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Much of the coastal habitats of Catalonia have deteriorated or disappeared due to excessive urbanisation by the tourist sector. Due to this, some plant species such as *Achillea maritima* (L.) Ehrend. & Y.P.Guo, *Phleum arenarium* L. or *Stachys maritima* Gouan have become critically endangered at regional level.

## Aims and objectives of the project (2019 – 2020)

1. To locate living wild populations of the target species in the Catalan coast.
2. To collect viable seeds for storage and future ex-situ cultivation at Marimurtra.
3. To collect herbarium specimens for storage at the Marimurtra Herbarium (HMIM).
4. To contact other institutions to compile information about the ex-situ conservation of the target species in Europe.
5. To review and compile information about cultivation methods of the target species.
6. To create a detailed habitat description of *Reseda hookeri* Guss.
7. To find potential locations in the northern Catalan coast for the repopulation of *R. hookeri*.

## Target species

- *Achillea maritima* (L.) Ehrend. & Y.P.Guo
- *Convolvulus siculus* L. sbsp. *siculus*
- *Elatine macropoda* Guss.
- *Erodium foetidum* (L.) L'Hér.
- *Jacobaea aquatica* (Hill) G.Gaertn. B.Mey. & Scherb.
- *Maresia nana* (DC.) Batt.
- *Peucedanum schottii* Besser ex DC.
- *Phleum arenarium* L.
- *Reseda hookeri* Guss.
- *Sarcocornia perennis* (Mill.) A.J.Scott

## Main conclusions

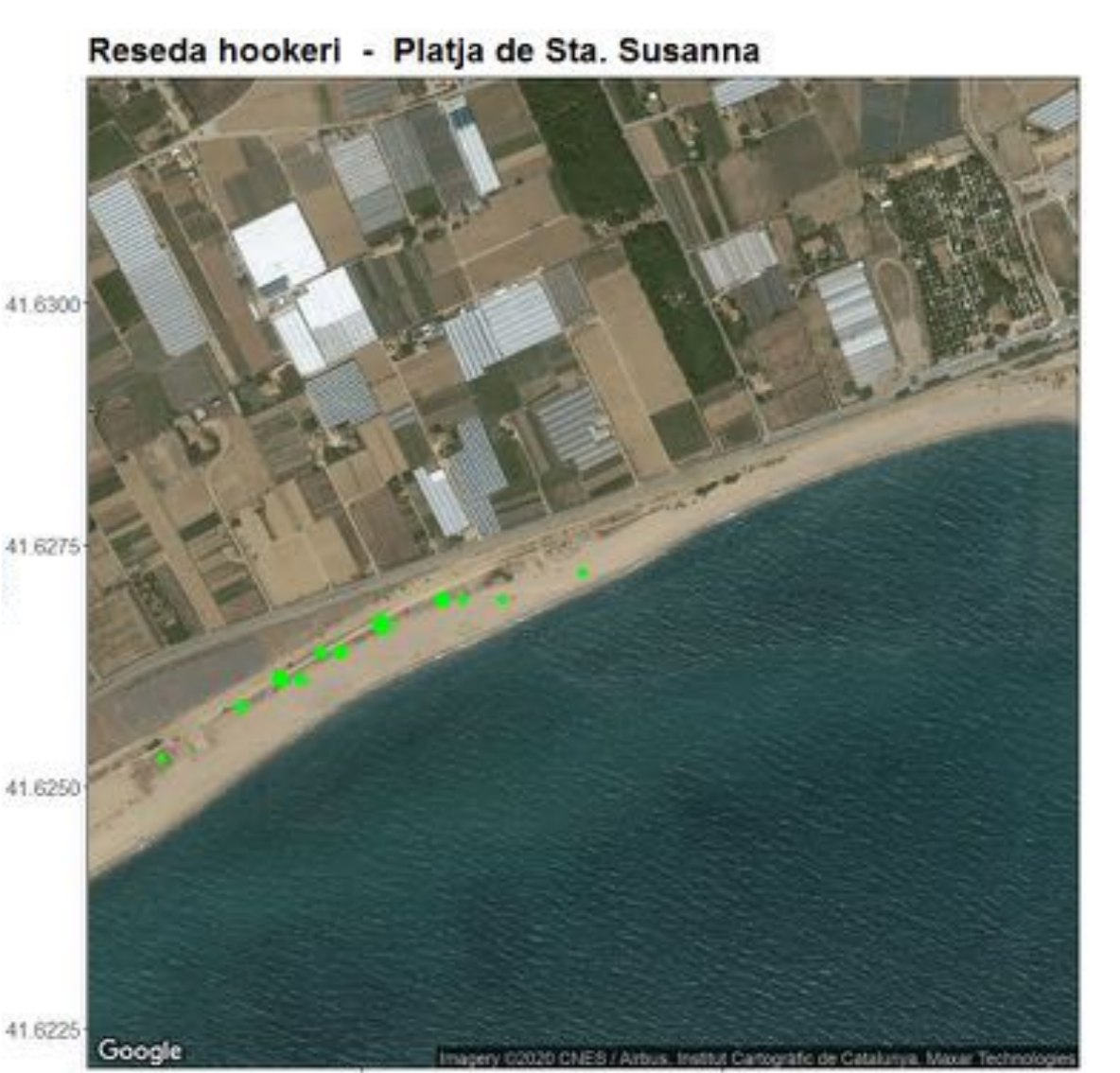
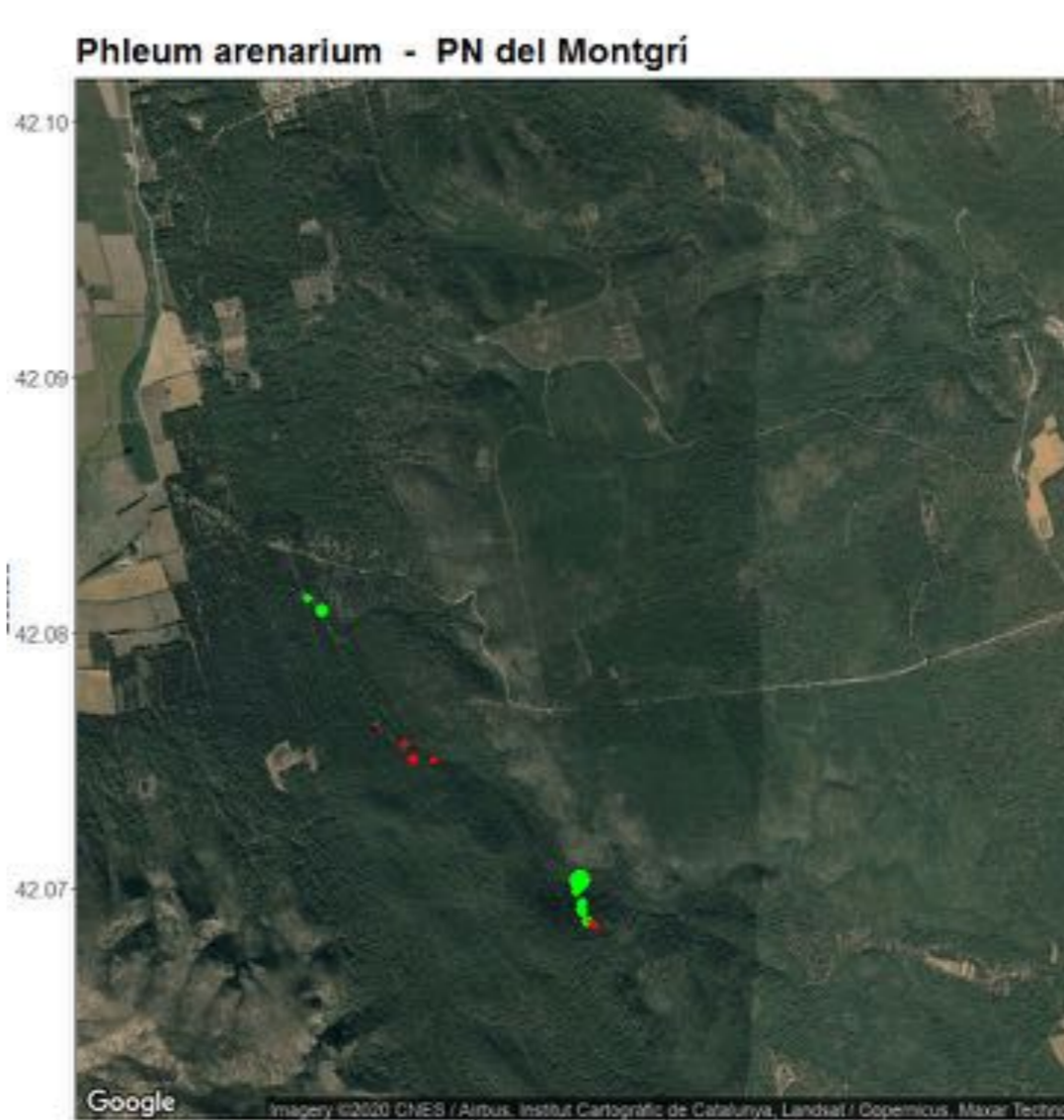
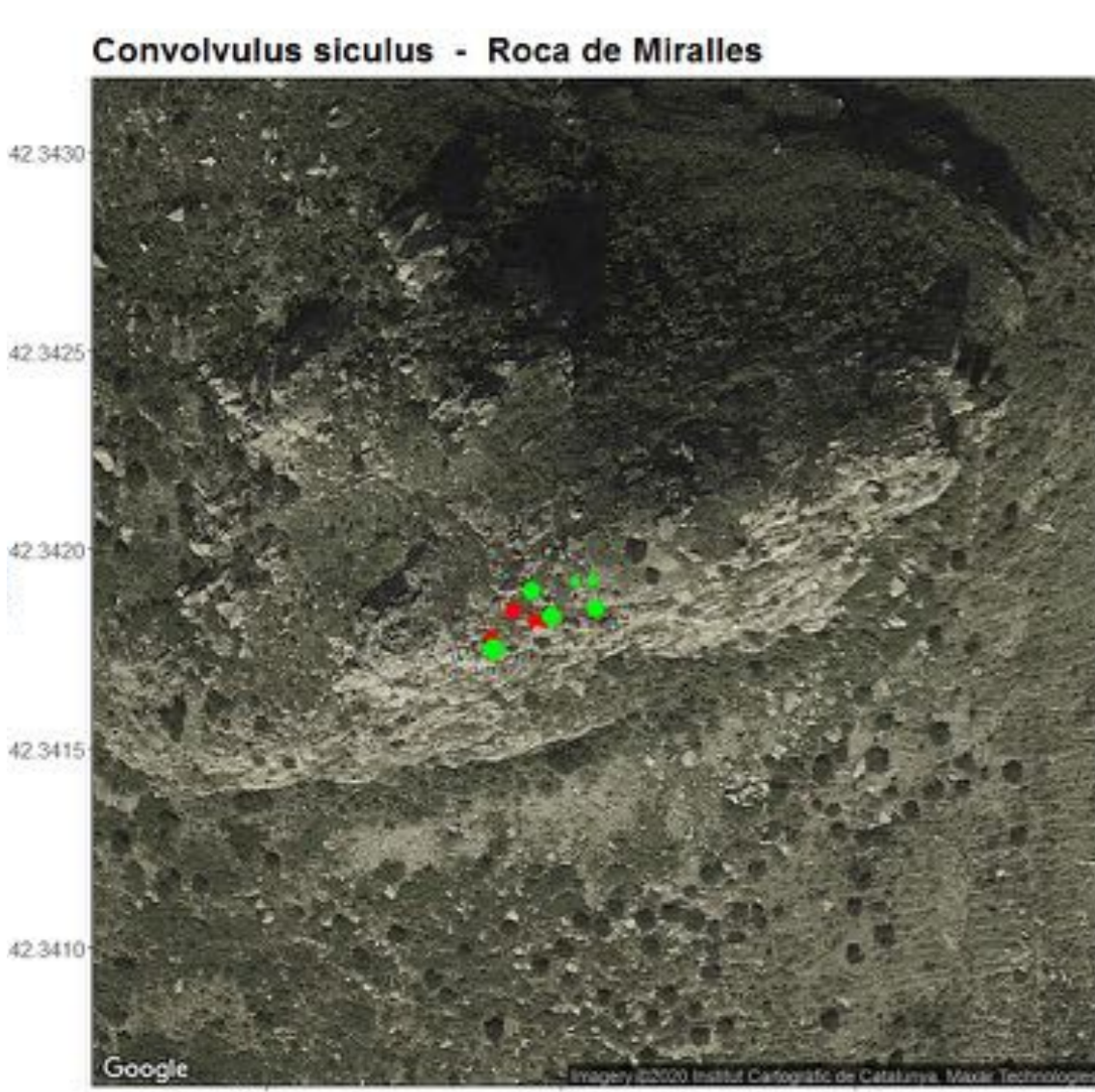
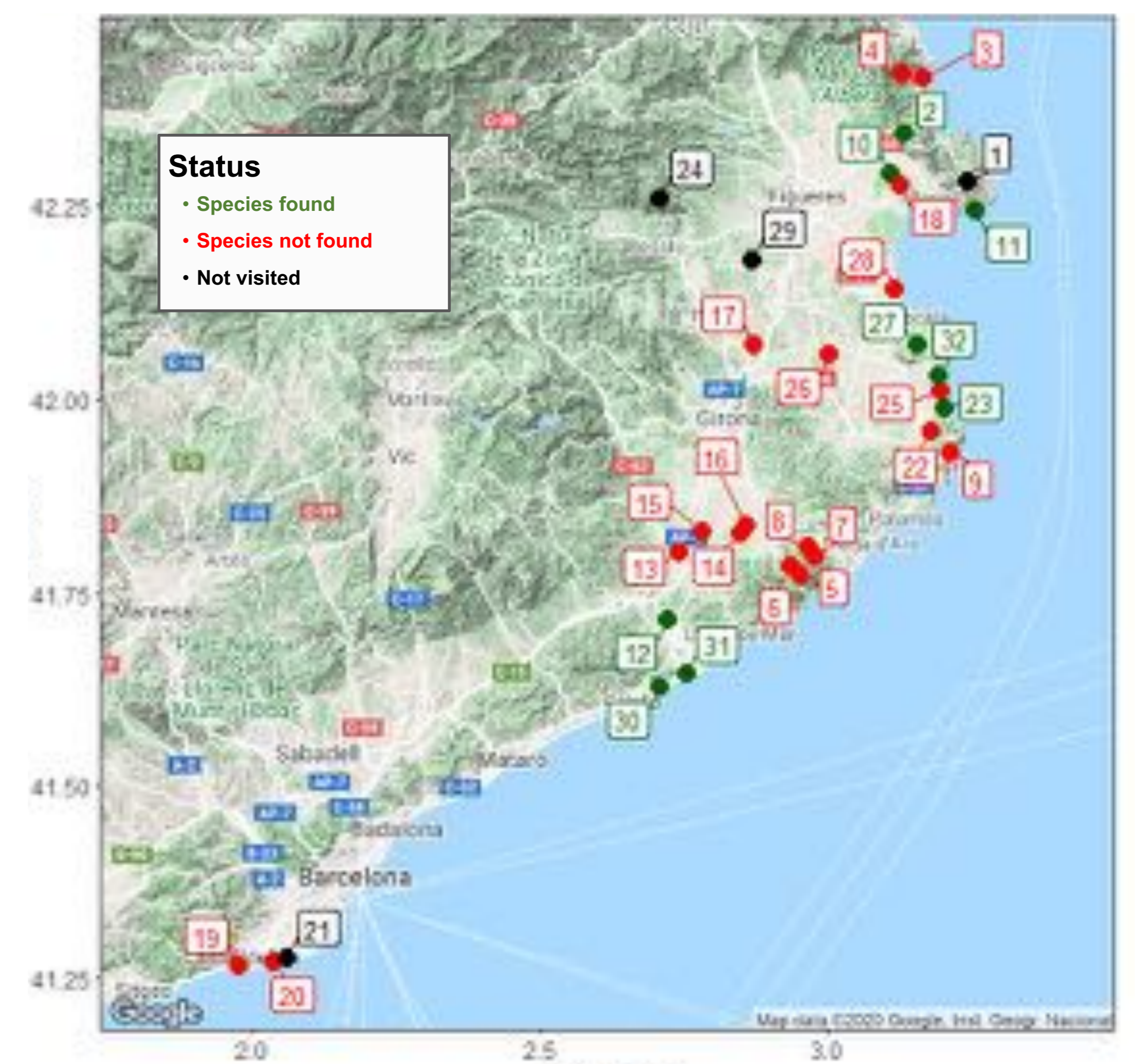
- At least one population of all target species was found, except *Sarcocornia perennis*.
- Seeds were obtained for all target species (in the case of *S. perennis* they were given by the *Muséum national d'Histoire naturelle* from Paris).
- Contact with other institutions was overall successful, obtaining enough information for most species and even some additional seeds.
- The habitat description and finding of new potential localities for *Reseda hookeri* was very successful, even finding the species for the first time in a new location.
- The only known population of *Erodium foetidum* is managed by BioSciCat. Future seed collection and the obtaining of herbarium specimens will have to be coordinated in advance with them.
- *Peucedanum schottii* was added last minute into the project and discarded from objectives 1-3, as the only known population was already properly managed and monitored by the local institution Consorci SIGMA.

	<i>Achillea maritima</i>	<i>Convolvulus siculus</i>	<i>Elatine macropoda</i>	<i>Erodium foetidum</i>	<i>Jacobaea aquatica</i>	<i>Maresia nana</i>	<i>Peucedanum schottii</i>	<i>Phleum arenarium</i>	<i>Reseda hookeri</i>	<i>Sarcocornia perennis</i>
1. Finding living populations	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red
2. Seed collection	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow
3. Herbarium spec. collection	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red
4. External conservation data	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red
5. Cultivation data gathering	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red
6. Habitat description	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red
7. Find repopulation sites	Green	Green	Green	Green	Green	Green	Green	Green	Green	Red

Green	Objective successfully accomplished.
Light Green	Objective accomplished but with lower quality results than expected.
Yellow	Objective only partially accomplished due to logistical/admin. issues.
Red	Objective attempted and not accomplished.
Grey	Objective not attempted for that species.

## Map of explored locations



Examples of the findings of living populations for four target species of the project (Mark size relates to number of individuals found. ● = Seeds collected, ✗ = No seeds collected)

## Reseda hookeri Guss.

From the observations at Santa Susanna's beach (Barcelona, Spain), *R. hookeri* prefers (or is a better competitor in) windy and sun-exposed coastal dunes, with a mostly flat profile (without main and secondary dune lines that act as wind barriers). It has also been observed that the species appears more frequently and with bigger and healthier individuals in areas with denser herbaceous vegetation, where other typical ruderal, non-habitat-specific species were also found, *R. hookeri* was not found in areas densely populated by tall (>20cm) Gramineae species.

Main accompanying species for *R. hookeri* are *Paronychia argentea* Lam. and *Cynodon dactylon* (L.) Pers. and have been determined to be the main indicator species to look for in the search of new potential repopulation locations.



## Location

Location	Date visited	Repopulation potential
Platja de Premià de Mar (Premià de Mar)	04/09/2020	Average/Good
Platja dels Vinyals (Vilassar de Mar)	09/06/2020	Average
Platja del Varador (Mataró)	09/06/2020	Average
Platja de Canet de Mar (Canet de Mar)	04/09/2020	Average/Good
Platja de Les Creus (Pineda de Mar)	04/09/2020	Average/Good
<b>Platja del Camí de la Pomereda (Malgrat de Mar)</b>	<b>09/06/2020</b>	<b>Very good</b>
Platja de Blanes (Blanes)	09/06/2020	Very bad
Platja de Santa Cristina (Lloret de Mar)	09/06/2020	Very bad
Platja de Fenals (Lloret de Mar)	09/06/2020	Bad
Platja de Lloret (Lloret de Mar)	09/06/2020	Very bad
Platja de Canyelles (Canyelles)	09/06/2020	Bad
Platja de Tossa de Mar (Tossa de Mar)	09/06/2020	Bad