sagittata	CR	Akrotiri	30	<50	06/2024,	DPLUS141	494572	3831840
		marsh			07/2023	Team		
Ipomoea sagittata	CR	Akrotiri	20	<50	06/2024,	DPLUS141	494555	3831830
		marsh			07/2023	Team		
Ipomoea sagittata	CR	Akrotiri	20	<50	06/2024,	DPLUS141	494573	3831830
		marsh			07/2023	Team		
Ipomoea sagittata	CR	Akrotiri	50	<50	06/2024,	DPLUS141	494554	3831820
		marsh			07/2023	Team		
Ipomoea sagittata	CR	Akrotiri	30	<50	06/2024,	DPLUS141	494557	3831840
		marsh			07/2023	Team		
Ipomoea sagittata	CR	Akrotiri	1	<50	06/2024,	DPLUS141	494433	3831920
		marsh			07/2023	Team		
Ipomoea sagittata	CR	Akrotiri	1	<50	06/2024,	DPLUS141	494403	3831950
		marsh			07/2023	Team		
Ipomoea sagittata	CR	Akrotiri	1	<50	06/2024,	DPLUS141	494337	3831980
		marsh			07/2023	Team		
Ipomoea sagittata	CR	Akrotiri	1	<50	06/2024,	DPLUS141	494303	3832010
		marsh			07/2023	Team		
Ipomoea sagittata	CR	Akrotiri	20	<50	07/2023	DPLUS141	493887	3832360
		marsh				Team		
Mentha aquatica	CR	Akrotiri	120	100-500	06/2024,	DPLUS141	494536	3831840
		marsh			07/2023	Team		
Mentha aquatica	CR	Akrotiri	100	50-100	06/2024,	DPLUS141	494539	3831830
		marsh			07/2023	Team		
Mentha aquatica	CR	Akrotiri	10	<50	06/2024,	DPLUS141	494550	3831830
		marsh			07/2023	Team		
Mentha aquatica	CR	Akrotiri	30	<50	06/2024,	DPLUS141	494543	3831840
		marsh			07/2023	Team		
Mentha aquatica	CR	Akrotiri	300	100-500	06/2024,	DPLUS141	494547	3831840
		marsh			07/2023	Team		
Mentha aquatica	CR	Akrotiri	40	<50	06/2024,	DPLUS141	494554	3831840
		marsh			07/2023	Team		
Mentha aquatica	CR	Akrotiri	10	<50	06/2024,	DPLUS141	494554	3831840
		marsh			07/2023	Team		
Schoenoplectus	EN	Akrotiri	20	<50	06/2024,	DPLUS141	494514	3831890
tabernaemontani		marsh			07/2023	Team		
Schoenoplectus	EN	Akrotiri	15	<50	07/2023	DPLUS141	494441	3831870
tabernaemontani		marsh				Team		
Schoenoplectus	EN	Akrotiri	180	100-500	07/2023	DPLUS141	494420	3831890
tabernaemontani		marsh				Team		
Schoenoplectus	EN	Akrotiri	40	<50	07/2023	DPLUS141	494420	3831910
tabernaemontani		marsh				Team		
Schoenoplectus	EN	Akrotiri	10	<50	07/2023	DPLUS141	494385	3831930
tabernaemontani		marsh				Team		
Schoenoplectus	EN	Akrotiri	10	<50	07/2023	DPLUS141	494362	3831940
tabernaemontani		marsh				Team		
Schoenoplectus	EN	Akrotiri	150	100-500	07/2023	DPLUS141	494349	3831950
tabernaemontani		marsh				Team		

Species	IUCN	Locality	Population	Population	Date	Surveyor	х	Y
openeo	cat.	Locality	size	range	Dute	surveyor	~	•
Schoenonlectus	FN	Akrotiri	60	50-100	07/2023		494175	3832100
tahernaemontani		marsh	00	50 100	0772025	Team	454175	3032100
Schoenonlectus	FN	Akrotiri	400	100-500	07/2023		494126	3832100
tahernaemontani		marsh	400	100 500	0772025	Team	454120	3032100
Schoenonlectus	FN	Akrotiri	150	100-500	07/2023		494119	3832110
tahernaemontani		marsh	150	100 500	0772025	Team	454115	5052110
Schoenonlectus	FN	Akrotiri	600	500-1000	07/2023		494128	3832130
tahernaemontani		marsh	000	500 1000	0772025	Team	454120	3032130
Schoenonlectus	FN	Akrotiri	180	100-500	07/2023	DPLUS141	494108	3832160
tahernaemontani	2.14	marsh	100	100 500	0772020	Team	13 1100	5052100
Schoenonlectus	FN	Akrotiri	10	<50	07/2023	DPLUS141	494104	3832170
tahernaemontani		marsh	10	130	0772025	Team	454104	5052170
Schoenonlectus	FN	Akrotiri	100	50-100	07/2023	DPLUS141	494070	3832180
tabernaemontani		marsh	100	50 100	0772025	Team	434070	3032100
Schoenonlectus	FN	Akrotiri	90	50-100	07/2023		494027	3832200
tabernaemontani		marsh	50	50 100	0772025	Team	454627	3032200
Schoenonlectus	FN	Akrotiri	50	<50	07/2023		494044	3832190
tahernaemontani		marsh	50	130	0772025	Team		3032130
Schoenonlectus	FN	Akrotiri	100	50-100	07/2023		494019	3832180
tahernaemontani		marsh	100	50 100	0772025	Team	454015	3032100
Schoenonlectus	FN	Akrotiri	20	<50	07/2023		493909	3832230
tahernaemontani		marsh	20	~ 50	0772025	Team	455505	3032230
Schoenonlectus	FN	Akrotiri	20	<50	07/2023		493894	3832210
tahernaemontani		marsh	20	~ 50	0772025	Team	455054	3032210
Schoenonlectus	FN	Akrotiri	20	<50	07/2023		193862	3832200
tahernaemontani		marsh	20	~ 50	0772025	Team	455002	3032200
Schoenonlectus	FN	Akrotiri	20	<50	07/2023		192932	3832610
tahernaemontani		marsh	20	~ 50	0772025	Team	452552	3032010
Schoenonlectus	FN	Akrotiri	25	<50	07/2023		492862	3832630
tabernaemontani		marsh	23	130	0772025	Team	452002	3032030
Schoenonlectus	FN	Akrotiri	10	<50	07/2023		492868	3832620
tahernaemontani		marsh	10	130	0772025	Team	452000	3032020
Schoenonlectus	FN	Akrotiri	1	<50	07/2023	DPLUS141	492908	3832590
tahernaemontani	2.14	marsh	-		0772020	Team	132300	3032330
Schoenonlectus	FN	Akrotiri	10	<50	07/2023	DPLUS141	492967	3832620
tabernaemontani		marsh	10	130	0772025	Team	452507	3032020
Schoenoplectus	EN	Akrotiri	15	<50	07/2023	DPLUS141	492961	3832630
tabernaemontani		marsh				Team		
Schoenonlectus	FN	Akrotiri	300	500-1000	07/2023	DPLUS141	493569	3832250
tabernaemontani		marsh		000 2000	07,2020	Team		0001100
Schoenoplectus	EN	Akrotiri	700	500-1000	07/2023	DPLUS141	493509	3832250
tabernaemontani		marsh		000 2000	07,2020	Team		0001100
Schoenoplectus	EN	Akrotiri	20	<50	07/2023	DPLUS141	493517	3832270
tabernaemontani		marsh				Team		
Schoenoplectus	EN	Akrotiri	50	<50	07/2023	DPLUS141	493478	3832230
tabernaemontani		marsh				Team		
Schoenoplectus	EN	Akrotiri	40	<50	07/2023	DPLUS141	493455	3832290
tabernaemontani		marsh				Team		
Schoenoplectus	EN	Akrotiri	40	<50	07/2023	DPLUS141	493411	3832290
tabernaemontani		marsh	-		-,	Team		
Schoenoplectus	EN	Akrotiri	80	50-100	07/2023	DPLUS141	493346	3832340
tabernaemontani		marsh			,	Team		
Schoenoplectus	EN	Akrotiri	40	<50	07/2023	DPLUS141	493286	3832420
tabernaemontani		marsh			,	Team		
Schoenoplectus	EN	Akrotiri	80	50-100	07/2023	DPLUS141	493247	3832470
tabernaemontani		marsh			,	Team		
Schoenoplectus	EN	Akrotiri	40	<50	07/2023	DPLUS141	493168	3832500
tabernaemontani		marsh				Team		
Schoenoplectus	EN	Akrotiri	60	50-100	07/2023	DPLUS141	493151	3832490
tabernaemontani		marsh				Team		

Species	IUCN	Locality	Population	Population	Date	Surveyor	Х	Y
	cat.		size	range				
Schoenoplectus	EN	Akrotiri	700	500-1000	07/2023	DPLUS141	493104	3832520
tabernaemontani		marsh				Team		
Schoenoplectus	EN	Akrotiri	2000	1000-5000	07/2023	DPLUS141	493087	3832520
tabernaemontani		marsh				Team		

ANNEX III- Germplasm (seeds) accessions at ARI genebank

MAVA Project - Passport data KOPIOC OUDDEKTING : MANA LINTENS FEWEHOW ADDOI OUDDERTES: KWV FLAVRING REFIGIEDUS Επιστημονικό όνομα Εμελακρία Μικευτε κοινό όνομα: Euphonia pubeschens 1, 2-5, 5-10, 10-25, 25-50, 50-100, 100-1000, 1000+ Αριθμός ώριμων φυτών: Αριθμός φυτών που συλλέχτηκαν : 1, 2-5, 5-10, 10-25, 25-50, 50-100, 100-1000, 1000+ Συλλογή σπόρων από το έδαφος: Ναι, Όχι, Μερικώς Φαινότυπος: Περισσότερα άνθη παρά καρποί Περισσότεροι καρποί παρά άνθη 🗸 Μόνο καρποί Καρποί έχουν ήδη τιναχτεί · AIBAEL AKENTTALION AEFE Περιοχή συλλογής (Χωρίο - περιοχή) *Γεωγραφικό μήκος: 34.6285.72 *Γεωγραφικό πλάτος: 32.9405.90 Επιφάνεια συλλογής (1) -100, 100-500, 500-1000, 1000-2000, 2000+ Έκθεση: Β, Β-Α, Α, Ν-Α, Ν/Ν-Δ, Δ, Β-Δ Κλήση: 0-5%, 6-10%, 11-20%, 21-31%, >30% Οικότοπος: Δάσος, Θαμνώνες, Λιβάδια, Ποτάμια/Ρέματα, Βραχώδεις γυμνές περιοχές, Βραχώδεις ακτές, Αμμώδεις, χαλικώδεις ή πετρώδεις ακτές, Καλλιεργούμενη γη, Αστικές περιοχές, Περιθώρια χωραφιών, Περιθώρια δρόμων OIKÓTOTOG ODANIAS: CX02 Reed Beds παρατηρήσεις: Άλλες SUMARY TROPER TO TRAITIO TON ELTON Darwin Plus 141 - Habitat Restoration & Wise Use for Akrotici and cape Pyla *Format: UTM zone 36 Northern Hemisphere, WGS84

Αριθμός συλλογής :.25.....Ημερομηνία συλλογής 21/02/2023 Κύριος συλλέκτης : ΑΘΗΝΑ.ΠΑΠΑΘΕΟΔΟΥΛΟΥ.στο.πλαίσιο του.έργου.Darwin.Plus..... Άλλοι συλλέκτες: DPLUS141: Habitat restoration and wise use for Akrotiri and Cape Pyla Επιστημονικό όνομα : ΜΕΝΤΗΑ ΑQUATICA Κοινό όνομα:..... Αριθμός ώριμων φυτών: 1, 2-5, 5-10, 10-25, 25-50, 50-100, 100-1000, 1000+ Αριθμός φυτών που συλλέχτηκαν :1, 2-5, 5-10, 10-25, 25-50, 50-100, 100-1000, 1000+ Συλλογή σπόρων από το έδαφος: Ναι, Όχι, Μερικώς Φαινότυπος: Περισσότερα άνθη παρά καρποί Περισσότεροι καρποί παρά άνθη Μόνο καρποί) Καρποί έχουν ήδη τιναχτεί Περιοχή συλλογής (Χωρίο – περιοχή) : ΔΙΒΑΔΙ.ΑΚΡΩΤΗΡΙΟΥ..... 32.940436 *Γεωγραφικό μήκος: 34,628358.....*Γεωγραφικό πλάτος: Υψόμετρο (μέτρα): -3Μ Επιφάνεια συλλογής (h) 100 100-500, 500-1000, 1000-2000, 2000+ Έκθεση: B, B-A, A, N-A, N, N-Δ, Δ, Β-Δ Κλήση: 0-5%, 6-10%, 11-20%, 21-31%, >30% Οικότοπος: Δάσος, Θαμνώνες, Λιβάδια Ποτάμια/Ρέματα, Βραχώδεις γυμνές περιοχές, Βραχώδεις ακτές, Αμμώδεις, χαλικώδεις ή πετρώδεις ακτές, Καλλιεργούμενη γη. Αστικές περιοχές, Περιθώρια χωραφιών, Περιθώρια δρόμων Οικότοπος Οδηγίας: 6420- Μεσογειακοί λειμώνες με υψηλές πόες και βούρλα (Molinio-Holoschoenion) Άλλες παρατηρήσεις: *Format: UTM zone 36 Northern Hemisphere, WGS84

Αριθμός συλλογής :. 250......Ημερομηνία συλλογής 21/02/2023 Κύριος συλλέκτης : ΑΘΗΝΑ.ΠΑΠΑΘΕΟΔΟΥΛΟΥ.στο.πλαίσιο του.έργου.Darwin.Plus..... Άλλοι συλλέκτες: DPLUS141: Habitat restoration and wise use for Akrotiri and Cape Pyla Επιστημονικό όνομα · EUPHORBIA HIRSUTA Κοινό όνομα: Αριθμός ώριμων φυτών: 1, 2-5, 5-10, 10·25, 25-50, 50-100, 100-1000 1000+ Αριθμός φυτών που συλλέχτηκαν : 1, 2-5, 5-10, 10-25, 25-50, 60-100, 100-1000, 1000+ Συλλογή σπόρων από το έδαφος: Ναι, Όχι, Μερικώς Φαινότυπος: Περισσότερα άνθη παρά καρποί Περισσότεροι καρποί παρά άνθη Μόνο καρποί Καρποί έχουν ήδη τιναχτεί Περιοχή συλλογής (Χωρίο – περιοχή) : AIBAALAKPOTHPIOY 32.940656 *Γεωγραφικό μήκος: 34,628204......*Γεωγραφικό πλάτος: _____ Υψόμετρο (μέτρα): -3Μ Επιφάνεια συλλογής (m -100, 100-500, 500-1000, 1000-2000, 2000+ Έκθεση: Β, Β-Α, Α, Ν-Α, Ν, Ν-Δ, Δ, Β-Δ Κλήση: 0-5%, 6-10%, 11-20%, 21-31%, >30% Οικότοπος: Δάσος, Θαμνώνες, Λιβάδια Ποτάμια/Ρέματα, Βραχώδεις γυμνές περιοχές, Βραχώδεις ακτές, Αμμώδεις, χαλικώδεις ή πετρώδεις ακτές, Καλλιεργούμενη γη. Αστικές περιοχές, Περιθώρια χωραφιών, Περιθώρια δρόμων Οικότοπος Οδηγίας: 6420- Μεσογειακοί λειμώνες με υψηλές πόες και βούρλα (Molinio-Holoschoenion) Άλλες παρατηρήσεις:

26/04/2023 Κύριος συλλέκτης : ΑΘΗΝΑ.ΠΑΠΑΘΕΟΔΟΥΛΟΥ.στο.πλαίσιο του.έργου.Darwin.Plus...... Άλλοι συλλέκτες: DPLUS141: Habitat restoration and wise use for Akrotiri and Cape Pyla Επιστημονικό όνομα · EUPHORBIA HIRSUTA Κοινό όνομα: Αριθμός ώριμων φυτών: 1, 2-5, 5-10, 10-25, 25-50, 50-100, 100-1000, 1000+ Αριθμός φυτών που συλλέχτηκαν : 1, 2-5, 5-10, 10-25, 25-50, 50-100, 100-1000, 1000+ Συλλογή σπόρων από το έδαφος: Ναι, Όχι, Μερικώς Περισσότερα άνθη παρά καρποί Φαινότυπος: Περισσότεροι καρποί παρά άνθη Μόνο καρποί Καρποί έχουν ήδη τιναχτεί Περιοχή συλλογής (Χωρίο – περιοχή) : ΛΙΒΑΔΙ.ΑΚΡΩΤΗΡΙΟΥ..... 32.940656 *Γεωγραφικό μήκος: 34.628304......*Γεωγραφικό πλάτος: Υψόμετρο (μέτρα): -3Μ Επιφάνεια συλλογής (th -100, 100-500, 500-1000, 1000-2000, 2000+ Έκθεση: Β, Β-Α, Α, Ν-Α, Ν, Ν-Δ, Δ, Β-Δ Κλήση: 0-5%, 6-10%, 11-20%, 21-31%, >30% Οικότοπος: Δάσος, Θαμνώνες, Λιβάδια Ποτάμια/Ρέματα, Βραχώδεις γυμνές περιοχές, Βραχώδεις ακτές, Αμμώδεις, χαλικώδεις ή πετρώδεις ακτές, Καλλιεργούμενη γη. Αστικές περιοχές, Περιθώρια χωραφιών, Περιθώρια δρόμων Οικότοπος Οδηγίας: 6420- Μεσογειακοί λειμώνες με υψηλές πόες και βούρλα (Molinio-Holoschoenion) Άλλες παρατηρήσεις:

MAVA Project - Passport data
Αριθμός συλλογής : 11 σΤισροι Ημερομηνία συλλογής 25.1.10/22
KUPHOC OUDDEKTING: MAVATINITAS FEWPDON
ANNOI JUNNEKTES: ZWM Makpidov
ETIGTITUOVIKÓ ÓVOLA :
Αριθμός ώριμων φυτών: 1, 2-5, 5-10, 10-25, 25-50, 50-100, 100-1000, 1000+ //Α
Αριθμός φυτών που συλλέχτηκαν : 1, 2-5, 5-10, 10-25, 25-50, 50-100, 100-1000, 1000+ ΝΑ
Συλλογή σπόρων από το έδαφος: Ναι, Όχι, Μερικώς
φαινότυπος: Περισσότερα άνθη παρά καρποί
Περισσότεροι καρποί παρά άνθη
Μόνο καρποί
Καρποί έχουν ήδη τιναχτεί
Περιοχή συλλογής (χωρίο - περιοχή) : <u>Λίβαδι</u> <u>Ακρυτηρίου</u>
*Γεωγραφικό μήκος: <u>34.62.8590</u> *Γεωγραφικό πλάτος: <u>.32.9405.68</u>
<u>Υψόμετρο (μέτρα):</u>
Επιφάνεια συλλογής (†) -100) 100-500, 500-1000, 1000-2000, 2000+
Έκθεση: Β, Β-Α, Α, Ν-Α, Ν, Ν-Δ, Δ, Β-Δ
Κλήση 0-5%, 6-10%, 11-20%, 21-31%, >30%
Οικότοπος: Δάσος, Θαμνώνες, Λιβάδια) Ποτάμια Ρέματα, Βραχώδεις γυμνές περιοχές,
Βραχώδεις ακτές, Αμμώδεις, χαλικώδεις ή πετρώδεις ακτές, Καλλιεργούμενη γη,
Αστικές περιοχές, Περιθώρια χωραφιών, Περιθώρια δρόμων
Οικότοπος Οδηγίας:
$A \lambda \lambda \epsilon \zeta$ παρατηρησεις. T L' = 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0
MODALLE TOUS OTTOPOUS ATTO QUID TO OTDOID CITATION
Kavel artificial insemination Move at them to
futo Tapathonnav sped pods
*Format: UTM zone 36 Northern Hemisphere, WGS84

MAVA Project – Passport data
Αριθμός συλλογής :12Ημερομηνία συλλογής 27/07/2023
<u>Κύριος συλλέκτης</u> : ΑΘΗΝΑ ΠΑΠΑΘΕΟΔΟΥΛΟΥ στο πλαίσιο του έργου Darwin Plus DPLUS141: Habitat restoration and wise use for Akrotiri and Cape Pyla
Επιστημονικό όνομα : IPOMOEA SAGITTATAΚοινό όνομα:
<u>Αριθμός ώριμων φυτών:</u> 1, 2-5, 5-10, 10-25, 25-50, 50-100 100-1000, 1000+
Αριθμός φυτών που συλλέχτηκαν : 1, 2-5, 5-10, 10-25, 25-50, 50-100, 100-1000, 1000+
Συλλογή σπόρων από το έδαφος: Ναι, Όχι, Μερικώς
<u>Φαινότυπος:</u> Περισσότερα άνθη παρά καρποί
Περισσότεροι καρποί παρά άνθη
Μόνο καρποί
Καρποί έχουν ήδη τιναχτεί
Περιοχή συλλογής (Χωρίο – περιοχή)
*Γεωγραφικό μήκος: 34,628304*Γεωγραφικό πλάτος: 32,940656
Υψόμετρο (μέτρα):3
Επιφάνεια συλλογής () -100, 100-500, 500-1000, 1000-2000, 2000+
Έκθεση: Β, Β-Α, Α, Ν-Α, Ν, Ν-Δ, Δ, Β-Δ
Κλήση (0-5%), 6-10%, 11-20%, 21-31%, >30%
Οικότοπος: Δάσος, Θαμνώνες, Λιβάδια, Ποτάμια/Ρέματα, Βραχώδεις γυμνές περιοχές,
Βραχώδεις ακτές, Αμμώδεις, χαλικώδεις ή πετρώδεις ακτές, Καλλιεργούμενη γη,
Αστικές περιοχές, Περιθώρια χωραφιών, Περιθώρια δρόμων
Οικότοπος Οδηγίας: 6420-Μεσονειακοί λειμώνες με υψηλές πόες και βούρλα (Molinio-
Άλλες Holoschoenion) παρατηρήσεις:

Αριθμός συλλ	ογής	:1000.		Ημερομηνία σι	λλογής	27/06/2023
Κύριος συλλέ	κτης	: .AGHN		ΩΔΩΥΛΟΧ.στο.πλαί	ίσια του.έργ	ou.Darwin.Plus
Άλλοι συλλέ	κτες:.	DPLUS	141: Habit	at restoration and v	wise use for	Akrotiri and Cape Pyla
Επιστημονικό	όνομ	<u>a</u> :	IOENOPLE	CTUS TABERNAEMO	ονομα:	
Αριθμός ώριμ	ιων φι	<u>πών:</u> 1	L, 2-5, 5-10	10.25, 25-50, 50-:	100, 100-10	000, 1000+
Αριθμός φυτώ	ον ποι	ο συλλέχη	слкол : :	1,2-5) 5-10, 10-25,	25-50, 50-1	.00, 100-1000, 1000+
Συλλογή σπ	όρων	από το	έδαφος: Ν	Ιαι, Όχι, Μερικώς		
Φαινότυπος:	TE	ρισσότε	ρα άνθη π	αράκαρποί		
	Περ	ισσότερ	οι καρποί	παρά άνθη		
	Μόν	ο καρπο	bi			
	Καρ	ποί έχο	υν ήδη τιν	αχτεί		
Περιοχή συλλ	ovńc l	Χωρίο –	περιοχή)		PIOX	
*Γεωγραφικό	μήκος	34.63	5631	Γεωγραφικό πλάτος	32.92	22738
Υψόμετρο (μέ	τρα):	<u>-3M</u>				
Επιφάνεια σ	υλλογ	VÁS MAS	100, 100-5	00, 500-1000, 1000	-2000, 2000	0+
Έκθεση: Β, Β	B-A, A	, N-A, N	, N-Δ, Δ, E	3-Δ		
Κλήση: <mark>0-5</mark> %	6,6-10)%, 11-2	0%, 21-31	%, >30%		
Οικότοπος:	Δάσο	ς, Θαμν	ώνες, Λιβ	άδια Ποτάμια/Ρέμ	ατα, Βραχο	ώδεις γυμνές περιοχές,
Βραχώδεις	ακτές	, Αμμώ	δεις, χαλι	κώδεις ή πετρώ	δεις ακτές	, Καλλιεργούμενη γη.
Αστικές περ	ιοχές,	Περιθώ	ρια χωρα	φιών, Περιθώρια δ	φόμων	
Οικότοπος	Οδηγ	/iας:.642	20- Μεσογει	ακοί λειμώνες με υψηλ	ές πόες και β	ούρλα (Molinio-Holoschoenion)
Άλλες						παρατηρήσεις:

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Αριθμός συλλογής :.5.000Ημερομηνία συλλογή	26/07/2023
Κύριος συλλέκτης : .ΑΘΗΝΑ.ΠΑΠΑΘΕΟΔΟΥΛΟΥ.στο.πλαίσιο το	ου.έργου.Darwin.Plus
Άλλοι συλλέκτες: DPLUS141: Habitat restoration and wise u SCHOENOPLECTUS TABERNAEMONTAN Κοινό όνομα	se for Akrotiri and Cape Pyla II Io:
Αριθμός ώριμων φυτών: 1, 2-5, 5-10, 10-25, 25-50, 50-100, 1	00-1000, 1000+
Αριθμός φυτών που συλλέχτηκαν : 1, 2-5, 5-10, 10-25, 25-50,	50-100, 100-1000, 1000+
Συλλογή σπόρων από το έδαφος: Ναι, Όχι) Μερικώς	
<u>Φαινότυπος:</u> Περισσότερα άνθη παρά καρποί	
Περισσότεροι καρποί παρά άνθη	
Μόνο καρποί	
Καρποί έχουν ήδη τιναχτεί	
Περιοχή συλλογής (Χωρίο - περιοχή) : ΔΙΒΑΔΙ.ΑΚΡΩΤΗΡΙΟΥ	
•Γεωγραφικό μήκος: 34.635631	32.922738
Υψόμετρο (μέτρα): -3Μ	
Επιφάνεια συλλογής ()) -100, 100-500, 500-1000, 1000-2000,	, 2000+
Έκθεση: Β, Β-Α, Α, Ν-Α, Ν, Ν-Δ, Δ, Β-Δ	
Κλήση: 0-5%, 6-10%, 11-20%, 21-31%, >30%	
Οικότοπος: Δάσος, Θαμνώνες, Λιβάδια Ποτάμια/Ρέματα, Ε	βραχώδεις γυμνές περιοχές,
Βραχώδεις ακτές, Αμμώδεις, χαλικώδεις ή πετρώδεις α	ακτές, Καλλιεργούμενη γη.
Αστικές περιοχές, Περιθώρια χωραφιών, Περιθώρια δρόμω	v
Οικότοπος Οδηγίας: 6420- Μεσογειακοί λειμώνες με υψηλές πόες	, και βούρλα (Molinio-Holoschoenion)
Άλλες	παρατηρήσεις:

*Format: UTM zone 36 Northern Hemisphere, WGS84	

Euphorbia hirsuta seeds



Ipomoea sagittata seeds





Schoenoplectus taberanemontani seeds

