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Diversification of *Portulaca oleracea* L. complex in the Italian peninsula and adjacent islands†

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ABSTRACT

There is an increasing interest in the taxonomy and distribution of the forms of the *Portulaca oleracea* complex. The information accruing from specimens collected in the Italian peninsula and surrounding islands (Sicily, Sardinia, Corsica and Malta) is here described. Eleven morphotypes were recorded: '*P. cypria*', '*P. granulatostellulata*', '*P. nitida*', '*P. oleracea*', '*P. papillatostellulata*', '*P. rausii*', '*P. sardoa*', '*P. sativa*', '*P. sicula*', '*P. trituberculata*', '*P. zaffranii*' and a still unclear form *Portulaca oleracea* f. Three occur in almost all the Italian peninsula and adjacent islands; three are scattered in the Italian peninsula and in the adjacent islands; the remnant have a distribution restricted to the islands such as Sicily and Sardinia. The morphotypes can be divided into two main categories: seeds smooth, without ornamentations; seeds with ornamentations. The morphotypes with ornamentations are more widespread than smooth ones, probably because seed ornamentations play an important role in seed dispersal, which is perhaps mainly anthropochorous given that *P. oleracea* is a synanthropic species that can tolerate mechanical disturbance. There are cases of multiple occurrence, as evidenced by the presence of different morphotypes in some of the sites. Such populations can count up to five morphotypes growing together. Seven morphotypes were here recorded from Malta; they are all hexaploid, even those which in other areas are tetraploid.

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Introduction

Portulaca oleracea L. (Portulacaceae), a herbaceous annual succulent plant, is a vigorous colonizer of disturbed and waste habitats (it can also be a weed in cultivated fields, see Tutin et al. 1993) in all continents from temperate to tropical zones. Such a wide distribution is due to its great adaptability (Zimmerman 1976; Matthews, Ketron, and Zane 1993) and to the high rate of seed production (Zimmerman 1976). Its geographical origin is uncertain (Ocampo and Columbus 2012): many hypotheses indicate different areas of the Old World, but it was also found in America in pre-Columbian times (Chapman, Stewart and Yarnell 1973; Byrne and McAndrews 1975). It is also cultivated as a vegetable in many parts of the world (Bel Hadj Salah and Chemli 2004). The species, which is mainly autogamous (Kim and Carr 1990; Danin, Domina, and Raimondo 2008; Tison and de Foucault 2014), is highly polymorphic, both in its habitus and in seed tegument ornamentation. Populations include prostrate, ascending or fully erect individuals (Danin et al. 2014) and the morphological variability is notable also among the populations, depending on trophic and ecological conditions (Bel Hadj Salah and Chemli 2004). Seed tegument is characterized by microsculptures (papillae, tubercles) and testa cells with different shape and ornamentation (stellulate, isodiametric or elongated, rich in microsculptures or flat). The chromosome number is also highly variable. Three main ploidy levels have been detected, with base chromosome number $n = 9$ (Matthews, Ketron, and Zane 1994), e.g. diploids are $2n = 18$, tetraploids $2n = 36$ and hexaploids $2n = 54$ (Danin et al. 2012). Additional reports of pentaploid forms ($2n = 45$) are known from India (Sharma and Bhattacharyya 1956), and a case of chromosome number $2n = 52$ was found in Japan (Sugiura 1936) and $2n = 48$ was reported for *P. sardoa* (Danin et al. 2012). These genomic differences obviously represent a reproductive barrier among the different caryotypes (Danin and Reyes-Betancort 2006).

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†This work is dedicated to the memory of Professor Avinoam Danin, world famous botanist, who did not live to see this article published.

The chromosome number, together with seed tegument ornamentations, was considered by several authors to be of taxonomic value, so that *P. oleracea* was regarded as an aggregate of 19 microspecies (Danin, Baker, and Baker 1978; Danin and Reyes-Betancort 2006; Danin, Domina, and Raimondo 2008; Danin 2011; Danin and Raus 2012; Danin et al. 2012). "Microspecies" is a term used to designate clonal individuals, genotypes or ecotypes that evolve separately from others because of their apomictic reproduction (Dickinson 1998; Pihu et al. 2009). However, for *P. oleracea*, an eventual apomixis has not been reported; indeed, the term "microspecies" was probably used in an inappropriate way for this species. Recent phylogenetic studies (Ocampo and Columbus 2012) show that *P. oleracea* is a polyphyletic species, with evidence that it is a polyploid complex (Soltis and Soltis 1999; Soltis, Soltis, and Tate 2003; Soltis et al. 2004). Hence, even though some authors have recently published important contributions (El-Bakatoushi et al. 2013; Walter, Vekslyarska, and Dobeš 2015), the taxonomy of *P. oleracea* is still open to debate. The various combinations of seed tegument, cell shape and cell ornamentations allow the recognition of different morphotypes, which are intended as informal infraspecific taxonomic categories based on precise morphological features (Maiti and Maiti 2011), without connexion with genome asset or reproductive strategies. Such morphotypes are constant within the individuals, so that the individuals themselves can be readily separated within the same population. To contribute to the debate in progress we focused our investigation on an area for which information on the infraspecific diversity of this species is fragmentary and irregular: the Italian peninsula and adjacent islands. We included in our study Corsica, the Maltese Islands and some small valleys of Switzerland in the Canton of Grisons, very close (2–3 km at most) to the Italian border, because all these areas are normally considered in the Italian floristic check lists (e.g. Zàngheri 1976; Pignatti 1982).

In Italy, the first taxonomic study of *P. oleracea* (in this case treated as an aggregate of microspecies) was performed by Ricceri and Arrigoni (2000). They followed Danin, Baker, and Baker's (1978) system and reported the presence in Italy of five microspecies *sensu* Danin and Reyes-Betancort (2006) and Danin, Domina, and Raimondo (2008). The present article, summing up all the forms known so far (Danin and Raus 2012), considers *P. oleracea* as a polymorphic species according to Walter, Vekslyarska, and Dobeš (2015). Previous studies on the variability of *P. oleracea* s.l. are available only for a few regions: Trentino-Alto Adige (Wilhalm et al. 2008), Emilia-Romagna (Danin et al. 2014), Sicily (Danin, Domina, and Raimondo 2008; Domina et al. 2013), Sardinia (Danin et al. 2012) and Corsica (Danin 2011). Some further data come from sporadic analyses presented in Domina, Schäfer, and Danin (2010), Danin (2011) and Danin and Raus (2012). For many Italian regions and the Maltese archipelago this is the first in-depth investigation of the infraspecific diversity of *P. oleracea* s.l.; the study by Ricceri and Arrigoni (2000) is only partially comparable to ours, due to their different opinions about the infraspecific taxonomy of this species and to the significantly lower number of samples examined.

This paper is a synthesis of all the available information concerning the presence and the distribution of the various morphotypes of *P. oleracea* s.l. in the Italian peninsula and in surrounding islands. It is important to consider as many sources of information as possible, also because of the peculiar geographical position and geomorphological conformation of the Italian peninsula and the surrounding islands, which is probably one of the reasons for the great variety of environments of the Italian territory.

The aims of the present research were:

- to define the pattern of the distribution, in the Italian peninsula and adjacent islands, of the morphotypes of *P. oleracea*, to provide a contribution for the assessment of their general distribution;
- to extend caryological systematic studies on *P. oleracea* complex to the Maltese Islands, which were not considered in previous researches (as shown by Walter, Vekslyarska, and Dobeš, 2015, the chromosome number can vary also in the same morphotype, so investigating an unexplored zone could reveal novelties).

Materials and methods

Seed samples analysis and distribution assessment

The definition of fine-scale patterns was based on information gathered from herbarium specimens, field collections and published data.

Classification was based on the analysis of seeds; for each morphotype we maintained the names formerly attributed to the microspecies, only posing them between inverted commas to avoid confusion with the microspecies mentioned in previous papers. The seed analysis was performed using a Reichert Austria No. 306 284 dissecting microscope at 40 × magnification. Identification was based on the general key for the *P. oleracea* complex provided by Danin and Raus (2012), which takes into account the following morphological features:

- seed diameter
- shape of testa cells (digitated, elongated, isodiametric)
- surface of testa cells (smooth or with protuberances)
- type of protuberances (tubercles, papillae, granula)
- number and position of the protuberances in the testa cells.

Photographs of the seeds were taken using a NovaNanoSEM 450-FEI scanning electronic microscope.

As a whole, we considered for this study 902 samples (see Supplemental data online).

The samples analysed *ex novo* for this study are 347 and are divided into 105 samples from historical herbaria (early 1800 to 1950), which were all taken from herbarium specimens, and 242 samples from recent collections (1951–2013), which correspond either to specimens already inserted in herbarium sheets, or to field collections only sometimes accompanied by the herbarium specimens (the samples coming from a herbarium specimen are indicated with X in the Supplemental data online).

Published data (Danin, Domina, and Raimondo 2008; Danin 2011, 2012; Danin et al. 2012, 2014; Domina et al. 2013), which were verified and, whenever necessary, corrected, provided information on another 555 seed samples, eight of which came from historical herbaria (period 1880–1900) and the others collected in recent years.

Concerning the samples analysed *ex novo*, we proceeded in the following way. For the samples originating from historical herbaria, 1–50 seeds (depending on *exsiccatum* richness) were analysed from each specimen. When a sheet contained more than one individual, seeds were taken from each of them. For the recent samples, if they came from herbarium sheets, we proceeded as described above, but in the case of field collections (years 2006–2013) 1–10 individuals (depending on population size) were sampled at each site, taking five capsules for each plant, posing a distance of 1 m between two sampled plants (when individuals grew in small groups, all individuals were sampled).

Most of the samples were collected from 0 to 1100 m above sea level. The only exception is a sample (*Leg.* Vaccari, Wilyek *et* Mailuser, 1903, in FI) collected at 1700 m above sea level.

Using the results of the classification, a fine-scale pattern relative to Italy and adjacent islands was assessed for each morphotype and a classification of the distribution models was proposed and discussed. To better visualize the presence of each morphotype in the past and in the present, we drew a distribution map for each one, distinguishing historical herbarium data and present collections.

Due to the occasional occurrence of plants with different morphotypes in the same sampling site, the percentages of abundance of every morphotype were not calculated basing on the total number of samples, but on the total number of records (941), i.e. the sum of all the occurrences of the various morphotypes in the samples.

Furthermore, we grouped all the distinguished morphotypes into three main categories, depending on seed tegument ornamentations:

Type I seeds almost completely smooth, without ornamentations (e.g. '*P. nitida*')

Type II seeds with up to two tubercles per cell, or with papillae or granula only (e.g. '*P. cypria*')

Type III seeds with more than two tubercles per cell (e.g. '*P. rausii*').

Caryological analysis

Caryological analyses were performed on root tips obtained from fresh material, considering all the morphotypes discovered in the Maltese Islands. Various subsamples of two to five seeds each (at least one subsample for each morphotype) were analysed. These investigations are aligned to those already performed for other large Mediterranean islands (Danin, Domina, and Raimondo 2008; Danin et al. 2012). We followed the method already tested by Danin et al. (2012). The material was treated with 0.3% colchicine solution for 3 hours, and then fixed in a modified Carnoy solution (five parts of ethanol to two parts of glacial acetic acid) for 30 min. After rinsing in water, tissues were hydrolysed in 1 M HCl for 8 min at 60°C, placed in Schiff reagent for 30 min, and then squashed and stained in 50% acetic acid. Preparations were made permanent by freezing with carbon dioxide (CO_2), dehydrating in ethanol and mounting in Canada balsam. Chromosomes were counted on mitotic metaphase plates under an Axiophot optic microscope at 1000 × magnifications.

Results

Seed samples analysis and distribution assessment

As a whole, 11 morphotypes have been recognized in the Italian peninsula and adjacent islands during the present study (Figures 1, 2): '*P. cypria*' Danin ($2n = 54$), '*P. granulatostellulata*' (Poelln.) C. Ricceri et P.V. Arrigoni ($2n = 36$), '*P. nitida*' (Danin et H.G. Baker) C. Ricceri et P.V. Arrigoni ($2n = 36$), '*P. oleracea*' L. ($2n = 54$), '*P. papillatostellulata*' (Danin et H.G. Baker) Danin ($2n = 54$), '*P. rausii*' Danin, Domina et Raimondo ($2n = 54$), '*P. sardoa*' Danin, Bagella et Marrosu ($2n = 48$), '*P. sativa*' Haw. ($2n = 54$), '*P. sicula*' Danin, Domina et Raimondo ($2n = 54$), '*P. trituberculata*' Danin, Domina et Raimondo ($2n = 54$), '*P. zaffranii*' Danin ($2n = 36$). To these morphotypes, a twelfth form has to be added, present only in six samples from the Maltese archipelago, which seems to have intermediate morphological features. It has a chromosome number (see following paragraph *Caryological analysis*) similar to the hexaploids ($2n = 54$); however, seed size would be in accord with the ploidy level *sensu* Danin, Baker, and Baker (1978). In view of this, we have provisionally referred these specimens to an as yet undefined *Portulaca oleracea* f. Further studies will be necessary to verify if it is a really new morphotype.

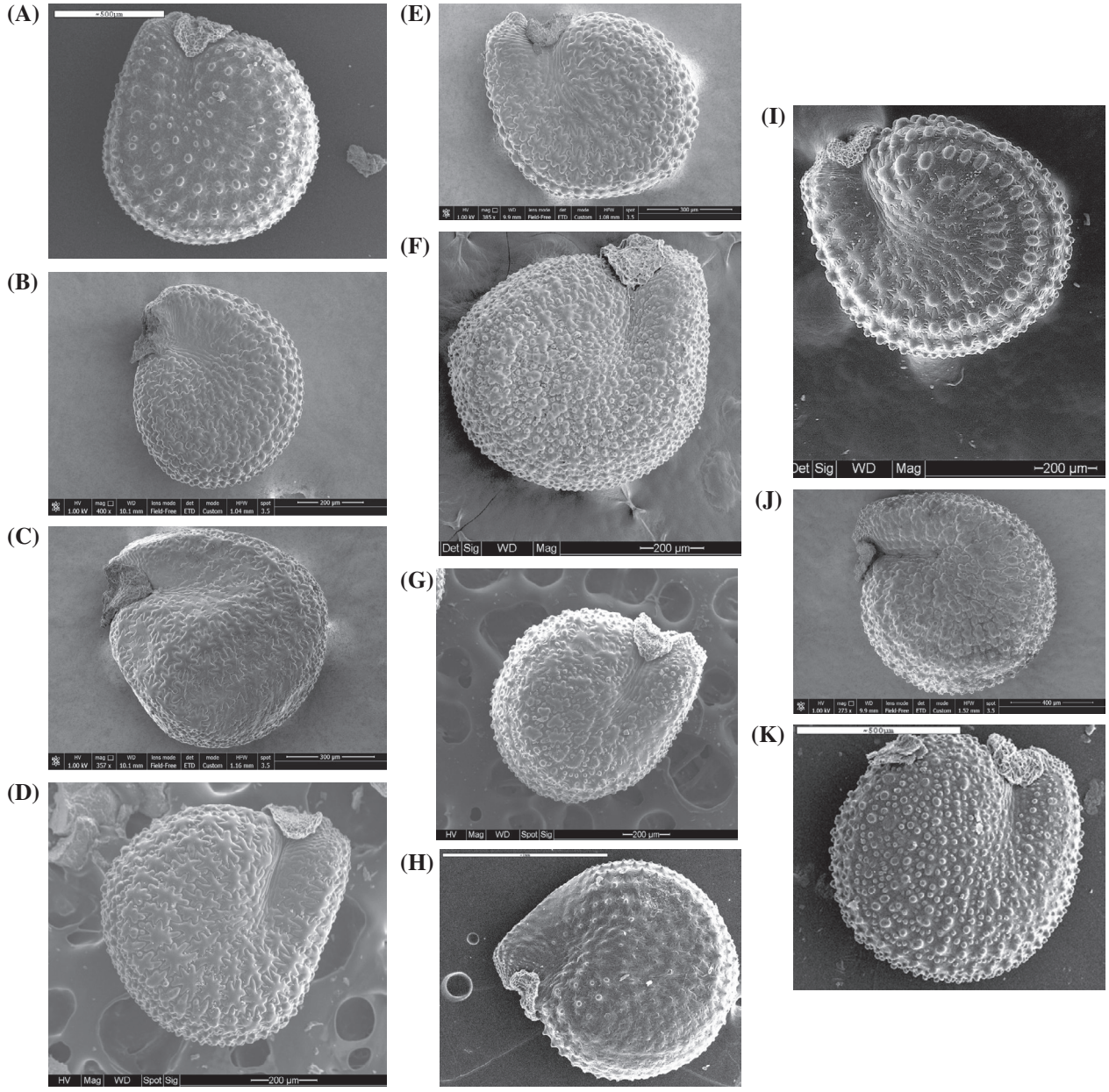

Figure 1. Synopsis of the morphotypes of *Portulaca oleracea* found in the Italian peninsula and surrounding islands. View of the whole seed: **(A)** '*P. cypria*', **(B)** '*P. granulatostellulata*', **(C)** '*P. nitida*', **(D)** '*P. oleracea*', **(E)** '*P. papillatostellulata*', **(F)** '*P. rausii*', **(G)** '*P. sardoa*', **(H)** '*P. sativa*', **(I)** '*P. sicula*', **(J)** '*P. tritubercula*', **(K)** '*P. zaffranii*'. Images (A) and (I) are from Danin, Domina, and Raimondo (2008), modified; images (B), (C), (E) and (J) were taken by Dr Massimo Tonelli; the others are from A. Danin's personal archive. For images (A) and (K), scale bar is 500 µm; for images (B), (D), (F), (G) and (I), scale bar is 200 µm; for images (C) and (E), scale bar is 300 µm; for image (H), scale bar is 1 mm; for image (J), scale bar is 400 µm.

Considering all 902 samplings, multiple occurrences were noted in 31 of them (3.4%). The most interesting case of multiple occurrence was from Sorrento (Naples), in two small public flowerbeds (each 1–2 m^2), where five morphotypes were growing together (*Leg*. Danin, 18-12-2012).

The Italian peninsula is characterized (Figure 3) by the presence of six morphotypes (here listed in alphabetical order): '*P. cypria*', '*P. granulatostellulata*', '*P. nitida*', '*P. oleracea*', '*P. papillatostellulata*' and '*P. tritubercula*'. To these can be added '*P. sativa*', which was found only in archaeological layers in Emilia-Romagna (northern Italy; see Bosi et al. 2009; Danin et al. 2014). In Sicily, we identified the six morphotypes listed for the Italian peninsula, plus '*P. rausii*', '*P. sicula*' and '*P. zaffranii*'. In Sardinia, we found five morphotypes already present in continental Italy ('*P. granulatostellulata*', '*P. nitida*', '*P. oleracea*', '*P. papillatostellulata*', '*P. tritubercula*'), plus '*P. sardoa*'. In Corsica we found again six morphotypes, five of which present in peninsular Italy ('*P. cypria*', '*P. granulatostellulata*', '*P. oleracea*', '*P. papillatostellulata*' and '*P. tritubercula*'), plus '*P. sardoa*'.

In the Maltese Islands we found the same six morphotypes as in the Italian peninsula, plus '*P. rausii*' and the as yet undefined *Portulaca oleracea* f.

The distribution of several morphotypes ('*P. cypria*', '*P. granulatostellulata*', '*P. nitida*', '*P. oleracea*', '*P. papillatostellulata*' and '*P. tritubercula*')

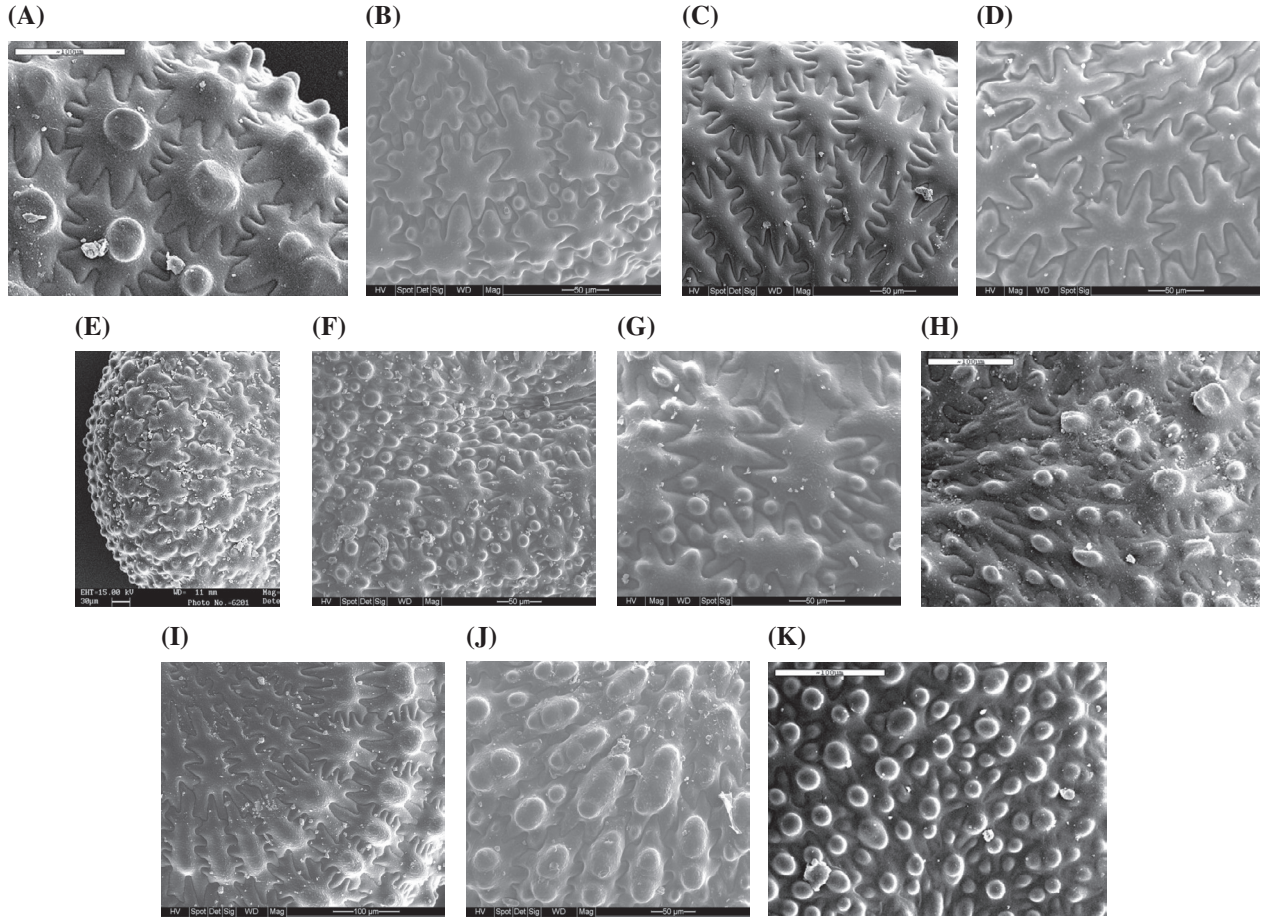

Figure 2. Synopsis of the morphotypes of *Portulaca oleracea* found in the Italian peninsula and surrounding islands. Close up of the lateral face of the seed: **(A)** '*P. cypria*', **(B)** '*P. granulatostellulata*', **(C)** '*P. nitida*', **(D)** '*P. oleracea*', **(E)** '*P. papillatostellulata*', **(F)** '*P. rausii*', **(G)** '*P. sardoa*', **(H)** '*P. sativa*', **(I)** '*P. sicula*', **(J)** '*P. trituberculata*', **(K)** '*P. zaffranii*'. Images (A) and (E) are from Danin and Raus (2012), modified; image (H) is from Danin et al. (2014), modified; the others are from A. Danin's personal archive. For images (A), (H), (I) and (K), scale bar is 100 µm; for images (B), (C), (D), (F) and (J), scale bar is 50 µm; for images (E) and (G), scale bar is 30 µm.

differs in the past (pre-1950 samples) and in the present (samples collected in the years 1951–2013). In some cases, recent collections allowed confirmation of only part of the morphotypes already discovered in the historical herbarium specimens: for example, in Veneto one can find '*P. cypria*', '*P. granulatostellulata*', '*P. nitida*', '*P. oleracea*' and '*P. papillatostellulata*' in recent collections, whereas in the historical herbarium samples '*P. trituberculata*' is also present (*Leg*. Goiran, 1897, in FI; *Leg*. Minio, 1921, in FI – sp. pl. –) and '*P. oleracea*' is lacking. In other instances, in contrast, recent collections allowed us to increase the number of morphotypes known for the region: in Campania for example only three forms can be detected from historical herbarium samples ('*P. cypria*', '*P. oleracea*' and '*P. trituberculata*'; samples preserved in NAP), one of which ('*P. cypria*') is exclusive to the historical herbaria, whereas in recent collections (*Leg*. Danin, 2012 – sp. pl. –) one can find also '*P. granulatostellulata*', '*P. nitida*' and '*P. papillatostellulata*'. It has to be noted that in the historical herbarium samples some forms never appear ('*P. rausii*', '*P. sardoa*', '*P. sicula*' and '*P. zaffranii*'), even in the case of historical herbarium samples that came from the same regions where such morphotypes are present today.

Among the records originating from the historical herbaria, the most widespread morphotype was '*P. trituberculata*' (37.7%), followed by '*P. granulatostellulata*' (28.7%), '*P. cypria*' (11.5%) and '*P. nitida*' (10.7%). Among the records originating from recent collections (years 1951–2013), the most widespread morphotype was rather '*P. granulatostellulata*' (33.6%), followed by '*P. nitida*' (26.4%), '*P. trituberculata*' (19.3%) and '*P. papillatostellulata*' (7.7%).

Concerning the three main categories established according to seed tegument ornamentations (see Materials and Methods), type I includes '*P. nitida*' and '*P. oleracea*', type II includes '*P. cypria*', '*P. granulatostellulata*', '*P. papillatostellulata*', '*P. sardoa*' and '*P. sicula*', and type III includes '*P. rausii*', '*P. trituberculata*', '*P. zaffranii*' and *Portulaca oleracea* f. If we correlate the number of records of the morphotypes with seed ornamentations, we can see (Figure 4) that type II is the most widespread (45.9% considering only historical herbarium samples, 46% considering only recent collections, 46% taking into account all the samples examined for this work). Types I and III are clearly secondary: type I is present at 16.4, 30.5 and 28.7%, respectively, whereas type III is present at 37.7, 23.5 and 25.3%. Hence, we could hypothesize that

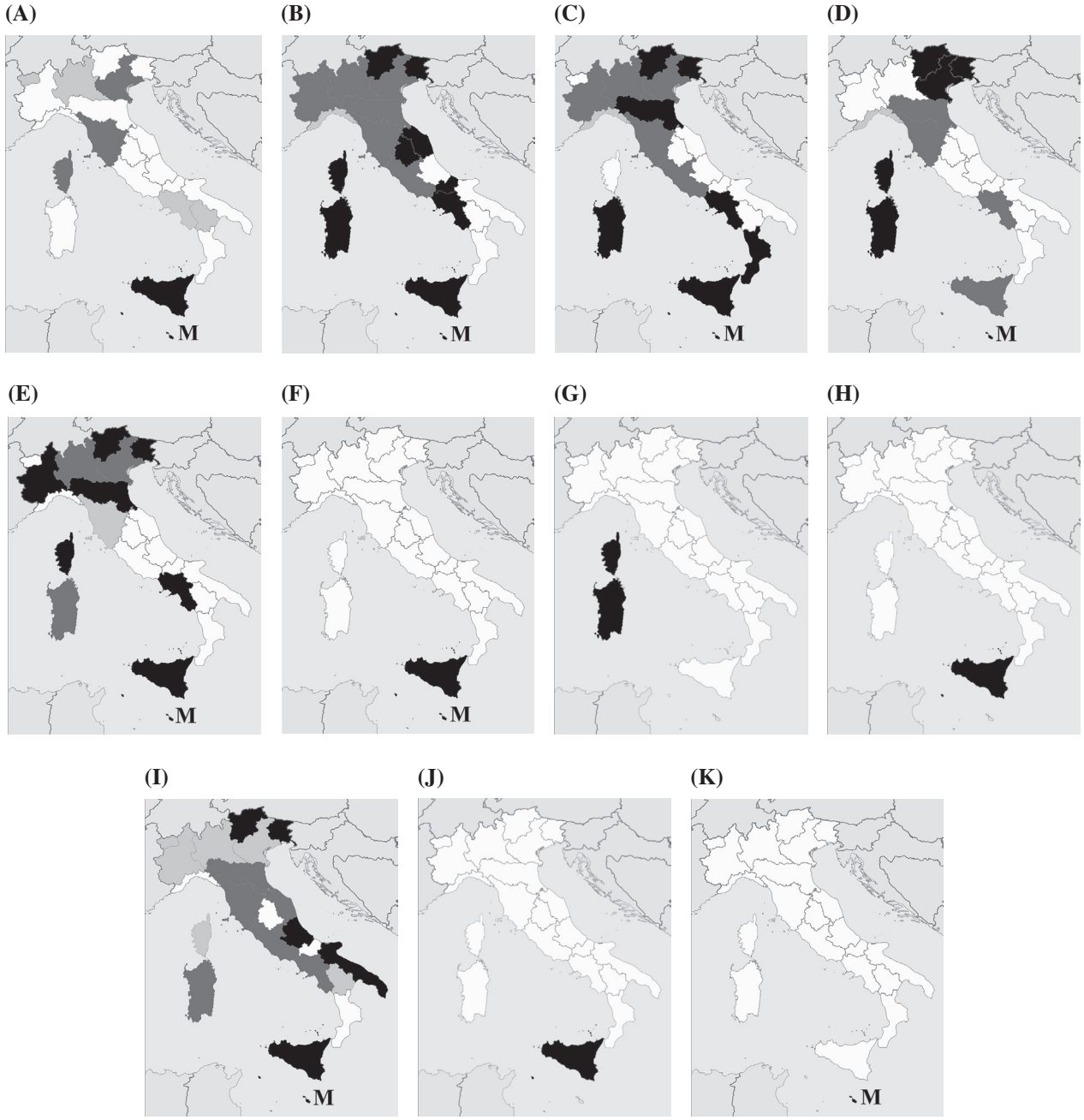

Figure 3. Distribution maps of the *Portulaca oleracea* morphotypes cited. Their presence is expressed as follows: pale grey, presence attested only in historical herbarium samples (before 1950); dark grey, presence attested both in historical herbarium samples and in recent collections; black, presence attested only in recent collections. **(A)** '*P. cypria*', **(B)** '*P. granulatostellulata*', **(C)** '*P. nitida*', **(D)** '*P. oleracea*', **(E)** '*P. papillatostellulata*', **(F)** '*P. rausii*', **(G)** '*P. sardoa*', **(H)** '*P. sicula*', **(I)** '*P. trituberculata*', **(J)** '*P. zaffranii*', **(K)** *Portulaca oleracea* f.

the morphotypes that are rich in ornamentations (types II and III) are more widespread than the smooth ones.

Caryological analysis

Caryological analysis revealed that all the analysed samples from the Maltese Islands were hexaploid ($2n = 54$), even those ascribed to morphotypes that were previously (Danin, Baker, and Baker 1978) considered to have a different ploidy level ('*P. granulatostellulata*' and '*P. nitida*'). Some specimens were associated with seeds presenting different characteristics from those found in the already described morphotypes. Based on these findings, we referred these specimens to a generic *Portulaca oleracea* f., which description requires further studies. All the other specimens were referred to already described morphotypes.

Discussion

This study provides a comprehensive picture of the presence of all the morphotypes of *P. oleracea* so far known in Italy and in the adjacent islands. Our findings, although they are far from definitive for this subject, are a contribution to understand the distribution of such morphotypes in the investigated areas.

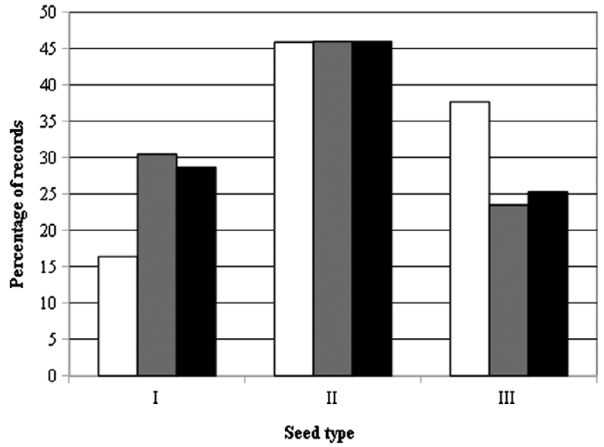

Figure 4. Diffusion of the three main seed categories in the samples analysed. White: samples coming from historical herbaria; grey: samples coming from recent collections; black: all the samples considered in this study.

As a result of these findings, three patterns of distribution were recognized:

- presence in almost all the Italian peninsula and adjacent islands ('*P. granulatostellulata*', '*P. nitida*', '*P. trituberculata*');
- scattered occurrence in the Italian peninsula and in the adjacent islands ('*P. cypria*', '*P. oleracea*', '*P. papillatostellulata*');
- presence only in the islands ('*P. rausii*', '*P. sardoa*', '*P. sicula*', '*P. zaffranii*', *Portulaca oleracea* f.).

The distribution of '*P. sativa*' was not included in this classification because it was discovered only in two archaeological sites of Ferrara dated to the late fifteenth century, in a context of waste deposits of higher classes or even nobles (Bosi et al. 2009). At that time, it was probably cultivated as a vegetable. This hypothesis is supported by written Italian sources (Mattioli 1568; Felici 1572; Massonio 1627) and by the fact that it is still cultivated in some Mediterranean countries (Danin, Baker, and Baker 1978) and in other countries outside the Mediterranean area. In Italy its cultivation is only sporadic (at least in the last two centuries) and its tendency to scatter is probably scarce (Pignatti 1982; Picchi and Pieroni 2005).

In the following discussion of the patterns of distribution, we also integrated, when available, archaeobotanical data.

The first pattern concerns the group of the most widespread morphotypes. It should be noted that, in continental Italy, '*P trituberculata*' has been present since the Roman period (Danin et al. 2014). '*P. granulatostellulata*' is present in old herbarium samples, dating back to the nineteenth century: the first records are three samples, one from Abano, in Veneto (*Leg*. Felisi, 1842, in FER) and two from Ivrea, in Piedmont (*Leg*. Carestia, 30-7-1866, in FI; *Leg*. Carestia, 30-7-1866, in TO). This may suggest that its present distribution is the result of a long expansion phase. '*P. nitida*', instead, seems to have expanded solely from the twentieth century onwards: the first record is a herbarium sample from the Capraia Island, in Tuscany (*Leg*. Sommier, 17-8-1896, in FI).

To the second pattern of distribution, less spread in the study area, are ascribed '*P. cypria*', '*P. oleracea*' and '*P. papillatostellulata*'. The presence of '*P. cypria*' and '*P. papillatostellulata*' is documented since the Roman age (Danin et al. 2014), whereas '*P. oleracea*' appears for the first time in the first half of the nineteenth century (*Leg*. Gussone, period 1825-1860, in NAP; *Leg*. Sommier, 29-9-1850, in FI). At present, '*P. papillatostellulata*' is not widespread; indeed, it appears to have been in decline already from the Roman period to the Middle Ages (Emilia-Romagna region; see Danin et al. 2014), so the current sporadic presence would seem to be the continuation of a historical regress. '*P. cypria*', instead, which was sporadic in the Roman period and quite widespread during the Middle Ages and the Renaissance (Danin et al. 2014), is at present relatively infrequent, being limited (at least apparently) to Veneto, Tuscany, Sicily, Malta and Corsica. In any case, we have to remember that for this group of morphotypes, since the number of samples is not always comparable across the regions, particularly for the historical herbarium specimens, the data may be biased and our hypotheses have to be taken with caution.

To the third pattern of distribution are referred the morphotypes that are exclusive of insular regions, such as Sicily ('*P. rausii*', '*P. sicula*' and '*P. zaffranii*'), Sardinia and Corsica ('*P. sardoa*') and Malta (*P. oleracea* f.). We have to remember that '*P. rausii*' and '*P. zaffranii*' are also present in other large Mediterranean islands, such as Crete, Cyprus or Rhodes (Danin, Domina, and Raimondo 2008), and in some countries facing the Mediterranean Sea (Euro+Med PlantBase 2006-onwards); in any case, in our study area they are found only in Sicily.

Based on our analyses, '*P. granulatostellulata*', '*P. nitida*' and '*P. trituberculata*' would seem to be the most widespread forms in the study area. The first one, in particular, is one of the most widespread morphotypes even on a world scale (Danin, Baker, and Baker 1978). Such findings are consistent, in some respects, with what has been supposed for the *P. oleracea* complex in France (Tison and de Foucault 2014), where the most widespread forms would be '*P. trituberculata*' in continental areas and '*P. granulatostellulata*' in the Mediterranean ones. Our findings also confirm those of Danin (2011), who remarked that, at least on a Euro-Mediterranean scale, the most widespread forms seem to be '*P. granulatostellulata*' and '*P. trituberculata*'. Similar results were obtained in the analysis of the Maltese collections: the most abundant morphotype seems to be '*P. trituberculata*', which represents 41.9% of the samples. However, the knowledge about the frequency of the various forms is still partially incomplete, despite the many hundreds of populations investigated in

continental Europe and the Mediterranean basin (Danin 2011). Among the samples originating from the historical herbaria, the most common morphotypes are always '*P. granulatostellulata*' and '*P. tritubercula*', whereas '*P. nitida*' is quite common only in the recent samples. The latter form could have experienced a broader diffusion only in the recent decades, although its abundance could also be explained by the great quantity of this morphotype registered in Sardinia.

The differences at a regional level are sometimes contrasting: increase (e.g. Corsica) or decrease (e.g. Lombardy, Tuscany) in the number of morphotypes, even when the number of the historical herbarium samples and the number of the recent ones are comparable. For the latter case, one can hypothesize a possible decrease in the infraspecific diversity, which would have occurred in the period after World War II and would be likely attributable to the well-known progressive environmental deterioration and homogenization provoked by man's activities. Globally, there is also an increase of diffusion for '*P. granulatostellulata*', '*P. nitida*', '*P. oleracea*' and '*P. papillatostellulata*': the first one, for example, was recorded in eight Italian regions considering only the historical herbarium samples, whereas if we take into account the recent collections the regions of presence amount now to 17. However, we have to observe that the global number of records originating from historical herbarium samples is only 122, whereas the number of records of the recent collections is 819: such a difference would probably be a good explanation for the apparent diverse diffusion of the four above-mentioned morphotypes. In any case, caution is needed in considering the results of such a comparison, because the historical herbarium samples are about one-seventh of the samples originating from recent collections.

The most interesting aspect of such a comparison concerns the three main categories established based on seed tegument ornamentations. If we observe the distribution of the morphotypes in the past (samples before 1950) and in the present, we can see that there is a clear dominance of the forms with more ornamentations. A possible explanation may be found in the ecology of *P. oleracea* s.l.: a ruderal synanthropic species that tolerates mechanical disturbance. It is not unlikely that anthropogenic disturbance can be a dispersal vector (dissemination is probably mainly zoochorous and anthropochorous; see Miyanishi and Cavers 1980). Seeds with ornamentations could probably adhere better than the smooth ones to clothes, shoes or mud on shoes, so that they probably present a competitive advantage for dispersal. The best characteristics for the anthropochorous dispersal are indeed:

- seeds with small dimensions and little weight: it has been discovered that seeds with an average width of 2 mm, although they are smooth, could remain attached to mud on shoes for several kilometres (Wichmann et al. 2009). A weight of 10 mg, independently of tegument morphology, is the limit above which seeds do not attach to cattle hair or clothes (Römermann, Tackenberg, and Poschlod 2005);
- seed tegument with ornamentations and sculptures, even modest, on condition that they project out of the seed outline (see Römermann, Tackenberg, and Poschlod 2005).

Portulaca oleracea s.l. shows exactly these features, both in seed dimensions and weight and in tegument microsculptures: seeds are ~1 mm wide, weigh on average 0.1 mg (Friess and Maillet 1995) and, in most cases, are provided with ornamentations that are similar, in some regards, on a minor scale, to the appendages that project out of the seed silhouette. Furthermore, this species is normally prostrate and creeping and, because of its life in hostile and disturbed environments, it is quite natural that it is adapted to the anthropochorous dispersal. Human transportation is an excellent vehicle for the seeds to be brought over long distances away from the parent plant (Cousens, Dytham, and Law 2008, 70–73). It is presumable that the above-mentioned features allow a more efficient dispersal in the forms with seed ornamentations, and this seems to be confirmed by the notable difference that exists between the records of smooth forms (16.4% considering only herbarium samples, 30.5% considering only recent collections, 28.7% taking into account all the samples examined for this work) and those of forms with microsculptures in seed tegument (83.6, 69.5 and 71.3%, respectively). The only case of a smooth form that is relatively widespread is '*P. nitida*', which seems to be quite abundant only in Sardinia (43.6% of the recent samples originating from that region). This datum probably explains the frequencies of the smooth seeds in the recent samples (see Figure 4). Such extraordinary abundance, which perhaps is unique for the whole investigated area, might be due to a lesser human presence on the territory: Sardinia is among the least densely populated Italian regions (average density 69 inhabitants/km^2, versus 201 inhabitants/km^2 average for the entire Italy). Hence, '*P. nitida*' perhaps represents a form adapted to dissemination in areas where anthropic disturbance is globally inferior to that of other regions, especially continental ones. Another possibility could be an as yet unclear adaptation to specific environmental characteristics, which would require a dedicated study.

Concerning the caryological analyses, the investigations performed in Sicily (Danin, Domina, and Raimondo 2008) and in Sardinia (Danin et al. 2012) seemed to confirm a constancy of genome and phenotype. In contrast, the Maltese specimens of our study show a constancy only of the caryotype, which is always hexaploid. This fact is proof that *P. oleracea* s.l. can produce identical morphotypes despite the different

chromosome number: in other words, no correlation seems to exist between caryology and morphology, as already suspected by Danin and Raus (2012) and later asserted by Walter, Vekslyarska, and Dobeš (2015). Given the distribution of many morphotypes, which are today considered to be exclusive to one or two particular islands (e.g. '*P. sardoa*', '*P. sicula*'), one could even think of a possible relation between caryotype and colonization of new areas, which would have perhaps influenced morphotype and phenotype. The possible reasons for such phenotypic differences can be very diverse, both genetic and ecological. For example, it is known that a sudden environmental variation is a stimulus to rapid genomic evolution (Stuessy and Crawford 1998): it would not be strange if such differentiation would be manifested also at the phenotype level. As already suggested by Danin, Domina, and Raimondo (2008), it is likely that the differences in the vegetative characters may be linked to environmental variations. An analogous supposition can be made for seed morphology, which was always observed to remain constant, not only in the cultivation experiment under controlled conditions performed by Danin, Domina, and Raimondo (2008), but also in natural conditions (Danin, Baker, and Baker 1978; Danin and Reyes-Betancort 2006). Similar considerations were also proposed by Wyatt (1984), who analysed disjunct populations of *Arenaria uniflora* Muhl. and discovered a significant correlation between seed tegument morphology and environmental conditions, whereas, for the genus *Brassica*, Koul, Nagpal, and Raina (2000) found that seed tegument features do not always closely reflect the genetic characteristics. If such considerations were valid also in the case of *P. oleracea* s.l., the Maltese unclear form (*P. oleracea* f.) could be a secondary innovation after a colonization event; in this case, the caryological analyses would corroborate, at least apparently, the hypothesis of the major diffusion of the morphotypes with ornamentations, given the higher adherence capacity, which is probably favoured in the sculptured forms. It has been noted (Danin and Raus 2012) that *P. oleracea* s.l. produces similar morphotypes with different chromosome numbers in various parts of the world: this may support both the idea of a rapid genomic evolution as a response to sudden environment variations, and the idea of a different phenotype as a response to environment conditions differing from the initial ones. The two aspects of the issue are complementary and not contradictory. In autogamous species, interpopulation morphological variability is a proxy of different environmental conditions (Allard 1988), although the cases of multiple occurrence in the same location would support the hypothesis that seed coat differences are mostly due to genetic differences (otherwise, one should have to think of a sort of hypersensibility to microenvironmental and trophic conditions, which would be quite strange in a ruderal species like *P. oleracea* s.l.). Furthermore, in some cases of multiple occurrence, the chromosome number of the morphotypes identified can vary, with tetraploid and hexaploid individuals in the same population. This fact, together with the different chromosome numbers in the same morphotype in different areas of the world, seems to show that *P. oleracea* s.l. may be an unstable species from a genetic viewpoint, which could be explained as a result of hybridization between different caryotypes or a product of an apomixis, although this has not yet been detected in *P. oleracea* s.l. (see for a comparison Diana 1992; Arrigoni and Diana 1993; Słomka, Wolny, and Kuta 2014). Such genetic instability is probably responsible for the high adaptability of the species, a likely hypothesis given the species' ecology. A similar caryological variability within and among populations has been recently observed in *Viola tricolor* L., another ruderal and very adaptable species, as a reaction to soils polluted with heavy metals (Słomka, Siwińska, et al. 2011; Słomka, Sutkowska et al. 2011). To summarize, there is no single possible explanation for the variability of the seed coating micromorphology in *P. oleracea* s.l., at a caryotype and phenotype level.

Conclusions

The number of morphotypes detected in the studied territory is high, compared with the number of morphotypes so far known worldwide (19). This is a confirmation of the great biological value of the Mediterranean basin, which is known to be one of the "hot spots" of biodiversity of the world (Myers et al. 2000). The analysis of the historical herbarium samples, which were formerly determined simply as *Portulaca oleracea* L., allowed not only to identify the corresponding specimens in a more precise way, but also to discover some forms that were not known for certain regions, such as '*P. oleracea*' and '*P. papillatostellulata*' in Sardinia, discovered in herbarium samples dated at the 1970s (*Leg.* Arrigoni et Ricceri, 1971, in FI; *Leg.* Ricceri, 1971, in FI). In some cases, herbarium analyses allowed us to increment the number of morphotypes known for some regions: this was the case, for example, for Trentino-Alto Adige, Sardinia and Corsica. Furthermore, this study provided for various regions a discrete knowledge of the infraspecific diversity of *P. oleracea*, which was previously not documented in many cases. Nevertheless, further investigations are needed to better understand the distribution and, overall, the abundance of the different morphotypes. At the present state of the research, it seems that the most widespread morphotypes may be '*P. granulatostellulata*', '*P. nitida*' and '*P. trituberculata*', which would be also the most widespread on a global scale. Furthermore, the discovery of a new, unclear form of *P. oleracea* s.l. in the Maltese archipelago suggests that much still

remains to be learnt about the morphological variability of *P. oleracea* in its distribution range. For this reason, it is highly necessary to continue the investigations, to completely understand the infraspecific variability of this species and the geographical distribution of its forms, on a local and global scale.

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Region	Det. Danin	sample year	Sample data	Reference Institution	Herbarium sheet	Previous papers
Piemonte	'*Portulaca granulatostellulata*'	1866	*Leg.* Carestia, 30-7-1866. Ivrea (Province of Torino). From the areas around the town, along the road.	TO	X	
		1866	*Leg.* Carestia, 30-7-1866. Ivrea (Province of Torino). Along the road.	FI	X	
		1907	*Leg.* L. Vaccari, 10-8-1907. Ivrea (Province of Torino).	FI	X	
		1991	*Leg.* Abbà, 2-8-1991. Bastia Mondoví, river Tanaro bed (Province of Cuneo).	ALBA	X	
	'*Portulaca nitida*'	1898	*Leg.* L. Vaccari, 1-8-1898. Ivrea (Province of Torino).	FI	X	
		2012	*Leg.* Bouvet *et* Sitzia, 12-2012. Greggio (Province of Novara), along the road. About 150-170 m a.s.l.	TO		
	'*Portulaca papillatostellulata*'	1979	*Leg.* Abbà, 27-9-1979. Ceresole d'Alba (Province of Cuneo).	ALBA	X	
	'*Portulaca trituberculata*'	1862	*Leg.* Romano, 6-8-1862. Ceva (Province of Cuneo), on the Broglio.	TO	X	
	'*Portulaca granulatostellulata*' + '*Portulaca nitida*'	1919	*Leg.* Vatova, 5-9-1919. Sangone.	FI	X	
	'*Portulaca granulatostellulata*' + '*Portulaca trituberculata*'	1903	*Leg.* L. Vaccari, 4-9-1903. Ivrea (Province of Torino), at the lake Serio.	FI	X	
Valle d'Aosta	'*Portulaca cypria*'	1903	*Leg.* L. Vaccari, Wilyek *et* Mailuser, 30-7-1903. Cogne: Valnontey, 1700 m a.s.l. (right side of the valley).	FI	X	
	'*Portulaca granulatostellulata*'	1898	*Leg.* L. Vaccari, 10-1898. Aosta.	FI	X	
		1909	*Leg.* L. Vaccari, 22-7-1909. St. Vincent at Moron.	FI	X	
		1989	*Leg.* Bovio, 30-9-1989. Lakes of Lillaz, at St. Marcel, 528 m a.s.l.	AO	X	
		1992	*Leg.* Bovio, Giunta *et* Rosset, 16-9-1992. Gressan, at Gargantua, 750 m a.s.l.	AO	X	
	'*Portulaca cypria*' + '*Portulaca trituberculata*'	1903	*Leg.* L. Vaccari, 28-7-1903. Between Villeneuve and Pont d'Oleil.	FI	X	
Lombardia	'*Portulaca cypria*'	1850 (around)	*Leg.* Perini, s.d. (around 1850). In the valleys, in the countryside (Flora Tridentina).	MSNM	X	
	'*Portulaca granulatostellulata*'	1893	*Leg*. Balzarini, 1893. Cemetery of Cremona.	PAV	X	
		1894	*Leg.* Camperio, 21-7-1894. Malgrate (Province of Lecco). Fields, uncultivated places, paths, everywhere.	FI	X	
		1900 (early)	*Leg*. Massara *et* Longa, s.d. (poss. early '900). On the humid-sandy ground near Puschlav (Villa), 450 m a.s.l.	PAV	X	
		1917	*Leg*. Gheza Brothers, 9-1917. Losine (Province of Brescia), cultivated places, limestone, 352 m a.s.l.	PAV	X	
		1950	*Leg.* Bertolani Marchetti, 31-7-1950. Miradolo Terme (Province of Pavia).	FI	X	
		1976	*Leg*. Zucchi, 12-8-1976. Orzinuovi (Province of Brescia), at the Bosco degli Arrighini.	PAV	X	
		1977	*Leg.* Barini, 23-8-1977. Mantova. Bosco della Fontana: prairies behind the NW palace.	FI	X	
		1977	*Leg.* Barini, 30-7-1977. Mantova. Bosco della Fontana: eastern road along the prairies of the palace.	FI	X	
		1981	*Leg*. Cavani, Terzo *et* Zucchetti, 21-9-1981. Rivolta d'Adda (Province of Cremona), path.	PAV	X	
		1989	*Leg.* Galasso, 31-8-1989. Canzo (Province of Como), road to Lake of Segrino (sidewalk). 380 m a.s.l.	MSNM	X	
	'*Portulaca nitida*'	1911	*Leg.* Stucchi, 1911. Gallarate (Province of Varese). Fields.	MSNM	X	
		2009	*Leg.* Cappelli, 22-6-2009. Milano, Castello Sforzesco, base of the external walls, left of the Torre del Filarete. 126 m a.s.l.	MSNM	X	
		2009	*Leg.* Cappelli, 22-6-2009. Milano, Castello Sforzesco, base of the external walls, left of the Torre del Filarete. 126 m a.s.l.	MSNM	X	
	'*Portulaca papillatostellulata*'	1971	*Leg.* Bartoli Buresti, 29-8-1971. Valtellina. Mown prairies of the valley bottom between Morbegno and Sondrio, 230-310 m a.s.l.	FI	X	
		1989	*Leg.* Galasso, 28-9-1989. Canzo (Province of Como), sidewalk in the railway station. 390 m a.s.l.	MSNM	X	
	'*Portulaca trituberculata*'	1850 (around)	*Leg.* Grigolato, s.d. (around 1850). In the country of Rovigo. Common in the fields (Flora Policinensis).	MSNM	X	
		1900 (early)	*Leg*. Longa, s.d. (poss. early '900). On the humid-sandy ground near Puschlav (Villa), 450 m a.s.l.	PAV	X	
	'*Portulaca nitida*' + '*Portulaca papillatostellulata*'	1900 (early)	*Leg*. Longa, s.d. (poss. early '900). Villa near Puschlav.	PAV	X	
Trentino-Alto Adige	'*Portulaca granulatostellulata*'	2004	*Leg.* Zemmer, 17-9-2004. Province of Bolzano, Salurn railway station, in a vineyard, 215 m a.s.l.	BOZ	X	
		2005	*Leg.* Tratter, 17-10-2005. Province of Bolzano, Alpreid (St. Pankratz), roadside in the square, 750 m a.s.l.	BOZ	X	
		2005	*Leg.* Stockner, 17-10-2005. Province of Bolzano, Terlan, gravel area in the garden of the Liebeneich Hotel, 315 m a.s.l.	BOZ	X	
		2005	*Leg.* Wilhalm, 15-10-2005. Province of Bolzano, Mals Vinschgau, in a garden along the railway station road, among the pavement stones, 1030 m a.s.l.	BOZ	X	
		2006	*Leg.* Wilhalm, 16-9-2006. Province of Bolzano, Ringberg Castle, along a country road in a vineyard, 340 m a.s.l.	BOZ	X	
		2006	*Leg.* Schneider-Fürchau, 20-10-2006. Province of Bolzano, Goldrain, on the road bank at the railway station parking, 660 m a.s.l.	BOZ	X	
		2007	*Leg.* Wilhalm, 21-10-2007. Province of Bolzano, Pardell (municipality of Klausen), 800 m NE from the Säben Monastery, at the Court Hieng, 670 m a.s.l.	BOZ	X	
		2007	*Leg.* Wilhalm, 15-9-2007. Province of Bolzano, Schlanders, along a road in Mellaunen 500 m from the Parish Church, among the pavement stones, 760 m a.s.l.	BOZ	X	
		2007	*Leg.* Wilhalm, 23-10-2006. Province of Bolzano, Gries, Guntschnapromenade at the Hotel Germania, roadside, 330 m a.s.l.	BOZ	X	
		2008	*Leg.* Massenz, 21-8-2008. Province of Bolzano, Kaltern am der Weinstraße, in a vineyard near Kalterer Weinstadl, 352 m a.s.l.	BOZ	X	
		2009	*Leg.* Aichner, 28-9-2009. Province of Bolzano, Tiers, in the towncentre 100 m SW from the Parish Church, roadside, 1000 m a.s.l.	BOZ	X	
		2009	*Leg.* Aichner, 1-10-2009. Province of Bolzano, Tiers, in the towncentre 200 m SW from the Parish Church, roadside, 1020 m a.s.l.	BOZ	X	
		2013	*Leg*. Bertolli *et* Tomasi, 4-10-2013. Along the river Etsch at S. Michele (Province of Trento), 200 m a.s.l.	ROV		
		2013	*Leg*. Raffaelli, 30-9-2013. Nomi (Province of Trento), along the highway A22, 177 m a.s.l.	ROV		
		2013	*Leg*. Tomasi, 30-9-2013. S. Margherita di Ala (Province of Trento), in the garden and in cultivated lands, 170 m a.s.l.	ROV		
		2013	*Leg*. Raffaelli, 30-9-2013. Besenello (Province of Trento), in the vineyards, 200 m a.s.l.	ROV		
		2013	*Leg*. Raffaelli, 1-10-2013. Pomarolo (Province of Trento), 200 m a.s.l.	ROV		
		2013	*Leg*. Tomasi, September 2013. Along the river Etsch near S. Margherita di Ala (Province of Trento), 170 m a.s.l.	ROV		
	'*Portulaca nitida*'	2006	*Leg.* Wilhalm, 26-10-2006. Province of Bolzano, Burgstall (Etschtal), immediate vicinity of the funicular station to Vöran, roadside, 260 m a.s.l.	BOZ	X	
		2013	*Leg*. Raffaelli, 1-10-2013. Rovereto (Province of Trento), in Partèli road, 190 m a.s.l.	ROV		
		2013	*Leg*. Bertolli *et* Tomasi, 2-10-2013. Railway station of Mezzocorona (Province of Trento), 200 m a.s.l.	ROV		
		2013	*Leg*. Raffaelli, 30-9-2013. Ischia S. Ilario - Rovereto (Province of Trento), near the supermarket Eurospar, 203 m a.s.l.	ROV		
	'*Portulaca oleracea*'	2006	*Leg.* Schneider-Fürchau, 29-9-2006. Province of Bolzano, Latsch, parking area of the funicular station to St. Martin am Kofel, roadside, 635 m a.s.l.	BOZ	X	
		2013	*Leg*. Raffaelli, 30-9-2013. Volano (Province of Trento), 190 m a.s.l.	ROV		
		2013	*Leg*. Prosser, 5-10-2013. Zaffoni di Noriglio - Rovereto (Province of Trento), 470 m a.s.l.	ROV		
	'*Portulaca papillatostellulata*'	2005	*Leg.* Wilhalm *et* Stockner, 20-10-2005. Province of Bolzano, Laimburg (municipality of Auer), 1200 m NNE from the Experimental Centre, roadside, 225 m a.s.l.	BOZ	X	
		2006	*Leg.* Wilhalm, 26-10-2006. Province of Bolzano, Burgstall (Etschtal), in the immediate vicinity of the Parish Church, in the coping, 325 m a.s.l.	BOZ	X	
		2006	*Leg.* Wilhalm, 1-10-2006. Province of Bolzano, Terlan, 800 m NNE from the Parish Church, roadside, 317 m a.s.l.	BOZ	X	
		2012	*Leg.* Bertolli *et* Prosser, 18-9-2012. Margin of a sidewalk at Coltura di Ragoli (Province of Trento). 590 m a.s.l.	ROV	X	
		2013	*Leg*. Bertolli, 29-9-2013. Brentonico (Province of Trento), 740 m a.s.l.	ROV		
		2013	*Leg*. Raffaelli, 1-10-2013. Nomi Sud (Province of Trento), 180 m a.s.l.	ROV		
		2013	*Leg*. Raffaelli, 1-10-2013. Villa Lagarina (Province of Trento), 180 m a.s.l.	ROV		
		2013	*Leg*. Raffaelli, 30-9-2013. Calliano (Province of Trento), in the town, 190 m a.s.l.	ROV		
	'*Portulaca trituberculata*'	2007	*Leg.* Wilhalm *et* Hilpold, 12-10-2007. Province of Bolzano, 600 m WNW of the Kreitsattel (between Auer and Kaltern am der Weinstraße), roadside in a vineyard, 380 m a.s.l.	BOZ	X	
	'*Portulaca granulatostellulata*' + '*Portulaca papillatostellulata*'	2006	*Leg.* Wilhalm, Stockner *et* Tratter, 22-9-2006. Province of Bolzano, Piglon (municipality of Vadena), uncultivated muddy area in the valley at the eastern root of the mountain, 225 m a.s.l.	BOZ	X	
Veneto	'*Portulaca cypria*'	1920	*Leg.* Minio, 18-9-1920. Fondamenta Abbazia - pavement (Urban Flora of Venezia).	FI	X	
		2007	*Leg*. Argenti, 9-9-2007. Rocca Pendice (Province of Padova), roadside, 300 m a.s.l.	Herbarium C. Argenti	X	
	'*Portulaca granulatostellulata*'	1842	*Leg.* Felisi, 7-1842. Abano (Province of Padova).	FER	X	
		1895	*Leg.* Pampanini, 27-7-1895. In the courtyard of a house in Gazzuolo (Vittorio Veneto, Province of Treviso). 151 m a.s.l.	FI	X	
		1898	*Leg.* Goiran, 1898. In the ways of Verona.	FI	X	
		1920	*Leg.* Minio, 26-9-1920. Fond. S. Alvise, pavement (Urban Flora of Venezia).	FI	X	
		1921	*Leg.* Minio, 21-7-1921. Ponte Trapolino (Urban Flora of Venezia).	FI	X	
		1921	*Leg.* Minio, 13-8-1921. Campo S. Vedal (Urban Flora of Venezia).	FI	X	
		1921	*Leg.* Minio, 7-8-1921. Campeggio 3 Ponti (Urban Flora of Venezia).	FI	X	
		1921	*Leg.* Minio, 25-6-1921. Orto Cellina - S. Giobbe (Urban Flora of Venezia).	FI	X	
		1921	*Leg.* Minio, 2-6-1921. Arsenale. Free areas among the coal deposits (Urban Flora of Venezia).	FI	X	
		1921	*Leg*. Minio, 15-8-1921. Giudecca (Urban Flora of Venezia).	FI	X	
		1922	*Leg.* Minio, 19-9-1922. Marine railway station (Urban Flora of Venezia).	FI	X	
		1928	*Leg.* Minio, 8-8-1928. Corte Carrera (Urban Flora of Venezia).	FI	X	
		2007	*Leg*. Argenti, 14-9-2007. Mutten di Feltre (Province of Belluno), in a waste area, 610 m a.s.l.	Herbarium C. Argenti	X	
		2007	*Leg*. Argenti, 9-8-2007. Belluno, in a waste area, 390 m a.s.l.	Herbarium C. Argenti	X	
		2007	*Leg*. Argenti, 18-9-2007. Cavarzano di Belluno (Province of Belluno), roadside, 400 m a.s.l.	Herbarium C. Argenti	X	
		2007	*Leg*. Argenti, 21-9-2007. Breda di Piave (Province of Treviso), in a paved area, 20 m a.s.l.	Herbarium C. Argenti	X	
		2007	*Leg*. Argenti, 2-9-2007. Feltre (Province of Belluno), as a weed in a kitchen-garden, 300 m a.s.l.	Herbarium C. Argenti	X	
		2008	*Leg*. Argenti, 20-9-2008. Brentino (Province of Verona), in a waste area, 190 m a.s.l.	Herbarium C. Argenti	X	
		2008	*Leg*. Argenti, 1-8-2008. Porto Marghera - Mestre (Province of Venezia), roadside.	Herbarium C. Argenti	X	
		2008	*Leg*. Argenti, 20-8-2008. Near Domegge di Cadore (Province of Belluno), roadside, 820 m a.s.l.	Herbarium C. Argenti	X	
		2009	*Leg*. Argenti, 5-9-2009. Fanzolo (Province of Treviso), in a waste area, 50 m a.s.l.	Herbarium C. Argenti	X	
		2012	*Leg*. Argenti, 29-8-2012. Mutten di Feltre (Province of Belluno), as a weed in a kitchen-garden, 610 m a.s.l.	Herbarium C. Argenti	X	
		2012	*Leg*. Argenti, 29-8-2012. Mutten di Feltre (Province of Belluno), as a weed in a kitchen-garden, 610 m a.s.l.	Herbarium C. Argenti	X	
		2012	*Leg*. Argenti, 29-8-2012. Mutten di Feltre (Province of Belluno), as a weed in a kitchen-garden, 610 m a.s.l.	Herbarium C. Argenti	X	
		2012	*Leg*. Argenti, 29-8-2012. Mutten di Feltre (Province of Belluno), as a weed in a kitchen-garden, 610 m a.s.l.	Herbarium C. Argenti	X	
		2012	*Leg*. Argenti, 29-8-2012. Mutten di Feltre (Province of Belluno), as a weed in a kitchen-garden, 610 m a.s.l.	Herbarium C. Argenti	X	
		2012	*Leg*. Argenti, 29-8-2012. Mutten di Feltre (Province of Belluno), as a weed in a kitchen-garden, 610 m a.s.l.	Herbarium C. Argenti	X	
		2012	*Leg*. Argenti, 29-8-2012. Mutten di Feltre (Province of Belluno), as a weed in a kitchen-garden, 610 m a.s.l.	Herbarium C. Argenti	X	
		2012	*Leg*. Argenti, 18-7-2012. Mutten di Feltre (Province of Belluno), as a weed in a kitchen-garden, 600 m a.s.l.	Herbarium C. Argenti	X	
		2012	*Leg*. Argenti, 18-7-2012. Mutten di Feltre (Province of Belluno), as a weed in a kitchen-garden, 600 m a.s.l.	Herbarium C. Argenti	X	
		2012	*Leg*. Argenti, 20-7-2012. Mutten di Feltre (Province of Belluno), as a weed in a kitchen-garden, 600 m a.s.l.	Herbarium C. Argenti	X	
		2012	*Leg*. Argenti, 26-8-2012. Quero (Province of Belluno), railway station, in a waste area, 195 m a.s.l.	Herbarium C. Argenti	X	
		2012	*Leg*. Argenti, 26-8-2012. Quero (Province of Belluno), railway station, in a waste area, 195 m a.s.l.	Herbarium C. Argenti	X	
		2012	*Leg*. Argenti, 15-9-2012. Cornuda (Province of Treviso), Duse street, as a weed in a kitchen-garden, 150 m a.s.l.	Herbarium C. Argenti	X	
		2012	*Leg*. Argenti, 22-9-2012. S. Stefano di Cadore (Province of Belluno), central square, in a paved area, 910 m a.s.l.	Herbarium C. Argenti	X	
	'*Portulaca nitida*'	1922	*Leg.* Minio, 9-7-1922. Marine station, among the rails (Urban Flora of Venezia).	FI	X	
		2013	*Leg*. Bertolli *et* Prosser, 14-8-2013. Cavalcaselle (Province of Verona), 90 m a.s.l.	ROV		
	'*Portulaca papillatostellulata*'	1909	*Leg.* Minio, 14-9-1909. Sottocastello (Province of Belluno).	FI	X	
		1914	*Leg.* Minio, 7-9-1914. Belluno, near the Piave bridge.	FI	X	
		1921	*Leg.* Minio, 26-8-1921. Gas holder, S. Francesco in Vigna (Urban Flora of Venezia).	FI	X	
		2006	*Leg*. Argenti, 2-9-2006. Guia di Valdobbiadene (Province of Treviso), in a waste area, 350 m a.s.l.	Herbarium C. Argenti	X	
		2007	*Leg*. Argenti, 14-9-2007. Mutten di Feltre (Province of Belluno), as a weed in kitchen-garden, 610 m a.s.l.	Herbarium C. Argenti	X	
		2012	*Leg*. Argenti, 29-8-2012. Mutten di Feltre (Province of Belluno), as a weed in a kitchen-garden, 610 m a.s.l.	Herbarium C. Argenti	X	
		2012	*Leg*. Argenti, 29-8-2012. Mutten di Feltre (Province of Belluno), as a weed in a kitchen-garden, 610 m a.s.l.	Herbarium C. Argenti	X	
		2012	*Leg*. Argenti, 29-8-2012. Mutten di Feltre (Province of Belluno), as a weed in a kitchen-garden, 610 m a.s.l.	Herbarium C. Argenti	X	
		2012	*Leg*. Argenti, 20-7-2012. Mutten di Feltre (Province of Belluno), as a weed in a kitchen-garden, 600 m a.s.l.	Herbarium C. Argenti	X	
	'*Portulaca trituberculata*'	1896	*Leg.* L. Vaccari, 30-6-1896. Agricultural Botanical Garden of Padova.	FI	X	
		1897	*Leg.* Goiran, 1897. Spredino, Romagnano ecc., in cultivated places.	FI	X	
		1921	*Leg.* Minio, 4-7-1921. Campi S. Bastian (Urban Flora of Venezia).	FI	X	
		1928	*Leg.* Minio, 5-8-1928. At S. Bonaventura, S. Alvise (Urban Flora of Venezia).	FI	X	
	'*Portulaca granulatostellulata*' + '*Portulaca oleracea*'	2006	*Leg*. Argenti, 28-7-2006. Belluno, piazza Vittime di via Fani, in a paved area, 400 m a.s.l.	Herbarium C. Argenti	X	
	'*Portulaca granulatostellulata*' + '*Portulaca papillatostellulata*'	2007	*Leg*. Argenti, 14-9-2007. Mutten di Feltre (Province of Belluno), as a weed in kitchen-garden, 610 m a.s.l.	Herbarium C. Argenti	X	
	'*Portulaca granulatostellulata*'	1964	*Leg.* Fornaciari, 12-9-1964. Island of Volpera (Grado, Province of Gorizia).	MFU	X	
		2002	*Leg.* Poldini, 9-2002. Colloredo castle (Province of Udine), at the base of the wall, 200 m a.s.l.	TSB	X	
		2003	*Leg.* Poldini, 2-10-2003. Trieste.	TSB	X	
		2003	*Leg.* Poldini, 26-8-2003. Trieste: M. Calvo, parking of the Department of Biology (Province of Trieste).	TSB	X	
		2003	*Leg.* Poldini, 28-8-2003. Visintini (Province of Gorizia), road margin, 40 m a.s.l.	TSB	X	
		2003	*Leg.* Poldini, 2-9-2003. Malchina (Province of Trieste), road margin.	TSB	X	
		2003	*Leg.* Poldini, 28-8-2003. Sistiana (Province of Trieste), flower bed at the road margin.	TSB	X	
		2003	*Leg.* Poldini, 28-8-2003. Prosecco (Province of Trieste).	TSB	X	
		2003	*Leg.* Poldini, 29-8-2003. Grocciana/Grozzana (Province of Trieste).	TSB	X	
		2003	*Leg.* Poldini, 27-8-2003. Vermegliano (Province of Gorizia).	TSB	X	
		2003	*Leg.* Poldini, 29-8-2003. Precenicco (Province of Trieste).	TSB	X	
		2003	*Leg.* Poldini, 27-8-2003. Peci (Province of Gorizia).	TSB	X	

Friuli Venezia Giulia		2003	*Leg.* Poldini, 29-8-2003. Sales (Province of Trieste).	TSB	X	
		2003	*Leg.* Poldini *et* Tomasella, 2-10-2003. Basovizza (Province of Trieste).	TSB	X	
		2003	*Leg.* Poldini *et* Tomasella, 2-10-2003. Slivia (Province of Trieste).	TSB	X	
		2003	*Leg.* Poldini *et* Tomasella, 2-10-2003. S. Pelagio (Province of Trieste).	TSB	X	
		2003	*Leg.* Poldini, 28-8-2003. Opicina at the Mount Gurca (Province of Trieste).	TSB	X	
		2003	*Leg.* Poldini, 28-8-2003. Opicina at the Mount Gurca (Province of Trieste).	TSB	X	
		2003	*Leg.* Poldini *et* Tomasella, 2-10-2003. Ceroglie (Province of Trieste).	TSB	X	
		s.d.	*Leg.* Poldini *et* Tomasella, s.d. Prepotto di S. Pelagio (Province of Trieste).	TSB	X	
	'Portulaca nitida'	2003	*Leg.* Poldini, 24-9-2003. Mount Valerio (Province of Trieste).	TSB	X	
	'Portulaca oleracea'	2002	*Leg.* Poldini, 20-9-2002. Fogliano (Province of Gorizia).	TSB	X	
	'Portulaca papillatostellulata'	2002	*Leg.* Poldini, 20-9-2002. Redipuglia: S. Pier d'Isonzo (Province of Gorizia).	TSB	X	
		2003	*Leg.* Poldini, 28-8-2003. M. Cocco (Province of Gorizia), road margin in the town.	TSB	X	
		2003	*Leg.* Comin *et* Tomasella, 31-8-2003. Casasola di Maiano (Province of Udine).	TSB	X	
		2003	*Leg.* Comin, 10-9-2003. Loc. Cavana (Province of Gorizia), argin near the seaside.	TSB	X	
	'Portulaca trituberculata'	2002	*Leg.* Poldini, 30-9-2002. Trieste: S. Maria Maddalena inferiore.	TSB	X	
	'Portulaca granulatostellulata' + *'Portulaca papillatostellulata'*	2003	*Leg.* Poldini, 28-8-2003. S. Michele (Province of Gorizia), on the gravel at the road margin.	TSB	X	
		2003	*Leg.* Poldini, 28-8-2003. Draga S. Elia (Province of Trieste).	TSB	X	
		2003	*Leg.* Poldini, 2-10-2003. Borgo Grotta (Province of Trieste).	TSB	X	
	'Portulaca granulatostellulata' + *'Portulaca trituberculata'*	2003	*Leg.* Poldini *et* Tomasella, 28-8-2003. Colludroza (Province of Trieste).	TSB	X	
		2003	*Leg.* Poldini *et* Tomasella, 2-10-2003. Mount Lanaro (Province of Trieste).	TSB	X	
Liguria	*'Portulaca granulatostellulata'*	1920	s. coll., 1-9-1920. Genova, in the creek Bistagno.	SIENA	X	
		1920	s. coll., 1-9-1920. Genova, in the creek Bistagno.	SIENA	X	
		1924	*Leg.* Mattirolo, 10-6-1924. Monterosso al Mare (Province of La Spezia): along the beach near Fegina.	TO	X	
		1939	*Leg.* Cucini, 10-9-1939. Genova, creek Bisagno.	GDOR	X	
		before 1916	*Leg.* Baglietto, Voltri (Province of Genova), Cerusa Valley, in the place of the Chiavarina farmhouse.	GDOR	X	
	'Portulaca oleracea'	1866	*Leg.* Ricca, 1866. Cervo (Province of Imperia). Irony sands towards the sea, in a road near the seaside.	FI	X	
	'Portulaca granulatostellulata' + *'Portulaca nitida'*	before 1916	*Leg.* Baglietto, s.d. Genova, at Lagaccio.	GDOR	X	
Emilia-Romagna	*'Portulaca granulatostellulata'*	1884	*Leg*. Vaccari, 8-1884. Villa S. Agnese (Modena), in kitchen gardens and uncultivated places.	MOD	X	Danin et al. 2014
		1907	*Leg*. Ferioli, 8-1907. Ferrara.	FER	X	Danin et al. 2014
		1909	*Leg*. Ferioli, 7-7-1909. Ferrara.	FER	X	Danin et al. 2014
		1964	*Leg.* Stampi, 5-8-1964. Mesola. Mesola Forest, at the Taglio della Falce.	FI	X	
		2010	*Leg*. Calvi, 2-8-2010. S. Pietro in Elda (Province of Modena), 17 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Calvi, 2-8-2010. Solara (Province of Modena), 20 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Ansaloni, 8-9-2010. Bagazzano (Province of Modena), 26 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Calvi, 2-8-2010. Bastiglia (Province of Modena), 27 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Bosi, 25-7-2010. Modena, in the city, 34 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Buldrini, 28-7-2010. Modena, in the city, 34 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Bosi, 20-7-2010. Modena, in the city, 34 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Ansaloni, 3-9-2010. Cavazzona (Province of Modena), 42 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Buldrini, 30-7-2010. Casinalbo (Province of Modena), in via Liandi, 60 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Buldrini, 17-8-2010. Baggiovara (Province of Modena), in the car parking area west of the railway halt, 61 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Barbieri, 2-9-2010. Corlo (Province of Modena), 82 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Buldrini, 28-7-2010. Formigine (Province of Modena), in via S. Giacomo, 82 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Buldrini, 18-8-2010. Bolognina di Crevalcore (Province of Bologna), along a gravel road, 15 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Calvi, 2-8-2010. Bolognina di Crevalcore (Province of Bologna), 15 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Calvi, 2-8-2010. Caselle di Crevalcore (Provnce of Bologna), 17 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Calvi, 2-8-2010. S. Agata Bolognese (Province of Bologna), 21 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Olmi, 2-9-2010. S. Giovanni in Persiceto (Province of Bologna), 21 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Buldrini, 29-7-2010. Bologna, grassland in the botanic garden, 54 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Buldrini, 29-7-2010. Bologna, grassland in the botanic garden, 54 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Bosi, 8-8-2010. Argenta (Province of Ferrara), 4 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Bosi, 8-8-2010. Ferrara, in the city, 9 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Bosi, 8-8-2010. Ferrara, in the city, 9 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Bosi, 8-8-2010. Ferrara, in the city, 9 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Bosi, 8-8-2010. Ferrara, in the city, 9 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Bosi, 8-8-2010. Ferrara, in the city, 9 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Ansaloni, 4-8-2010. Cervia (Province of Ravenna), 5 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Bosi, 6-8-2010. Lugo (Province of Ravenna), near piazza Baracca, 12 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Olmi, 4-10-2010. Cesenatico (Province of Forlí-Cesena), 2 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
	'Portulaca nitida'	2010	*Leg*. Calvi, 2-8-2010. Camposanto (Province of Modena), 21 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Buldrini, 27-7-2010. Modena, in the city, 34 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Buldrini, 17-8-2010. Baggiovara (Province of Modena), in the car parking area west of the railway halt, 61 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Bosi, 8-8-2010. Ferrara, in the city, 9 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
	'Portulaca oleracea'	1880	s. coll., 10-1880. Near Modena.	MOD	X	Danin et al. 2014
		2010	*Leg*. Serventi, 13-9-2010. Collecchio (Province of Parma), 112 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Santini, 16-9-2010. Nonantola (Province of Modena), 22 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Ansaloni, 10-9-2010. Ponte S. Ambrogio (Province of Modena), 55 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
	'Portulaca papillatostellulata'	2010	*Leg*. Ansaloni, 4-9-2010. Poviglio (Province of Reggio Emilia), 29 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Buldrini, 22-8-2010. Masone (Province of Reggio Emilia), uncultivated area along the via Emilia, 53 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Calvi, 31-7-2010. Stuffione (Province of Modena), 20 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Ansaloni, 1-9-2010. Casette di Nonantola (Province of Modena), 22 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Ansaloni, 10-9-2010. Gaggio in Piano (Province of Modena), 33 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Buldrini, 27-7-2010. Modena, in the city, 34 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
		2010	*Leg*. Bosi, 6-8-2010. Lugo (Province of Ravenna), near piazza Baracca, 12 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
	'Portulaca trituberculata'	1859	*Leg*. Caldesi, 8-1859. In Persolino near Faenza (where called *Purznacia*).	BOLO	X	Danin et al. 2014
		1860	*Leg*. Caldesi, 8-1860. In Persolino in Errano.	BOLO	X	Danin et al. 2014
		2010	*Leg*. Olmi, 4-9-2010. Valestra (Province of Reggio Emilia), 679 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
	'Portulaca granulatostellulata' + *'Portulaca nitida'*	2010	*Leg*. Bosi, 8-8-2010. Ferrara, in the city, 9 m a.s.l.	Laboratorio di Palinologia e Paleobotanica, UNIMORE		Danin et al. 2014
Toscana	*'Portulaca cypria'*	1844	*Leg.* Puccinelli. Given by Puccinelli in February 1844. In his gardens (it flowers in July).	FI	X	
		1880	*Leg.* Della Nave, 10-10-1880. Along the Arno river near Brozzi (Province of Firenze).	FI	X	
		1898	*Leg.* Arcangeli, 11-10-1898. Along the roads near Moncioni (Province of Arezzo).	PI	X	
		1901	*Leg.* Sommier, 30/31-10-1901. Pianosa Island, here and there. Belvedere! fields of the Cala S. Giovanni!	FI	X	
		1999	*Leg.* Baldini, 29-9-1999. Pianosa Island. Inland near Cala di Biagio.	FI	X	
	'Portulaca granulatostellulata'	1896	*Leg.* Sommier, 16-8-1896. Capraia Island. Near the village. Frequent in all the island.	FI	X	
		1989	*Leg.* Baldini *et* Innamorati, 20-8-1989. Formiche di Grosseto Islands. Formica maggiore. On limestone soil.	FI	X	
		1989	*Leg.* Baldini *et* Innamorati, 20-8-1989. Formiche di Grosseto Islands. Formica maggiore. On limestone soil.	FI	X	
		1989	*Leg.* Baldini *et* Innamorati, 20-8-1989. Formiche di Grosseto Islands. Formica maggiore. On limestone soil.	FI	X	
		1990	*Leg.* Baldini, 10-6-1990. Mount Argentario. Porto Ercole Islet.	FI	X	
	'Portulaca nitida'	1910	*Leg.* Sommier, 26-5-1910. Capraia Island. Prajola Islet.	FI	X	
		1918	*Leg.* Mori, 10-10-1918. Pisa, along the roads.	MOD	X	
		1932	*Leg.* Corradi, 28-7-1932. Firenze, at the Cascine, along the Arno.	FI	X	
		1933	*Leg.* Corti *et* Corradi, 12-7-1933. Province of Firenze, at S. Romolo (Signa).	FI	X	
		1946	*Leg.* Corradi, 20/25-8-1946. Maremma of Grosseto. Tenuta Acquisti. Common in the cultivated fields.	FI	X	
		1968	*Leg.* Corti R., Corti E. *et* Messeri, 28-9-1968. Donoratico (Province of Livorno). Torre di Donoratico.	FI	X	
		1989	*Leg.* Baldini *et* Innamorati, 20-8-1989. Formiche di Grosseto Islands. Formica maggiore. On limestone soil.	FI	X	
		1990	*Leg.* Baldini, 10-6-1990. Mount Argentario. Porto Ercole Islet.	FI	X	
		1993	*Leg.* Baldini, 29-7-1993. Mount Argentario, Punta Nera, near Porto S. Stefano, near the old lighthouse.	FI	X	
		2000	*Leg.* Baldini, 9-9-2000. Giannutri Island, at the Spalmatoio.	FI	X	
		2000	*Leg.* Pedullà, 10-9-2000. Rio Monte Bianco, Asciano (Province of Siena).	PI	X	
	'Portulaca oleracea'	1850	*Leg.* Sommier, 29-9-1850. Firenze at the Cascine. Among the stones of the Arno dam. 50 m a.s.l.	FI	X	
		1933	*Leg.* Gabrielith, 8-1933. Donoratico woodland (S. Vincenzo, Province of Livorno).	FI	X	
		1933	*Leg.* Gabrielith, 8-1933. Donoratico woodland (S. Vincenzo, Province of Livorno).	FI	X	
		1972	*Leg.* Innamorati, 27-7-1972. Elba Island. Bagnaia, in the valley.	FI	X	
		1990	*Leg.* Baldini, Innamorati *et* Sartori, 11-6-1990. Prov. of Grosseto. Formiche di Grosseto Islands.	FI	X	
		1999	*Leg.* Riccucci, 5-10-1999. Side of the WWF Oasis of Burano, Province of Grosseto.	SIENA	X	
	'Portulaca papillatostellulata'	1867-1940	*Leg.* Bolzon, s.d. Elba Island, Portoferraio (period 1867-1940).	FI	X	
		1911	*Leg.* Sommier, 25-6-1911. In Argentario promontory.	FI	X	
	'Portulaca trituberculata'	1817	*Leg.* Campani, 10-1817. Siena, fields near S. Eugenia.	SIENA	X	
		1855	Herb. Mus. Flor., 22-9-1855.	FI	X	
		1858	*Leg.* Beccari, 7-1858. Lucca, in the kitchen gardens.	FI	X	
		1861	*Leg.* Beccari, 9-1861. Pisa.	FI	X	
		1866	*Leg.* Levier, 8-1866. Firenze.	FI	X	
		1869	*Leg.* Simi, 1869. Camaiore (Province of Lucca). Common in cultivated places, both in the region of the olive tree and in the chestnut tree one.	FI	X	
		1875	*Leg.* Parlatore, 13-9-1875. Livorno at the Cavalleggieri fortress.	FI	X	
		1877	Herb. Bergeest. Near Firenze, Summer 1877.	FI	X	
		1888	*Leg.* Sommier, 8-7-1888. Near Firenze at the Incontro.	FI	X	
		1894	*Leg.* Sommier, 21-5-1894. Giglio Island, between the Porto and the Lazzaretto. In a little sandy field.	FI	X	
		1894	*Leg.* Sommier, 4-9-1894. Giglio Island. Going to the Cala delle Cannelle.	FI	X	
		1895	*Leg.* Sommier, 2-7-1895. Giglio Island at the Castellare.	FI	X	
		1900	*Leg.* Sommier, 17-7-1900. Elba Island. Marciana Marina, in cultivated places, not rare.	FI	X	
		1900	*Leg.* Sommier, 27-6-1900. Elba Island. Rio Marina along the stream.	FI	X	
		1901	*Leg.* Sommier, 23-6-1901. Elba Island. Portoferraio.	FI	X	
		1901	*Leg.* Sommier, 28-6-1901. Pianosa Island, in the plain at the Marchese.	FI	X	
		1907	*Leg.* Sommier, 25-6-1907. Elba Island. Marina di Campo. In a vineyard.	FI	X	
		1908	*Leg.* Savelli, 2-9-1908. Arezzo. In cultivated places.	FI	X	
		1914	*Leg.* Adr. Fiori 17-7-1914. Firenze along the Arno river, in the fields.	FI	X	
		1915	*Leg.* Sommier, 8-7-1915. Bellariva-Rovezzano (Province of Firenze), Arno bed.	FI	X	
		1915	*Leg.* Sommier, 4-7-1915. Near Firenze, on Mount Rivecchi.	FI	X	
		1965	*Leg.* Fabbri, Bavazzano *et* Contardo, 31-5/3-6-1965. Montecristo Island, Vallone di Cala Maestra: in the kitchen garden of the Villa.	FI	X	
		1969	*Leg.* Bavazzano, 22-6-1969. Capraia Island - Western side: Gabbiani Island.	FI	X	
		1983	*Leg.* Esposito, 1-9-1983. Orbetello (Province of Grosseto), Western Lagoon.	PI	X	
		1988	*Leg.* Chiarucci, 30-9-1988. Colline Metallifere, along the creek Farma near the lake of the *Taxus*. Fluvial sands; 190 m a.s.l.	SIENA	X	
		1996	*Leg.* Baldini, 26-9-1996. Giglio Island, Capel Rosso. Near the lighthouse (Semaforo).	FI	X	
	'Portulaca cypria' + *'Portulaca trituberculata'*	1901	*Leg.* Sommier, 30-10-1901. Pianosa Island, fields at the cala S. Giovanni.	FI	X	
		1999	*Leg.* Baldini, 29-9-1999. Pianosa Island. Inland between Cala di Biagio and Punta Brigantina.	FI	X	
	'Portulaca nitida' + *'Portulaca trituberculata'*	1896	*Leg.* Sommier, 17-8-1896. Capraia Island.	FI	X	
	'Portulaca oleracea' + *'Portulaca trituberculata'*	2011	s. coll., 28-7-2011. Province of Grosseto, Pian di Rocca (Castiglione della Pescaia). Uncultivated land (10 m a.s.l.).	SIENA	X	
Umbria	*'Portulaca granulatostellulata'*	2013	*Leg.* Venanzoni, summer 2013. Ponte S. Giovanni (Province of Perugia), margin of a cultivated area, 180 m a.s.l.	Università degli Studi di Perugia		

Marche	'*Portulaca granulatostellulata* '	2001	*Leg.* Ballelli, 24-8-2001. Comprensorio Valleremita di Fabriano (Province of Ancona). Cesi di Attiggio, 440 m a.s.l. Uncultivated lands.	CAME	X	
		2013	*Leg.* Lucarini, 26-8-2013. Camerino (Province of Macerata), in court gardens, 630 m a.s.l.	CAME		
		2013	*Leg.* Lucarini, 22-8-2013. Matelica (Province of Macerata), uncultivated sandy lands, 360 m a.s.l.	CAME		
	'*Portulaca trituberculata* '	1892	*Leg.* Rigo, 24-9-1892. At the Cransiso.	FI	X	
		1998	*Leg.* Ballelli *et* Lucarini, 17-6-1998. Selva di Castelfidardo (Province of Ancona). Near Casa Regnicolo, 20 m a.s.l., cultivated fields.	CAME	X	
		2013	*Leg.* Lucarini, 19-8-2013. Tolentino (Province of Macerata), margin of a mais field, 230 m a.s.l.	CAME		
Lazio	'*Portulaca granulatostellulata* '	1939	*Leg.* Senni, 20-7-1939. Marino (Province of Roma), Selva Ferentina 300 m a.s.l. Humid sandy places along the water.	FI	X	
		1989	*Leg.* Baldini, Cuccuini *et* Ricceri, 19-6-1989. Province of Roma. Seaside N of Tor S. Lorenzo, behind a dune along the road to Anzio. 1-2 m a.s.l.	FI	X	
	'*Portulaca nitida* '	1904	*Leg.* L. Vaccari, 6-1904. Tivoli.	FI	X	
		1963	*Leg.* Padula, 21-9-1963. Mount Circeo, under Torre Fico (S side).	FI	X	
	'*Portulaca trituberculata* '	1896	*Leg.* Doria, 4-9-1896. Roma, at the Acque Albule.	FI	X	
		1885	*Leg.* Macchiati, 26-7-1885. Poggio della Palanzana.	FI	X	
		1902	*Leg.* L. Vaccari, 1902. Tivoli (Province of Roma), Villa Adriana.	FI	X	
		1989	*Leg.* Baldini, Cuccuini *et* Ricceri, 19-6-1989. Province of Roma, seaside N of Tor S. Lorenzo (behind a dune along the road to Anzio).	FI	X	
		before 1946	Herb. R. Horti Botanici Romani, *s.coll.* , *s.d* . Around Rome.	BOLO	X	
Abruzzo	'*Portulaca trituberculata* '	2006	*Leg.* Conti *et* Tinti, 14-10-2006. Between Anversa and the cross to Castrovalva, 630 m a.s.l.	FI	X	
Molise	'*Portulaca granulatostellulata* '	2013	*Leg.* Venanzoni, summer 2013. Valle del Biferno (Province of Campobasso), roadsides, 455 m a.s.l.	Università degli Studi di Perugia		
Campania	'*Portulaca cypria* '	1825-1860	*Leg.* Gussone, s.d. Napoli (period 1825-1860).	NAP	X	
	'*Portulaca granulatostellulata* '	2012	*Leg* . Danin, 20-12-2012. Sorrento (Province of Napoli), sea level.	A. Danin's personal collections		
		2012	*Leg* . Danin, 20-12-2012. Sorrento (Province of Napoli), sea level.	A. Danin's personal collections		
		2012	*Leg* . Danin, 20-12-2012. Sorrento (Province of Napoli), sea level.	A. Danin's personal collections		
		2012	*Leg* . Danin, 20-12-2012. Sorrento (Province of Napoli), sea level.	A. Danin's personal collections		
		2012	*Leg* . Danin, 20-12-2012. Sorrento (Province of Napoli), sea level.	A. Danin's personal collections		
		2012	*Leg* . Danin, 19-12-2012. Positano (Province of Salerno); 200 m a.s.l.	A. Danin's personal collections		
		2013	*Leg* . De Matteis Tortora, 11-8-2013. Napoli (town centre).	Orto Botanico - Università degli Studi di Napoli Federico II		
		2013	*Leg* . De Matteis Tortora, 12-9-2013. Napoli (Botanic Garden - fields zone).	Orto Botanico - Università degli Studi di Napoli Federico II		
		2013	*Leg* . De Matteis Tortora, 12-9-2013. Napoli (Botanic Garden - fields zone).	Orto Botanico - Università degli Studi di Napoli Federico II		
		2013	*Leg* . De Matteis Tortora, 12-9-2013. Napoli (Botanic Garden - fields zone).	Orto Botanico - Università degli Studi di Napoli Federico II		
	'*Portulaca papillatostellulata* '	2012	*Leg* . Danin, 19-12-2012. Positano (Province of Salerno), sea level.	A. Danin's personal collections		
		2012	*Leg* . Danin, 18-12-2012. Positano (Province of Salerno), in a pot near the street.	A. Danin's personal collections		
		2013	*Leg* . Biagio, 2013. Napoli (Botanic Garden - desert zone).	Orto Botanico - Università degli Studi di Napoli Federico II		
	'*Portulaca trituberculata* '	1852	*Leg.* Gussone, 8-1852. Ischia at the Bagno.	NAP	X	
		1959	*Leg.* Fornaciari, 27-9-1959. Solfatara of Pozzuoli (Province of Napoli). Northern side.	MFU	X	
	'*Portulaca granulatostellulata* ' + '*Portulaca nitida* ' + '*Portulaca oleracea* ' + '*Portulaca papillatostellulata* '	2012	*Leg* . Danin, 18-12-2012. Positano (Province of Salerno), in a pot near the street.	A. Danin's personal collections		
	'*Portulaca granulatostellulata* ' + '*Portulaca nitida* ' + '*Portulaca oleracea* ' + '*Portulaca papillatostellulata* ' + '*Portulaca trituberculata* '	2012	*Leg* . Danin, 18-12-2012. Sorrento (Province of Napoli), city centre.	A. Danin's personal collections		
		2012	*Leg* . Danin, 18-12-2012. Sorrento (Province of Napoli), city centre.	A. Danin's personal collections		
	'*Portulaca granulatostellulata* ' + '*Portulaca oleracea* '	2012	*Leg* . Danin, 19-12-2012. Positano (Province of Salerno), sea level.	A. Danin's personal collections		
	'*Portulaca oleracea* ' + '*Portulaca papillatostellulata* '	2012	*Leg* . Danin, 19-12-2012. Positano (Province of Salerno); 200 m a.s.l.	A. Danin's personal collections		
	'*Portulaca oleracea* ' + '*Portulaca trituberculata* '	1825-1860	*Leg.* Gussone, s.d. Ischia, at the Bagno (period 1825-1860).	NAP	X	
Puglia	'*Portulaca trituberculata* '	1989	*Leg.* Baldini, Cuccuini *et* Ricceri, 27-6-1989. Province of Bari. Along the sea between Molfetta and Bisceglie. Torre Calderisi, rocky coast.	FI	X	
Basilicata	'*Portulaca cypria* '	1934	*Leg.* Gavioli, 9-1934. Tito (Province of Potenza). In the fields near the river called "Fiumara di Tito".	FI	X	
	'*Portulaca cypria* ' + '*Portulaca trituberculata* '	1936	*Leg.* Gavioli, 9-1936. Potenza, Montereale, in the kitchen gardens, 820 m a.s.l.	FI	X	
Calabria	'*Portulaca nitida* '	2009	*Leg.* Di Marco, 9-8-2009. Cosenza. Papasidero, at Castiglione.	FI	X	
Sicilia	'*Portulaca cypria* '	2005	*Leg* . Danin *et* Domina, 17-9-2005. Linguaglossa (Province of Catania).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Taormina (Province of Messina).	PAL, HUJ		Danin et al. 2008
	'*Portulaca granulatostellulata* '	2005	*Leg* . Danin *et* Domina, 14-9-2005. Palermo.	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Caltanissetta.	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Rosolini (Province of Siracusa).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. S. Stefano di Camastra (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. S. Agata di Militello (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. S. Fratello (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Cesarò (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Randazzo (Province of Catania).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Acireale (Province of Catania).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Messina.	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Milazzo (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Campofelice di Roccella (Province of Palermo).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Terrasini (Province of Palermo).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Valderice (Province of Trapani).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Mazara del Vallo (Province of Trapani).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Castelvetrano (Province of Trapani).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Sciacca (Province of Agrigento).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Cammarata (Province of Agrigento).	PAL, HUJ		Danin et al. 2008
		2008	*Leg* . Domina, 7-8-2008. Pelagie Islands, Lampedusa (Province of Agrigento).	Università degli Studi di Palermo		Danin et al. 2008
		2013	*Leg* . Domina, 7-8-2013. Linosa, in the village.	Università degli Studi di Palermo		Domina et al. 201
	'*Portulaca nitida* '	2005	*Leg* . Danin *et* Domina, 14-9-2005. Caltanissetta.	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Termini Imerese, loc. Sacchitello (Province of Palermo).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Gela (Province of Caltanissetta).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Vittoria (Province of Ragusa).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Modica (Province of Ragusa).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Rosolini (Province of Siracusa).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Castel di Tusa (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. S. Agata di Militello (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Solicchiata (Province of Catania).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Linguaglossa (Province of Catania).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Acireale (Province of Catania).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Taormina (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Milazzo (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Campofelice di Roccella (Province of Palermo).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Terrasini (Province of Palermo).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Castellammare del Golfo (Province of Trapani).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Mazara del Vallo (Province of Trapani).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Castelvetrano (Province of Trapani).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Palermo.	PAL, HUJ		Danin et al. 2008
		2012	*Leg* . Domina, 8-6-2012. Lampedusa, in the village.	Università degli Studi di Palermo		Domina et al. 201
	'*Portulaca oleracea* '	1889	*Leg.* Guzzino, 4-1889. Palermo – Places planted with vegetables.	GE	X	
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Gela (Province of Caltanissetta).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Castel di Tusa (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Solicchiata (Province of Catania).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Acireale (Province of Catania).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Milazzo (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Campofelice di Roccella (Province of Palermo).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Terrasini (Province of Palermo).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Castellammare del Golfo (Province of Trapani).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Valderice (Province of Trapani).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Mazara del Vallo (Province of Trapani).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Sciacca (Province of Agrigento).	PAL, HUJ		Danin et al. 2008
		2013	*Leg* . Domina, 7-8-2013. Linosa, in the village.	Università degli Studi di Palermo		Domina et al. 201
	'*Portulaca papillatostellulata* '	2005	*Leg* . Danin *et* Domina, 14-9-2005. Gela (Province of Caltanissetta).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Vittoria (Province of Ragusa).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. S. Fratello (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Cesarò (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Randazzo (Province of Catania).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Solicchiata (Province of Catania).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Acireale (Province of Catania).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Taormina (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Messina.	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Milazzo (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Campofelice di Roccella (Province of Palermo).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Castellammare del Golfo (Province of Trapani).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Trapani.	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Mazara del Vallo (Province of Trapani).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Castelvetrano (Province of Trapani).	PAL, HUJ		Danin et al. 2008
	'*Portulaca rausii* '	2005	*Leg* . Danin *et* Domina, 14-9-2005. Caltanissetta.	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Termini Imerese, loc. Sacchitello (Province of Palermo).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Gela (Province of Caltanissetta).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Vittoria (Province of Ragusa).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Comiso (Province of Ragusa).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Terrasini (Province of Palermo).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Valderice (Province of Trapani).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Trapani.	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Marsala (Province of Trapani).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Mazara del Vallo (Province of Trapani).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Sciacca (Province of Agrigento).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Palermo.	PAL, HUJ		Danin et al. 2008
		2007	*Leg* . Domina, 9-8-2007. Pelagie Islands, Linosa (Province of Agrigento).	PAL, HUJ		Danin et al. 2008
	'*Portulaca sicula* '	2005	*Leg* . Danin *et* Domina, 14-9-2005. Termini Imerese, loc. Sacchitello (Province of Palermo).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Castel di Tusa (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. S. Stefano di Camastra (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. S. Agata di Militello (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Taormina (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Messina.	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Sciacca (Province of Agrigento).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Palermo.	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Caltanissetta.	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Gela (Province of Caltanissetta).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Comiso (Province of Ragusa).	PAL, HUJ		Danin et al. 2008

		2005	*Leg* . Danin *et* Domina, 14-9-2005. Ragusa.	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Modica (Province of Ragusa).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Rosolini (Province of Siracusa).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Siracusa.	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Caltanissetta.	PAL, HUJ		Danin et al. 2008
	'*Portulaca trituberculata* '	2005	*Leg* . Danin *et* Domina, 17-9-2005. Linguaglossa (Province of Catania).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Taormina (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Valderice (Province of Trapani).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Trapani.	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Marsala (Province of Trapani).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Sciacca (Province of Agrigento).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Porto Empedocle (Province of Agrigento).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Vicari (Province of Palermo).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Palermo.	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Termini Imerese, loc. Sacchitello (Province of Palermo).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Rosolini (Province of Siracusa).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 14-9-2005. Siracusa.	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. S. Stefano di Camastra (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Randazzo (Province of Catania).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Solicchiata (Province of Catania).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Taormina (Province of Messina).	PAL, HUJ		Danin et al. 2008
	'*Portulaca zaffranii* '	2005	*Leg* . Danin *et* Domina, 17-9-2005. Messina.	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 17-9-2005. Milazzo (Province of Messina).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Terrasini (Province of Palermo).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Marsala (Province of Trapani).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Mazara del Vallo (Province of Trapani).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Cammarata (Province of Agrigento).	PAL, HUJ		Danin et al. 2008
		2005	*Leg* . Danin *et* Domina, 18-9-2005. Vicari (Province of Palermo).	PAL, HUJ		Danin et al. 2008
		1972	*Leg.* Steinberg *et* Ricceri, 16-6-1972. Arborea. Uncultivated land (former *Eucalyptus* woodland) near the S'Ena Arrubia pond.	FI	X	
		1972	*Leg.* Steinberg *et* Ricceri, 14-6-1972. Ogliastra. Fields between Girasole and Lotzorai.	FI	X	
		2009	*Leg* . Farris, 25-9-2009. Alghero (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Farris, 25-9-2009. Alghero (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Monte Bianchinu (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Monte Bianchinu (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Monte Bianchinu (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Monte Bianchinu (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Monte Bianchinu (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Monte Bianchinu (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 19-8-2009. Ploaghe (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 19-8-2009. Ploaghe (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 19-8-2009. Ploaghe (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 19-8-2009. Ploaghe (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 19-8-2009. Ploaghe (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 19-8-2009. Ploaghe (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 11-8-2009. Fertilia airport (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 11-8-2009. Fertilia airport (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 11-8-2009. Fertilia airport (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 11-8-2009. Fertilia airport (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 11-8-2009. Fertilia airport (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 10-8-2009. S. Teresa di Gallura (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 10-8-2009. S. Teresa di Gallura (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 10-8-2009. S. Teresa di Gallura (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 10-8-2009. S. Teresa di Gallura (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 10-8-2009. S. Teresa di Gallura (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 10-8-2009. S. Teresa di Gallura (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 10-8-2009. S. Teresa di Gallura (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 10-8-2009. Agliadò (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 10-8-2009. Agliadò (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 10-8-2009. Agliadò (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 10-8-2009. Agliadò (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 10-8-2009. Agliadò (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 5-9-2009. Platamona-La Rotonda (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 5-9-2009. Platamona-La Rotonda (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 5-9-2009. Platamona-La Rotonda (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 11-8-2009. Cantoniera Giuanne'e Abbas (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 11-8-2009. Cantoniera Giuanne'e Abbas (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 20-8-2009. Villanova Tulo (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 20-8-2009. Gergei (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 20-8-2009. Gergei (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 20-8-2009. Gergei (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 20-8-2009. Gergei (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 21-8-2009. Nurallao (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 21-8-2009. Nurallao (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 21-8-2009. Nurallao (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 21-8-2009. Nurallao (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 21-8-2009. Nurallao (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 21-8-2009. Nurallao (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 9-8-2009. Fonni (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 9-8-2009. Fonni (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 9-8-2009. Fonni (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 9-8-2009. Fonni (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 9-8-2009. Fonni (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 9-8-2009. Fonni (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	'*Portulaca granulatostellulata* '	2009	*Leg* . Marrosu, 9-8-2009. Gadoni-Fonni (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 9-8-2009. Gadoni-Fonni (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 9-8-2009. Gadoni-Fonni (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 9-8-2009. Gadoni-Fonni (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 16-8-2009. Siniscola (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 16-8-2009. Siniscola (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 16-8-2009. Siniscola (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 16-8-2009. Siniscola (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 16-8-2009. Siniscola (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 16-8-2009. Siniscola (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. Padru (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. Padru (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. Padru (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. Padru (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. Padru (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 14-8-2009. Irgoli (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 14-8-2009. Irgoli (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 14-8-2009. Irgoli (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. San Teodoro (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Monti (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Monti (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Oschiri (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Oschiri (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 22-8-2009. Sennariolo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Cuccuru, 18-8-2009. Scala di Lu Pintori (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Cuccuru, 18-8-2009. Scala di Lu Pintori (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Cuccuru, 18-8-2009. Scala di Lu Pintori (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Cuccuru, 18-8-2009. Scala di Lu Pintori (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 16-8-2009. Sassari, in the city.	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 16-8-2009. Sassari, in the city.	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 16-8-2009. Sassari, in the city.	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 16-8-2009. Sassari, in the city.	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 16-8-2009. Sassari, in the city.	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Lippi, 28-7-2009. Mores (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Lippi, 28-7-2009. Mores (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Rossetti, 4-8-2009. Uta, at San Nicola (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Argiolas, 23-8-2009. Bidonì (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Ozieri (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Ozieri (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Ozieri (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Ozieri (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 8-8-2009. National road 131, at the Bivio Giave (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 8-8-2009. National road 131, at the Bivio Giave (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Danin, 27-5-2009. Silanus (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Danin, 27-5-2009. Silanus (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Danin, 27-5-2009. Silanus (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Danin, 27-5-2009. Silanus (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Danin, 27-5-2009. Silanus (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Danin, 27-5-2009. Silanus (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Danin, 27-5-2009. Silanus (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Danin, 27-5-2009. Posada (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Danin, 27-5-2009. Posada (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Danin, 27-5-2009. Posada (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Danin, 27-5-2009. Posada (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Danin, 27-5-2009. Posada (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012

Sardegna		2009	*Leg* . Danin, 27-5-2009. Posada (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Danin, 27-5-2009. Posada (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	'Portulaca nitida'	1968	*Leg.* Arrigoni *et* Ricceri, 1-6-1968. Palau (Province of Olbia-Tempio Pausania). Bed of the Liscia river at Ponte Liscia.	FI	X	
		1977	*Leg.* Arrigoni *et* Di Tommaso, 25-9-1977. Bosa (Province of Oristano). Coast, about 1 km N of Torre Argentina.	FI	X	
		1983	*Leg.* Arrigoni *et* Ricceri, 27-9-1983. Olbia, Punta Volpe, granitic soil. 1-2 m a.s.l.	FI	X	
		2009	*Leg* . Marrosu, 18-8-2009. Monte Bianchinu (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 11-8-2009. Fertilia airport (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 11-8-2009. Fertilia airport (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 5-9-2009. Platamona-La Rotonda (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 12-9-2009. Caniga, at the Monti di Jesgia (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 12-9-2009. Caniga, at the Monti di Jesgia (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 12-9-2009. Caniga, at the Monti di Jesgia (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 12-9-2009. Caniga, at the Monti di Jesgia (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 12-9-2009. Caniga, at the Monti di Jesgia (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 12-9-2009. Caniga, at the Monti di Jesgia (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 12-9-2009. Caniga, at the Monti di Jesgia (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 11-8-2009. Cantoniera Giuanne'e Abbas (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 11-8-2009. Cantoniera Giuanne'e Abbas (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 11-8-2009. Cantoniera Giuanne'e Abbas (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 11-8-2009. Cantoniera Giuanne'e Abbas (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 11-8-2009. Cantoniera Giuanne'e Abbas (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 20-8-2009. Villanova Tulo (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 20-8-2009. Villanova Tulo (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 20-8-2009. Villanova Tulo (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 20-8-2009. Villanova Tulo (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 20-8-2009. Villanova Tulo (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 20-8-2009. Villanova Tulo (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 20-8-2009. Gergei (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pilo, 20-8-2009. Gergei (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 9-8-2009. Fonni (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 9-8-2009. Gadoni-Fonni (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 14-8-2009. Lula (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 14-8-2009. Lula (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 14-8-2009. Lula (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 14-8-2009. Lula (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
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		2009	*Leg* . Marrosu, 14-8-2009. Lula (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. Posada (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. Posada (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. Posada (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. Posada (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. Posada (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 16-8-2009. Siniscola (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. Cala Gonone (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. Cala Gonone (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. Cala Gonone (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. Cala Gonone (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. Cala Gonone (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. Padru (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 14-8-2009. Irgoli (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. La Caletta (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. La Caletta (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
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		2009	*Leg* . Marrosu, 13-8-2009. La Caletta (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. La Caletta (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Olbia.	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Olbia.	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Olbia.	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Olbia.	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. S. Teodoro (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. S. Teodoro (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. S. Teodoro (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. S. Teodoro (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 13-8-2009. S. Teodoro (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 12-8-2009. Porto S. Paolo (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 12-8-2009. Porto S. Paolo (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 12-8-2009. Porto S. Paolo (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 12-8-2009. Porto S. Paolo (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 12-8-2009. Porto S. Paolo (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 12-8-2009. Porto S. Paolo (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 12-8-2009. Porto S. Paolo (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Monti (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Monti (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Monti (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Oschiri (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Oschiri (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Oschiri (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 18-8-2009. Oschiri (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 22-8-2009. Sennariolo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 22-8-2009. Sennariolo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 22-8-2009. Sennariolo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 22-8-2009. Riola Sardo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 22-8-2009. Riola Sardo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 22-8-2009. Riola Sardo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 22-8-2009. Riola Sardo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 22-8-2009. Riola Sardo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 22-8-2009. Riola Sardo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 22-8-2009. Riola Sardo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 22-8-2009. Zerfaliu (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 22-8-2009. Zerfaliu (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 22-8-2009. Zerfaliu (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 22-8-2009. Zerfaliu (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 22-8-2009. Zerfaliu (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 22-8-2009. Zerfaliu (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 22-8-2009. Zerfaliu (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Manca, 18-8-2009. Sedilo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Manca, 18-8-2009. Sedilo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Manca, 18-8-2009. Sedilo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Manca, 18-8-2009. Sedilo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Cuccuru, 18-8-2009. Scala di Lu Pintori (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Cuccuru, 18-8-2009. Scala di Lu Pintori (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pisano, 18-8-2009. Bari Sardo (Province of Ogliastra).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pisano, 18-8-2009. Bari Sardo (Province of Ogliastra).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pisano, 18-8-2009. Bari Sardo (Province of Ogliastra).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Sotgiu, 18-8-2009. La Maddalena (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Sotgiu, 18-8-2009. La Maddalena (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Sotgiu, 18-8-2009. La Maddalena (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 16-8-2009. Sassari, in the city.	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 16-8-2009. Sassari, in the city.	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pisanu, 12-8-2009. Bolotana Badu (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pisanu, 12-8-2009. Bolotana Badu (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pisanu, 12-8-2009. Bolotana Badu (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pisanu, 12-8-2009. Bolotana Badu (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pisanu, 12-8-2009. Bolotana Campu (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pisanu, 12-8-2009. Bolotana Campu (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Pisanu, 12-8-2009. Bolotana Campu (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 8-8-2009. Macomer (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 8-8-2009. Macomer (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 8-8-2009. Macomer (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 8-8-2009. Macomer (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 9-8-2009. Bonorva (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Marrosu, 9-8-2009. Bonorva (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Sechi, 8-8-2009. Nuoro.	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Sechi, 8-8-2009. Nuoro.	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Sechi, 8-8-2009. Nuoro.	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Sechi, 8-8-2009. Nuoro.	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Sechi, 8-8-2009. Nuoro.	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Lippi, 28-7-2009. Mores (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Lippi, 28-7-2009. Mores (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Tilocca, 27-8-2009. Costa Rei (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Rossetti, 4-8-2009. Uta, at S. Nicola (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Rossetti, 4-8-2009. Uta, at S. Nicola (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Rossetti, 4-8-2009. Uta, at S. Nicola (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Rossetti, 4-8-2009. Uta, at S. Nicola (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Rossetti, 4-8-2009. Uta, at S. Nicola (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Rossetti, 17-8-2009. Villaspeciosa (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012

	2009	*Leg* . Rossetti, 17-8-2009. Villaspeciosa (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Rossetti, 17-8-2009. Villaspeciosa (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Rossetti, 17-8-2009. Villaspeciosa (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Rossetti, 17-8-2009. Villaspeciosa (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Rossetti, 17-8-2009. Villaspeciosa (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Rossetti, 17-8-2009. Villaspeciosa (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 8-8-2009. Macomer, at the Nuraghe Paza (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 8-8-2009. Macomer, at the Nuraghe Paza (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 8-8-2009. Macomer, at the Nuraghe Paza (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 8-8-2009. Macomer, at the Nuraghe Paza (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 23-8-2009. Abbasanta (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 23-8-2009. Abbasanta (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 23-8-2009. Abbasanta (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 23-8-2009. Abbasanta (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 23-8-2009. Abbasanta (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 23-8-2009. Abbasanta (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 23-8-2009. Abbasanta (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Argiolas, 23-8-2009. Bidoní (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Argiolas, 23-8-2009. Bidoní (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Rossetti, 11-8-2009. Arborea (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Rossetti, 11-8-2009. Arborea (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Rossetti, 11-8-2009. Arborea (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Rossetti, 11-8-2009. Arborea (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Rossetti, 11-8-2009. Arborea (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 18-8-2009. Ozieri (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Danin, 27-5-2009. Bosa (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Danin, 27-5-2009. Bosa (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Danin, 27-5-2009. Bosa (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Danin, 27-5-2009. Bosa (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Danin, 27-5-2009. Bosa (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Danin, 27-5-2009. Bosa (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Danin, 27-5-2009. Bosa (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
'*Portulaca oleracea* '	1971	*Leg.* Arrigoni *et* Ricceri, 28-7-1971. Serrenti (Province of Medio Campidano). Margins of the roads.	FI	X	
	1971	*Leg.* Arrigoni *et* Ricceri, 26-9-1971. Villasimius (Province of Cagliari). Simius seaside.	FI	X	
	1985	*Leg.* Arrigoni, Di Tommaso, Mazzanti *et* Ricceri, 11-7-1985. Dorgali (Province of Nuoro). Cala Gonone in a flowerbed.	FI	X	
'*Portulaca papillatostellulata* '	1858	s. coll., 6-1858. S. Gregorio (Province of Cagliari).	FI	X	
	1962	*Leg.* Onnis, 6-8-1962. Pula (Province of Cagliari).	PI	X	
'*Portulaca sardoa* '	2009	*Leg* . Marrosu, 13-8-2009. Padru (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 18-8-2009. Monti (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 18-8-2009. Monti (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pisanu, 12-8-2009. Bolotana Badu (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pisanu, 12-8-2009. Bolotana Badu (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Lippi, 28-7-2009. Mores (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Lippi, 28-7-2009. Mores (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Lippi, 28-7-2009. Mores (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 8-8-2009. Macomer, at the Nuraghe Paza (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Rossetti, 11-8-2009. Arborea (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Rossetti, 11-8-2009. Arborea (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
'*Portulaca trituberculata* '	1881	*Leg.* Gibelli, 10-8-1881. S. Teresa di Gallura (Province of Olbia-Tempio Pausania). Humid and granitic terrains.	TO	X	
	1888	*Leg.* Cansella, 8-1888. Sardegna.	FI	X	
	1977	*Leg.* Arrigoni *et* Di Tommaso, 25-9-1977. Bosa (Province of Oristano). Coast, about 1 km N of Torre Argentina.	FI	X	
	1992	*Leg.* Arrigoni *et* Di Tommaso, 2-10-1992. Ittiri (Province of Sassari). Naked margins of the lake on the Rio Su Catala.	FI	X	
	2009	*Leg* . Farris, 25-9-2009. Alghero (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Farris, 25-9-2009. Alghero (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Farris, 25-9-2009. Alghero (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Farris, 25-9-2009. Alghero (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Farris, 25-9-2009. Alghero (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 19-8-2009. Ploaghe (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 10-8-2009. Agliadò (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 10-8-2009. Agliadò (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 5-9-2009. Platamona-La Rotonda (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 5-9-2009. Platamona-La Rotonda (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 5-9-2009. Platamona-La Rotonda (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pilo, 19-8-2009. Assolo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pilo, 19-8-2009. Assolo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pilo, 19-8-2009. Assolo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pilo, 19-8-2009. Assolo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pilo, 19-8-2009. Assolo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pilo, 19-8-2009. Assolo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pilo, 19-8-2009. Assolo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pilo, 21-8-2009. Orroli (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pilo, 21-8-2009. Orroli (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pilo, 21-8-2009. Orroli (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pilo, 21-8-2009. Orroli (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pilo, 21-8-2009. Orroli (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pilo, 21-8-2009. Orroli (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pilo, 21-8-2009. Orroli (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 9-8-2009. Gadoni-Fonni (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 9-8-2009. Gadoni-Fonni (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 13-8-2009. Posada (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 13-8-2009. Posada (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 13-8-2009. Cala Gonone (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 13-8-2009. Cala Gonone (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 14-8-2009. Irgoli (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 14-8-2009. Irgoli (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 14-8-2009. Irgoli (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 13-8-2009. La Caletta (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 18-8-2009. Olbia.	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 18-8-2009. Olbia.	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 18-8-2009. Olbia.	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 18-8-2009. Oschiri (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 22-8-2009. Sennariolo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 22-8-2009. Sennariolo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 22-8-2009. Sennariolo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Manca, 18-8-2009. Sedilo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Manca, 18-8-2009. Sedilo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Manca, 18-8-2009. Sedilo (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Cuccuru, 18-8-2009. Scala di Lu Pintori (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pisano, 18-8-2009. Bari Sardo (Province of Ogliastra).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pisano, 18-8-2009. Bari Sardo (Province of Ogliastra).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pisano, 18-8-2009. Bari Sardo (Province of Ogliastra).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pisano, 18-8-2009. Bari Sardo (Province of Ogliastra).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Sotgiu, 18-8-2009. La Maddalena (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Sotgiu, 18-8-2009. La Maddalena (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Sotgiu, 18-8-2009. La Maddalena (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Sotgiu, 18-8-2009. La Maddalena (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pisanu, 12-8-2009. Bolotana Badu (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pisanu, 12-8-2009. Bolotana Campu (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pisanu, 12-8-2009. Bolotana Campu (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pisanu, 12-8-2009. Bolotana Campu (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Pisanu, 12-8-2009. Bolotana Campu (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 8-8-2009. Macomer (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 8-8-2009. Macomer (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 8-8-2009. Macomer (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 9-8-2009. Bonorva (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 9-8-2009. Bonorva (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 9-8-2009. Bonorva (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 9-8-2009. Bonorva (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 9-8-2009. Bonorva (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Sechi, 8-8-2009. Nuoro.	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Sechi, 8-8-2009. Nuoro.	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Tilocca, 27-8-2009. Costa Rei (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Tilocca, 27-8-2009. Costa Rei (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Tilocca, 27-8-2009. Costa Rei (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Tilocca, 27-8-2009. Costa Rei (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Tilocca, 27-8-2009. Costa Rei (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Tilocca, 27-8-2009. Costa Rei (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Rossetti, 4-8-2009. Uta, at S. Nicola (Province of Cagliari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 8-8-2009. Macomer, at the Nuraghe Paza (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 8-8-2009. Macomer, at the Nuraghe Paza (Province of Nuoro).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Argiolas, 23-8-2009. Bidoní (Province of Oristano).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 18-8-2009. Ozieri (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 18-8-2009. Ozieri (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 8-8-2009. National road 131, at the Bivio Giave (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 8-8-2009. National road 131, at the Bivio Giave (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 8-8-2009. National road 131, at the Bivio Giave (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 8-8-2009. National road 131, at the Bivio Giave (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012
	2009	*Leg* . Marrosu, 8-8-2009. National road 131, at the Bivio Giave (Province of Sassari).	Università degli Studi di Sassari		Danin et al. 2012

		2009	*Leg* . Bagella, 12-8-2009. L'Agnata (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 12-8-2009. L'Agnata (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 12-8-2009. L'Agnata (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 12-8-2009. L'Agnata (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 12-8-2009. L'Agnata (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 12-8-2009. L'Agnata (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
		2009	*Leg* . Bagella, 12-8-2009. L'Agnata (Province of Olbia-Tempio Pausania).	Università degli Studi di Sassari		Danin et al. 2012
	'*Portulaca granulatostellulata* ' + '*Portulaca papillatostellulata* '	1971	*Leg.* Ricceri, 24-9-1971. Cagliari. Humid uncultivated lands at the margins of the S. Gilla pond.	FI	X	
Corsica	'*Portulaca cypria* '	1880	*Leg.* Chabert, 9-1880. Cardo. Sandy places.	FI	X	
		1900	*Leg* . Burnat, Briquet *et* Cavillier, 19-7-1900. Between Ajaccio and the Cove de Povata.	G	X	Danin 2011
		1971	*Leg.* Lanza, 1-8-1971. Cerbicaie Islands, Golfo di S. Giulia; Toro Piccolo Islet.	FI	X	
	'*Portulaca granulatostellulata* '	2000	*Leg* . Dobeš, 12-7-2000. Aléria.	Herbarium C. Dobeš	X	Danin 2011
		2004	*Leg* . Tison, 7-2004. Aléria.	HUJ	X	Danin 2011
	'*Portulaca papillatostellulata* '	1988	*Leg* . Jeanmonod *et* Rouget, 23-9-1988. Plaine Orientale sector, Biguglia marsh, near Pineto. Ruderal area betwen the marsh and the road, 1 m a.s.l.	G	X	
		2000	*Leg* . Dobeš, 5-7-2000. In Corsica.	Herbarium C. Dobeš	X	Danin 2011
	'*Portulaca sardoa* '	1979	*Leg* . Auquier *et* Donneaux, 18-11-1979. Calvi: a little under the Madonna della Sera, near a farm. Nitrophilous vegetation. 100 m a.s.l.	G	X	
	'*Portulaca trituberculata* '	1900	*Leg* . Burnat, Briquet *et* Cavillier, 19-7-1900. Between Ajaccio and the Cove de Povata.	G	X	Danin 2011
		1902	*Leg* . Litardière, 24-7-1902. Pointe de la Parata, near Ajaccio.	G	X	
	'*Portulaca oleracea* ' + '*Portulaca papillatostellulata* '	1990	*Leg* . Jeanmonod *et* Thiébaud, 16-6-1990. Ospedale-Cagna sector, Roscana Islet, off the Pinarellu Gulf. Seaside rocks, granit, 10-15 m a.s.l.	G	X	
Malta	'*Portulaca cypria* '	2013	*Leg* . Lanfranco, 8-10-2013. Tas-Sliema, weed in flowerpot.	University of Malta		
	'*Portulaca granulatostellulata* '	2013	*Leg* . Mifsud, 25-9-2013. Hal Qormi, wied il-Kbir.	University of Malta		
		2013	*Leg* . Mifsud, 25-9-2013. Hal Qormi, wied il-Kbir.	University of Malta		
		2013	*Leg* . Mifsud, 1-1-0-2013. Ir-Rabat, fields at wied il-Qliega.	University of Malta		
		2013	*Leg* . Mifsud, 2-10-2013. St. Venera, road side near Salve Regina school.	University of Malta		
		2013	*Leg* . Mifsud, 16-11-2013. Hal Far, industrial estate.	University of Malta		
		2013	*Leg* . Lanfranco, 7-9-2013. St. Julians, Balluta area, on a pavement under a wall.	University of Malta		
		2013	*Leg* . Lanfranco, 1-11-2013. St. Ġwann, weed in a public garden.	University of Malta		
		2013	*Leg* . Lanfranco, 3-11-2013. Tas-Sliema, weed in a planter.	University of Malta		
	'*Portulaca nitida* '	2013	*Leg* . Mifsud, 25-9-2013. Hal Qormi, wied il-Kbir.	University of Malta		
		2013	*Leg* . Mifsud, 14-11-2013. Iż-Żejtun, round about (very small seeds).	University of Malta		
	'*Portulaca oleracea* '	2013	*Leg* . Lanfranco, 30-10-2013. St. Ġwann, wied Għollieqa (Kappara) in a bed of a temporary pond.	University of Malta		
	'*Portulaca papillatostellulata* '	2013	*Leg* . Mifsud, 5-10-2013. Il-Mosta, wied Ta' Ghajn Rihana.	University of Malta		
		2013	*Leg* . Lanfranco, 30-10-2013. Msida, University campus on a traffic island.	University of Malta		
		2013	*Leg* . Lanfranco, 1-11-2013. Tas-Sliema, weed in a flower pot.	University of Malta		
	'*Portulaca rausii* '	2013	*Leg* . Dandria, 10-8-2013. Tas-Sliema, weed in a planter.	University of Malta		
	'*Portulaca trituberculata* '	2013	*Leg* . Mifsud, 25-9-2013. Santa Venera, pots at my father's house.	University of Malta		
		2013	*Leg* . Mifsud, 25-9-2013. Hal Qormi, wied il-Kbir.	University of Malta		
		2013	*Leg* . Mifsud, 1-10-2013. Il-Mellieħa, disturbed sand dune of Torri abjad.	University of Malta		
		2013	*Leg* . Mifsud, 1-10-2013. Floriana, garden aside Boffa hospital overlooking harbour.	University of Malta		
		2013	*Leg* . Mifsud, 2-10-2013. St. Venera, road side in Canon Road.	University of Malta		
		2013	*Leg* . Mifsud, 3-10-2013. St. Paul's Bay, road embelishment near is-Salini.	University of Malta		
		2013	*Leg* . Mifsud, 10-10-2013. Fleur de Lys, road embelishment near BOV HQ.	University of Malta		
	'*Portulaca cypria* ' + '*Portulaca granulatostellulata* '	2013	*Leg* . Lanfranco, 20-11-2013. Tas-Sliema, Ġnien Bonello Dupuis, Qui-Si-Sana, weed amongst turf (*Poa pratensis*).	University of Malta		
	'*Portulaca cypria* ' + '*Portulaca trituberculata* '	2013	*Leg* . Mifsud, 16-11-2013. Birżebbuġa, Pretty Bay square (clump 1 on sandy dirt).	University of Malta		
	'*Portulaca nitida* ' + '*Portulaca trituberculata* '	2013	*Leg* . Mifsud, 5-10-2013. Ħal-Lija, disturbed ground at the valleyside, near the cemetery.	University of Malta		
	Portulaca oleracea f.	2013	*Leg* . Mifsud, 16-11-2013. Birżebbuġa, Pretty Bay square (clump 1 on sandy dirt).	University of Malta		
		2013	*Leg* . Mifsud, 16-11-2013. Birżebbuġa, Pretty Bay square (clump 2, rich soil in square's embelishment).	University of Malta		
		2013	*Leg* . Mifsud, 16-11-2013. Buġibba, promenade square (plants in a pot).	University of Malta		
		2013	*Leg* . Mifsud, 24-11-2013. St. Venera, pots at my father's house.	University of Malta		
Gozo	'*Portulaca cypria* '	2013	*Leg* . Mifsud, 24-9-2013. St. Lawrenz, path near fields close to Parish church - clump 2.	University of Malta		
		2013	*Leg* . Mifsud, 27-9-2013. Iż-Żebbuġ, playing fields near Żebbuġ primary school.	University of Malta		
		2013	*Leg* . Mifsud, 28-9-2013. L-Għasri,in the Wied is-Seqer valley.	University of Malta		
		2013	*Leg* . Mifsud, 30-9-2013. Victoria, fields near wied Zejta.	University of Malta		
		2013	*Leg* . Mifsud, 30-9-2013. In-Nadur, along the road between Il-Qala and In-Nadur.	University of Malta		
		2013	*Leg* . Mifsud, 1-10-2013. Iż-Żebbuġ, pavement near Żebbuġ Rangers Club.	University of Malta		
		2013	*Leg* . Mifsud, 1-10-2013. Victoria, terrace of empty house at triq Republika.	University of Malta		
		2013	*Leg* . Mifsud, 11-11-2013. Victoria, road aside fields near Zejta Valley.	University of Malta		
		2013	*Leg* . Mifsud, 23-11-2013. Iż-Żebbuġ, Żebbuġ primary school playing fields.	University of Malta		
	'*Portulaca trituberculata* '	2013	*Leg* . Mifsud, 24-9-2013. Iż-Żebbuġ, road side of triq Għajn Mhelhel.	University of Malta		
		2013	*Leg* . Mifsud, 24-9-2013. Iż-Żebbuġ, abandoned garden/terrace near triq tal-Konti.	University of Malta		
		2013	*Leg* . Mifsud, 24-9-2013. St. Lawrenz, path near fields close to Parish church - clump 1.	University of Malta		
		2013	*Leg* . Mifsud, 24-9-2013. L-Għarb, road side close to the Parish church.	University of Malta		
		2013	*Leg* . Mifsud, 28-9-2013. L-Għasri, country path through fields (close to wied l-Ort).	University of Malta		
		2013	*Leg* . Mifsud, 28-9-2013. St. Lawrenz, close to wied Pisklu.	University of Malta		
		2013	*Leg* . Mifsud, 28-9-2013. St. Lawrenz, upper part of wied il-Kbir.	University of Malta		
		2013	*Leg* . Mifsud, 28-9-2013. St. Lawrenz, upper part of wied il-Kbir.	University of Malta		
		2013	*Leg* . Mifsud, 30-9-2013. Victoria, road side near valley bed of wied tal-Grixti.	University of Malta		
		2013	*Leg* . Mifsud, 30-9-2013. Victoria, fields near wied Zejta.	University of Malta		
		2013	*Leg* . Mifsud, 30-9-2013. Il-Qala (l/o Nadur), road side along triq Dahlet Qorrot (upper part).	University of Malta		
		2013	*Leg* . Mifsud, 30-9-2013. In-Nadur, Ramla Hamla area.	University of Malta		
		2013	*Leg* . Mifsud, 1-10-2013. Il-Qala, vicinity of wied Simar.	University of Malta		
		2013	*Leg* . Mifsud, 10-10-2013. Ix-Xlendi, parking area.	University of Malta		
		2013	*Leg* . Mifsud, 10-10-2013. Ix-Xlendi, parking area.	University of Malta		
		2013	*Leg* . Dandria, 28-8-2013. Ix-Xewkija, in the government farm.	University of Malta		
	'*Portulaca cypria* ' + '*Portulaca trituberculata* '	2013	*Leg* . Mifsud, 30-9-2013. Il-Qala (l/o Nadur), road side along triq Dahlet Qorrot (central part).	University of Malta		
	Portulaca oleracea f.	2013	*Leg* . Mifsud, 11-11-2013. Victoria, road side near valley bed of wied tal-Grixti.	University of Malta		
		2013	*Leg* . Mifsud, 18-11-2013. L-Għarb, wied il-Mielaħ.	University of Malta		