

Contribution to the floristic knowledge of eastern Irpinia and Vulture-Melfese area (Campania and Basilicata, southern Italy)

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Abstract

In order to improve the floristic knowledge of the Italian territory, we report the inventory of the taxa collected during the annual field trip of the working group for Floristics, Systematics and Evolution of the Italian Botanical Society held in 2015 in eastern Irpinia and Vulture-Melfese area (South Italy). The investigated territories are located in southern Apennines, along the border between the Campania and Basilicata administrative regions. These areas are scarcely known in terms of vascular flora. The floristic samplings were performed in 19 sites selected as representative of the local environmental diversity as regards to climate, litho-morphology and land-use.

The research led to the identification of 4,137 specimens of vascular plants, belonging to 815 species and subspecies, 399 genera, and 85 families. Among these taxa, 42 were endemic to Italy, 38 were included in the IUCN Red List of the Italian Flora, 28 were alien and 5 were cryptogenic in Campania and/or Basilicata administrative regions. Two taxa, *Aquilegia coerulea* (casual alien, native to North America) and *Lolium ×boucheanum* (native), were found to be new for Italy. On the basis of the available floristic literature the first one is also to be considered new for the European flora. At regional scale, we have found 18 taxa new for the Campania and 15 new for the Basilicata region. Finally, 10 taxa were confirmed for Campania. Data obtained during this study, confirmed the important role of a collaborative approach among botanists and the great relevance of these territories for plant diversity.

Keywords

alien species, botanists, endemics, herbaria, Italian vascular flora, new floristic records, plant diversity, southern Apennines

Introduction

The floristic knowledge of a territory is of considerable importance for scientific purposes and for conservation (Carli et al. 2018). In particular, the information concerning the endemic plants, such as their distribution and threats, are key elements for driv-

ing national conservation strategies (Brundu et al. 2017, Orsenigo et al. 2018). Wild vascular plants were recently used in some areas of Central-South Italy to evaluate the long-term changes in the floristic composition of vegetation of mountain ecosystems (Calabrese et al. 2018, Frate et al. 2018) and for risk assessment and management of soils polluted by industrial processes (Visconti et al. 2018). In the last two decades, the activities of the working group for Floristics, Systematics and Evolution of the Italian Botanical Society have greatly improved the knowledge about the vascular flora of some scarcely known areas of the Italian territory by using a collaborative approach (Peccenini et al. 2007, 2010, Peruzzi et al. 2011, Bouvet et al. 2018, Bartolucci et al. 2019a). This has been particularly fruitful in the southern part of Italian Peninsula (Conti et al. 2006, 2007, Santangelo et al. 2010, Bernardo et al. 2012, Wagensommer et al. 2014, Domina et al. 2015, Rosati et al. 2017, in press). Herein, we present the results of the floristic field excursion held in 2015 in eastern Irpinia and Vulture-Melfese area in southern Apennines (Italy). This research aims at improving the floristic knowledge of these areas which are located at the boundary between the administrative regions of Basilicata and Campania. According to Scoppola and Blasi (2005) and Blasi et al. (2011) these areas were included among those for which the available floristic data were absent or particularly scarce.

Materials and methods

Study area

The study area includes territories located within the border between the Campania and the Basilicata administrative regions in southern Italy (Fig. 1) falling within the administrative provinces of Avellino (municipalities of Aquilonia, Bisaccia, Monteverde and Trevico) and Potenza (municipalities of Atella, Bella, Melfi, San Fele and Rionero in Vulture). The administrative border between the two regions is represented by the Ofanto River, which separates the eastern Irpinia (Campania region) from the Vulture-Melfese area (Basilicata region). The altitude ranges from 275 m a.s.l. of Ofanto River, to 1407 m a.s.l. at the top of Mt. Santa Croce. From a climatic and biogeographic point of view, the investigated area is respectively intermediate between the Mediterranean and the Temperate region at the crossroads between the Apennine-Balkan, Italo-Tyrrhenian and Adriatic provinces (Rivas-Martínez et al. 2004).

Based on meteorological data retrieved from the station located at Monticchio Bagni (Rionero in Vulture, province of Potenza, 652 m a.s.l., Suppl. material 1: S1), the mean annual rainfall is 815 mm, and it is concentrated in the autumn-winter period with a maximum in November and a minimum in August. The annual average temperature is 13.7 °C, with the hottest months in summer (July-August) and the coldest in winter (December). The thermo-pluviometric diagram (Spicciarelli 2013, Suppl. material 1: S1) highlights a Mediterranean climate characterized by two months of summer drought period.



Figure 1. Location of study area and sampling sites (for details, see Suppl. materials 1: S2 and S3_1–S3_8).

The substrates of the study area are mainly composed of pelitic sediments (Flysch Rosso, Flysch Galestrino) and marginally of arenaceous sediments (Flysch Numidico), shaped in a hilly-mountainous landscape deeply dissected by the Ofanto River (Schiattarella et al. 2016). The Triassic-Tertiary units of the Lagonegrese Basin, here represented by thick flyschoid sediments overthrust on previous carbonatic formations, occur only in the western part of the study area (Mt. Pierno).

The vascular flora of Irpinia and surrounding areas, was only partially explored between the end of the 19th and the beginning of the 20th century by Trotter (1905a, 1905b, 1906a, 1906b, 1908, 1909, 1910, 1913), Baccarini (1891), and Ferraris (1900, 1906).

Floristic survey

The research was coordinated by group of organisers (A. Stinca, L. Rosati, G. Chianese, G. D’Auria, S. Fascetti, M. Ravo, V. A. Romano and G. Salerno) who draw up the final floristic list with the contribution of all participants to the study. In order to maximize the identifiable taxonomic diversity within the surveyed area, 19 sites

of collection were selected as representative of the local diversity in terms of climate, litho-morphology, and land-use (Suppl. material 1: S2 and S3_1–S3_8). Some of these sites were included in protected areas, such as Natura 2000 sites or Vulture Regional Park (Suppl. material 1: S2). The aforementioned sites were intensively sampled during the period 3–6 June 2015 by 35 researchers (Suppl. material 1: S4). Further investigations were carried out only by the organizers on 18 December 2014, 22 April 2015, 13 and 27 May 2015 (Suppl. material 1: S2). In order to avoid destructive collections the sampling of the orchids was limited to very few individuals and more often substituted or supplemented by photographs. The floristic list was prepared in accordance to the protocol already used in previous contributions (e.g., Rosati et al. 2017, Bouvet et al. 2018, Bartolucci et al. 2019a). The taxonomic identification was carried out at first by the single collectors using standard floras (e.g., Tutin et al. 1968, 1972, 1976, 1980, 1993, Pignatti 1982) and other works (e.g., Christensen 1992, Whittemore 1997). Subsequently, the most critical specimens were revised during two specific workshops held at Portici (Library of Agriculture and Department of Agricultural Sciences of the University of Naples Federico II; 19 participants: L. Bernardo, L. Cancellieri, G. Chianese, G. Ciaschetti, F. Conti, G. D’Auria, R. Di Pietro, S. Fascetti, P. Fortini, C. Gangale, E. Lattanzi, S. Peccenini, E.V. Perrino, M. Ravo, F. Roma-Marzio, L. Rosati, G. Salerno, A. Scoppola, A. Stinca and A. Tilia) and Barisciano (Apennine Floristic Research Center; 10 participants: F. Bartolucci, L. Cancellieri, G. Ciaschetti, F. Conti, S. Fascetti, R. Pennesi, L. Rosati, G. Salerno, A. Scoppola and A. Stinca), on 3–5 March 2016 and 4–5 April 2016, respectively (Suppl. material 1: S5). Herbarium specimens belonging to the following critical groups were sent to specialists for revision: *Anchusella* and *Echium* (L. Cecchi, Florence), *Aquilegia* (E. Nardi, Florence), *Orobanche* (G. Domina, Palermo), *Pilosella* (G. Gottschlich, Tübingen), and Poaceae (E. Banfi, Milan). Finally, some doubtful specimens were also verified with the recent Flora d’Italia (Pignatti et al. 2017a, 2017b, 2018, 2019).

In the floristic list, taxa are alphabetically ordered. Nomenclature and taxa delimitation follow the checklist of Italian vascular flora (Bartolucci et al. 2018a, Galasso et al. 2018a) and recent updates (Bartolucci et al. 2018b, 2018c, 2019b, Galasso et al. 2018b, 2018c, 2019), with the exception of varieties and native hybrids which were not considered in the above-mentioned works. For some taxa one or more synonyms (preceded by the following symbols: “≡” for homotypic synonyms, i.e. for nomenclatural synonyms; “=” for heterotypic synonyms, i.e. for taxonomic synonyms; “–” for misapplied names) were reported in brackets to enhance understanding of the nomenclature updating. For each taxon, we reported the site of collection (using the codes given in Suppl. material 1: S2) and the herbaria where the specimens were deposited. For each taxon identified, at least one exsiccatum was prepared to be preserved in a public (Suppl. material 1: S6_1, acronyms follow to Thiers 2019) or private (Suppl. material 1: S6_2) herbarium.

Results

After the research, 4,137 specimens of vascular plants were identified, including 6 Orchidaceae documented only by digital photographs. These were classified in 814 species and subspecies, belonging to 399 genera and 85 families (Suppl. material 1: S7 and S8), together with 4 hybrids (*Crataegus* × *media* Bech., *Lolium* × *boucheanum* Kunth, *Medicago* × *varia* Martyn and *Vitis* × *koberi* Ardenghi, Galasso, Banfi & Lastrucci), and 1 cultivar of *Viola tricolor* L. subsp. *tricolor*.

Forty-two taxa (5.2% of the total flora detected, Table 1) were found to be endemic to Italy (Peruzzi et al. 2014, 2015, Bartolucci et al. 2018a), while 28 taxa (3.4%) were found to be alien for the study area (Bartolucci et al. 2018a, Galasso et al. 2018a).

Five taxa (0.6% of the total flora), *Brassica nigra* (L.) W.D.J.Koch, *Gladiolus italicus* Mill., *Melissa officinalis* L. subsp. *officinalis*, *Oxalis corniculata* L. and *Papaver rhoeas* L. subsp. *rhoeas*, were considered cryptogenic in the investigated area (Bartolucci et al. 2018a, Galasso et al. 2018a).

Forty-three units (5.3% of the total flora) were found to be new floristic records. In particular, *Aquilegia coerulea* E.James (casual alien) and *Lolium* × *boucheanum* Kunth (native) are recorded for the first time in Italy.

As reported below, 18 and 15 taxa were found to be new for the regional flora of Campania (Table 2) and Basilicata (Table 3), respectively.

This research also allowed to confirm 10 taxa for the flora of Campania (Table 4).

Table 1. List of Italian endemic taxa surveyed in the eastern Irpinia and Vulture-Melfese area.

<i>Acer cappadocicum</i> Gled. subsp. <i>lobelii</i> (Ten.) A.E.Murray	<i>Koeleria lucana</i> Brullo, Giusso & Miniss.
<i>Achillea rupestris</i> Huter, Porta & Rigo subsp. <i>calcareae</i> (Huter, Porta & Rigo) Greuter	<i>Leontodon intermedius</i> (Fiori) Huter, Porta & Rigo
<i>Aristolochia clusii</i> Lojac.	<i>Linaria purpurea</i> (L.) Mill.
<i>Armeria macropoda</i> Boiss.	<i>Luzula sylvatica</i> (Huds.) Gaudin subsp. <i>sicula</i> (Parl.) K.Richt.
<i>Artemisia campestris</i> L. subsp. <i>variabilis</i> (Ten.) Greuter	<i>Myosotis sylvatica</i> Hoffm. subsp. <i>elongata</i> (Strobl) Grau
<i>Campanula fragilis</i> Cirillo subsp. <i>fragilis</i>	<i>Ononis oligophylla</i> Ten.
<i>Carduus corymbosus</i> Ten.	<i>Ophrys lucana</i> P.Delforge, Devillers-Tersch. & Devillers
<i>Carduus nutans</i> L. subsp. <i>perspinosus</i> (Fiori) Arènes	<i>Ophrys tenthredinifera</i> Willd. subsp. <i>neglecta</i> (Parl.) E.G.Camus
<i>Centaurea centauroides</i> L.	<i>Ornithogalum etruscum</i> Parl. subsp. <i>etruscum</i>
<i>Cerastium tomentosum</i> L.	<i>Ornithogalum exscapum</i> Ten.
<i>Crocus biflorus</i> Mill.	<i>Polygala nicaeensis</i> Risso ex W.D.J.Koch subsp. <i>peninsularis</i> Arrigoni
<i>Crocus imperati</i> Ten.	<i>Potentilla calabra</i> Ten.
<i>Dianthus carthusianorum</i> L. subsp. <i>tenorei</i> (Lacaita) Pignatti	<i>Pulmonaria vallarsae</i> A.Kern. subsp. <i>apennina</i> (Cristof. & Puppi) L.Cecchi & Selvi
<i>Dianthus vulturius</i> Guss. & Ten. subsp. <i>vulturius</i>	<i>Scorzonera hispanica</i> L. subsp. <i>neapolitana</i> (Grande) Greuter
<i>Digitalis micrantha</i> Roth ex Schweigg.	<i>Scorzonera villosa</i> Scop. subsp. <i>columnae</i> (Guss.) Nyman
<i>Drymochloa drymeja</i> (Mert. & W.D.J.Koch) Holub subsp. <i>exaltata</i> (C.Presl) Foggi & Signorini	<i>Silene italica</i> (L.) Pers. subsp. <i>sicula</i> (Ucria) Jeanm.
<i>Echinops siculus</i> Strobl	<i>Siler montanum</i> Crantz subsp. <i>siculum</i> (Spreng.) Iamónico, Bartolucci & F.Conti
<i>Erysimum apenninum</i> Peccenini & Polatschek	<i>Stipa austroitalica</i> Martinovský subsp. <i>austroitalica</i>
<i>Euphorbia corallioides</i> L.	<i>Thymus picentinus</i> (Lacaita) Bartolucci
<i>Klasea flavescens</i> (L.) Holub subsp. <i>cichoracea</i> (L.) Greuter & Wagenitz	<i>Tragopogon cupanii</i> Guss. ex DC.
<i>Knautia calycina</i> (C.Presl) Guss.	<i>Viola aethnensis</i> (Ging. & DC.) Strobl subsp. <i>splendida</i> (W.Becker) Merxm. & Lippert

Table 2. List of taxa new for Campania.

<i>Achillea nobilis</i> L. subsp. <i>nobilis</i>	<i>Mantisalca duriaei</i> (Spach) Briq. & Cavill.
<i>Aquilegia coerulea</i> E.James (casual alien)	<i>Medicago xvaria</i> Martyn
<i>Aristolochia clusii</i> Lojac.	<i>Medicago glutinosa</i> M.Bieb.
<i>Bromus hordeaceus</i> L. subsp. <i>longipedicellatus</i> Spalton	<i>Medicago muricoleptis</i> Tineo
<i>Bromus hordeaceus</i> L. subsp. <i>molliformis</i> (J.Lloyd ex Billot) Maire & Weiller	<i>Ophrys funerea</i> Viv.
<i>Cachrys libanotis</i> L.	<i>Papaver pinnatifidum</i> Moris
<i>Festuca stricta</i> Host subsp. <i>trachyphylla</i> (Hack.) Patzke ex Pils	<i>Philadelphus coronarius</i> L. (casual alien)
<i>Ficaria verna</i> Huds. subsp. <i>verna</i>	<i>Rosa deseglisei</i> Boreau
<i>Lolium xboucheanum</i> Kunth (casual alien)	<i>Viola tricolor</i> L. subsp. <i>tricolor</i> cv. (casual alien)

Table 3. List of taxa new for Basilicata.

<i>Achillea nobilis</i> L. subsp. <i>nobilis</i>	<i>Pilosella ziziana</i> (Tausch) F.W.Schultz & Sch.Bip.
<i>Aristolochia rotunda</i> L. subsp. <i>rotunda</i>	<i>Polycarpon tetraphyllum</i> (L.) L. subsp. <i>tetraphyllum</i>
<i>Bromus hordeaceus</i> L. subsp. <i>longipedicellatus</i> Spalton	<i>Rosa deseglisei</i> Boreau
<i>Koeleria pyramidata</i> (Lam.) P.Beauv.	<i>Ruscus hypoglossum</i> L.
<i>Lathyrus inconspicuus</i> L.	<i>Saxifraga stolonifera</i> Curtis (casual alien)
<i>Melissa officinalis</i> L. subsp. <i>officinalis</i> (cryptogenic)	<i>Sonchus asper</i> (L.) Hill subsp. <i>glaucescens</i> (Jord.) Ball
<i>Ornithogalum etruscum</i> Parl. subsp. <i>etruscum</i>	<i>Thymus xkorbii</i> Ronniger. nothosubsp. <i>korbii</i>
<i>Orobanche teucrii</i> Holandre	

Table 4. List of taxa confirmed for Campania.

<i>Catananche lutea</i> L.	<i>Phalaris truncata</i> Guss. ex Bertol.
<i>Chaerophyllum nodosum</i> (L.) Crantz	<i>Rubia tinctorum</i> L. (casual alien)
<i>Echinaria capitata</i> (L.) Desf.	<i>Rumex thyrsoides</i> Desf.
<i>Neslia paniculata</i> (L.) Desv. subsp. <i>thracica</i> (Velen.) Bornm.	<i>Sclerochloa a dura</i> (L.) P.Beauv.
<i>Phalaris aquatica</i> L.	<i>Scorzonera hispanica</i> L. subsp. <i>neapolitana</i> (Grande) Greuter

Discussion

Data obtained shows that the eastern Irpinia and Vulture-Melfese area hosts a rich and interesting vascular flora. Except for *Aristolochia clusii*, *Digitalis micrantha*, *Ononis oligophylla* and *Ophrys tenthredinifera* subsp. *neglecta*, all the other Italian endemic taxa recorded are currently included in the IUCN Red List of the Italian Flora (Rossi et al. 2013, Orsenigo et al. 2018) together with the non-endemic *Orchis provincialis* Balb. ex Lam. & DC. (38 taxa, 4.7% of the total flora). As regards *Thymus picentinus*, the specimens collected during this study allowed Bartolucci and Mráz (2016) to confirm the occurrence of this taxon in Basilicata and to re-evaluate its taxonomic status.

Among the non-native plants, 18 taxa were neophyte and 8 were considered invasive in at least one of the administrative regions considered (*Ailanthus altissima*, *Amaranthus retroflexus*, *Crepis sancta* subsp. *nemausensis*, *Dysphania ambrosioides*, *Erigeron sumatrensis*, *Paspalum distichum*, *Robinia pseudoacacia* and *Veronica persica*).

A small population of *Aquilegia coerulea*, a neophyte native to North America (Whittemore 1997), was found in Aquilonia (Campania, Avellino province) in anthropogenic environments. These individuals much likely derived from nearby cultivated plants seeds. Based on our floristic literature research (e.g., Nardi 2017), this record is the first for

the European flora. *Lolium* \times *boucheanum*, that is the natural hybrid between *Lolium perenne* L. and *L. multiflorum* Lam., it was collected in a marginal area of Monteverde (Campania, Avellino province) and is reported for the first time in Italy. As far as *Bromus hordeaceus* subsp. *longipedicellatus*, before this study its Italian distribution was restricted to Lombardia and Sardegna (Bartolucci et al. 2018a). Our findings of this taxon in Campania and Basilicata (Table 2 and Table 3) are therefore to be considered the first records for the peninsular Italy. Likewise, the discovery of *Medicago glutinosa* in Campania (Table 2) confirms its presence in southern Italy. Indeed, this species was reported only for Lombardia, Veneto, Liguria and Toscana, while was no longer recorded for Emilia-Romagna, and is considered doubtful in Umbria, Marche and Calabria (Bartolucci et al. 2018a).

Saxifraga stolonifera too is currently recorded in Lombardia and Veneto, while it is no longer recorded in Liguria (Galasso et al. 2018a). Therefore, our record from Basilicata (Table 3) is the first for the peninsular Italy.

In addition to the 11 taxa that we confirmed for Campania (Table 4), the observations made during this study also allowed Scoppola et al. (2016) to confirm the presence of *Trifolium multistriatum* W.D.J.Koch for the same region.

Some of the specimens collected in the study area require additional investigations aimed to clarify their taxonomic status. For example, the complex of *Centaurea deusta* shows a considerable variability in Italy (Stinca et al. 2019a). The samples found are probably attributable to a new taxon under study.

In recent years, especially in Campania, some researchers have focused their attention on the territories that are not well known from a floristic point of view, such as the lowlands and urbanized areas (e.g., Stinca et al. 2016, 2017a, Motti et al. 2018, Croce et al. 2019, Stinca 2019, Stinca and Mei in press). Some studies were carried out also in well-known areas from a floristic point of view, that have allowed to update their flora (e.g., Rosati et al. 2012, Stinca and Motti 2013, Stinca et al. 2014, 2017b, 2019b, Salerno and Stinca 2017, Stinca 2017). The floristic exploration of eastern Irpinia and Vulture-Melfese area, although carried out in a few days and in a limited number of sampling localities, allowed recording a considerable amount of taxa. The high number of species of floristic interest found, as well as the numerous floristic novelties suggest a high biodiversity level of the eastern Irpinia and Vulture-Melfese area, which are areas poorly studied by botanists in the past but that deserve further research.

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Supplementary material I

Supplementary figures and tables 1–8

Authors: Stinca Adriano, Chianese Giuseppina, D’Auria Giuseppe, Fascetti Simonetta, Ravo Maria, Romano Vito Antonio, Salerno Giovanni, Astuti Giovanni, Bartolucci Fabrizio, Bernardo Liliana, Bonari Gianmaria, Bouvet Daniela, Cancellieri Laura, Carli Emanuela, Caruso Giuseppe, Catalano Immacolata, Cennamo Gennaro Domenico, Ciaschetti Giampiero, Conti Fabio, Di Pietro Romeo, Fortini Paola, Gangale Carmen, Lapenna Maria Rita, Lattanzi Edda, Marcucci Rossella, Peccenini Simonetta, Pennesi Riccardo, Perrino Enrico Vito, Peruzzi Lorenzo, Roma-Marzio Francesco, Scoppola Anna, Tilia Agnese, Villani Mariacristina, Rosati Leonardo

Data type: species data

Explanation note: **Figure S1.** Thermo-pluviometric diagram of the representative station of Monticchio Bagni. **Table S2.** List of the sampling sites and relative details. **Figure S3(1–8).** Topographic maps of sampling. **Figure S4.** Botanists participating at the field survey in eastern Irpinia and Vulture-Melfese area. **Figure S5.** Playbills of the two workshops held in 2016 in Portici (Library of Agriculture and Department of Agricultural Sciences of the University of Naples Federico II) and Barisciano (Apennine Floristic Research Center) to revise the critical samples collected during the field survey in eastern Irpinia and Vulture-Melfese area. **Table S6_1.** Public herbaria in which the collected exsiccata are kept. **Table S6_2.** Private herbaria in which the collected exsiccata are kept. **Table S7.** Floristic list of taxa surveyed in the eastern Irpinia and Vulture-Melfese area with the number of sampling sites in bold. **Figure S8.** Orchids recorded in the eastern Irpinia and Vulture-Melfese area only by digital photographs.

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Link: <https://doi.org/10.3897/italianbotanist.8.37818.suppl1>

S2. List of the sampling sites and relative details.

Site nr.	Locality	Municipality	Province	Region	Protected areas	Main environments	Altitudinal range (m a.s.l.)	Geographic coordinates (decimal degrees WGS84)	Sampling dates
1	Parco Archeologico di Carbonara	Aquilonia	Avellino	Campania	-	Ruderal and rocky environments	600–675	40.994885 N 15.488252 E	13 May 2015* 3 June 2015
2	Lago di San Pietro	Monteverde	Avellino	Campania	SIC IT8040008 “Lago di S. Pietro - Aquilaverde”	Freshwaters, river banks and young broadleaved forests	435–460	41.008615 N 15.504538 E	13 May 2015* 3 June 2015
3	Fontanelle	Monteverde	Avellino	Campania	-	Uncultivated and arable lands	615–620	41.025474 N 15.515729 E	3 June 2015
4	Incoronata	Monteverde	Avellino	Campania	-	Young broadleaved woods and rocky slopes	690–724	40.994826 N 15.530198 E	3 June 2015

5 CAM	Fiume Ofanto	Aquilonia	Avellino	Campania	-	Young broadleaved and clearings woods	280–300	40.964797 N 15.561604 E	3 June 2015
5 BAS	Fiume Ofanto	Melfi	Potenza	Basilicata	-	Riparian environments and uncultivated lands	275–280	40.965749 N 15.564001 E	3 June 2015
6	Pila di Cuccari	Bisaccia	Avellino	Campania	-	Broadleaved woods and ruderal environments	810–830	40.994979 N 15.403184 E	27 May 2015*
7	Vallone San Nicola	Trevico	Avellino	Campania	ZPS IT8040022 “Boschi e sorgenti della Baronìa”	Broadleaved woods, dry grasslands, rocky and wet environments	710–930	41.036798 N 15.218477 E	13 May 2015* 4 June 2015
8	Ferrelli	Bisaccia	Avellino	Campania	-	Badlands and dry grasslands	650–850	41.018212 N 15.368002 E	4 June 2015
9	Fiumara di Atella	Atella	Potenza	Basilicata	ZSC IT9210140 “Grotticelle di Monticchio”	Riparian environments and badlands	305–380	40.917036 N 15.538577 E	18 December 2014*

10	Serra della Frasca	Aquilonia	Avellino	Campania	-	Broadleaved woods, uncultivated and arable lands	780–820	40.987719 N 15.451715 E	4 June 2015
11	Passo delle Crocelle	San Fele	Potenza	Basilicata	-	Grasslands and shrublands	1120–1130	40.785283 N 15.567900 E	5 June 2015
12	Monte Pierno	San Fele	Potenza	Basilicata	-	Beech forests, broadleaved woods, grasslands and calcareous cliffs	1075–1268	40.786208 N 15.607363 E	5 June 2015
13	Monte Santa Croce	Bella	Potenza	Basilicata	-	Beech forests, grasslands and siliceous cliffs	1150–1407	40.779251 N 15.586881 E	5 June 2015
14	Bosco Pesco di Rago	Aquilonia	Avellino	Campania	SIC IT8040005 “Bosco di Zampaglione (Calitri)”	Dry grasslands with <i>Phillyrea latifolia</i>	360–390	40.941129 N 15.533866 E	6 June 2015*
15	Madonna di Pierno	San Fele	Potenza	Basilicata	-	Broadleaved woods, uncultivated lands and calcareous cliffs	970–985	40.790334 N 15.603963 E	5 June 2015

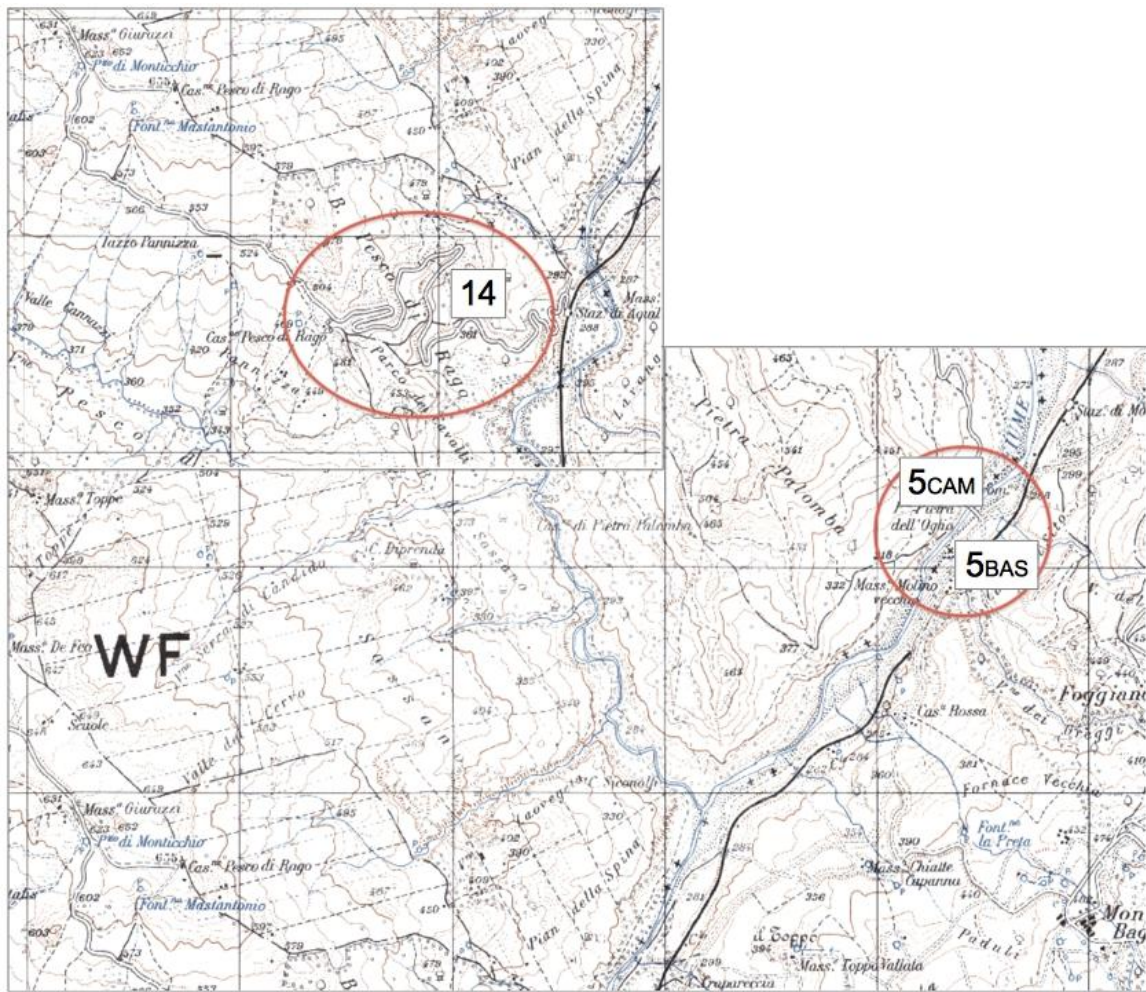
16	Monte Castello	San Fele	Potenza	Basilicata	Vulture Regional Park	Synanthropic and rocky environments, dry grasslands on siliceous rocks	875–937	40.821639 N 15.540200 E	5 June 2015
18	Il Castello	Rionero in Vulture	Potenza	Basilicata	ZSC IT9210140 “Grotticelle di Monticchio” Grotticelle Oriented Nature Reserve	Broadleaved woods and arable lands	550–719	40.925659 N 15.555417 E	22 April 2015* 6 June 2015
20	Abitato di Aquilonia	Aquilonia	Avellino	Campania	-	Synanthropic environments	750–760	40.987168 N 15.468009 E	3–6 June 2015

* Only the organizers participated in this survey.

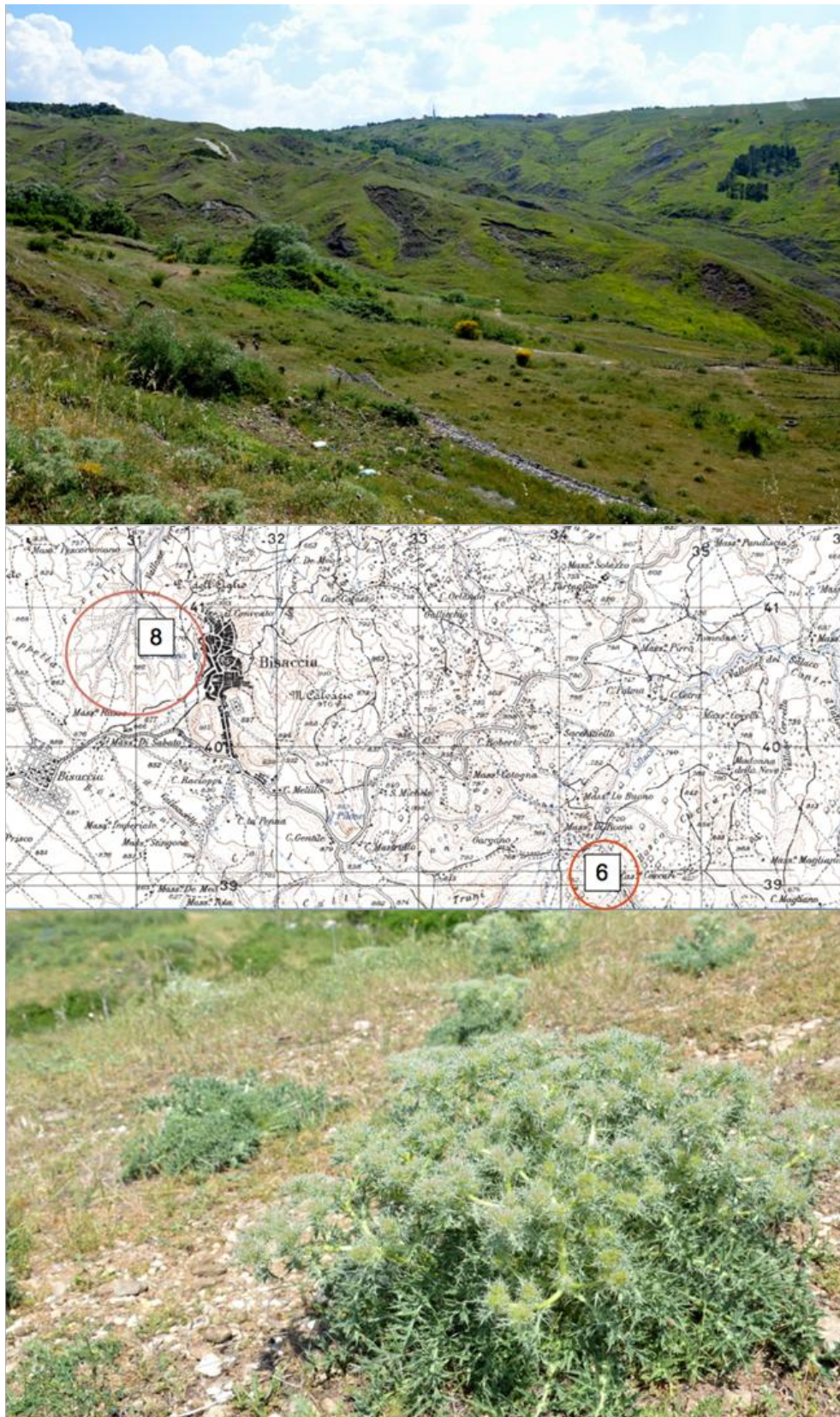
S3_1. Topographic map (from Italian Military Geographic Institute, original scale 1:25,000, grid of 1×1 km) of sampling sites Nr. 1, 2, 3 and 4. Landscape and surveyors of sampling site Nr. 3. Photos by L. Rosati.



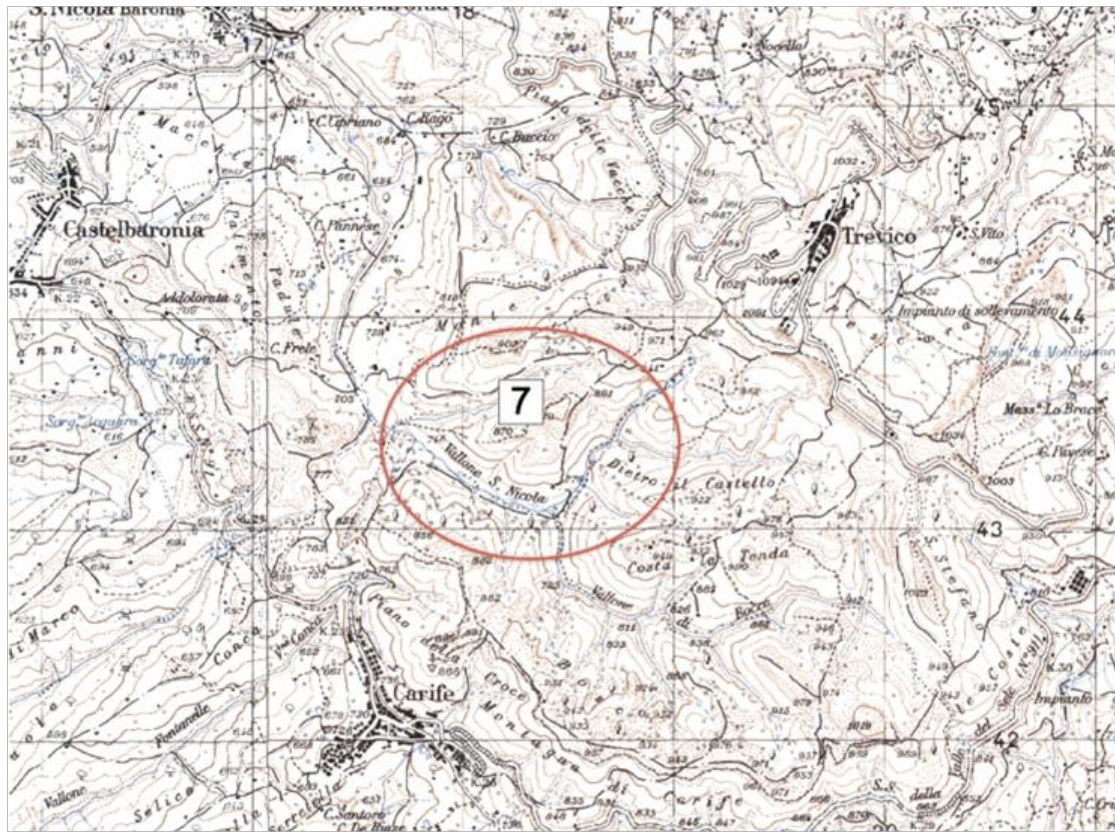
S3 2. Topographic maps (from Italian Military Geographic Institute, original scale 1:25,000, grid of 1×1 km) of sampling sites Nr. 5 CAM, 5 BAS and 14. Landscape and surveyor of sampling site Nr. 5 BAS. Photo by D. Bouvet.



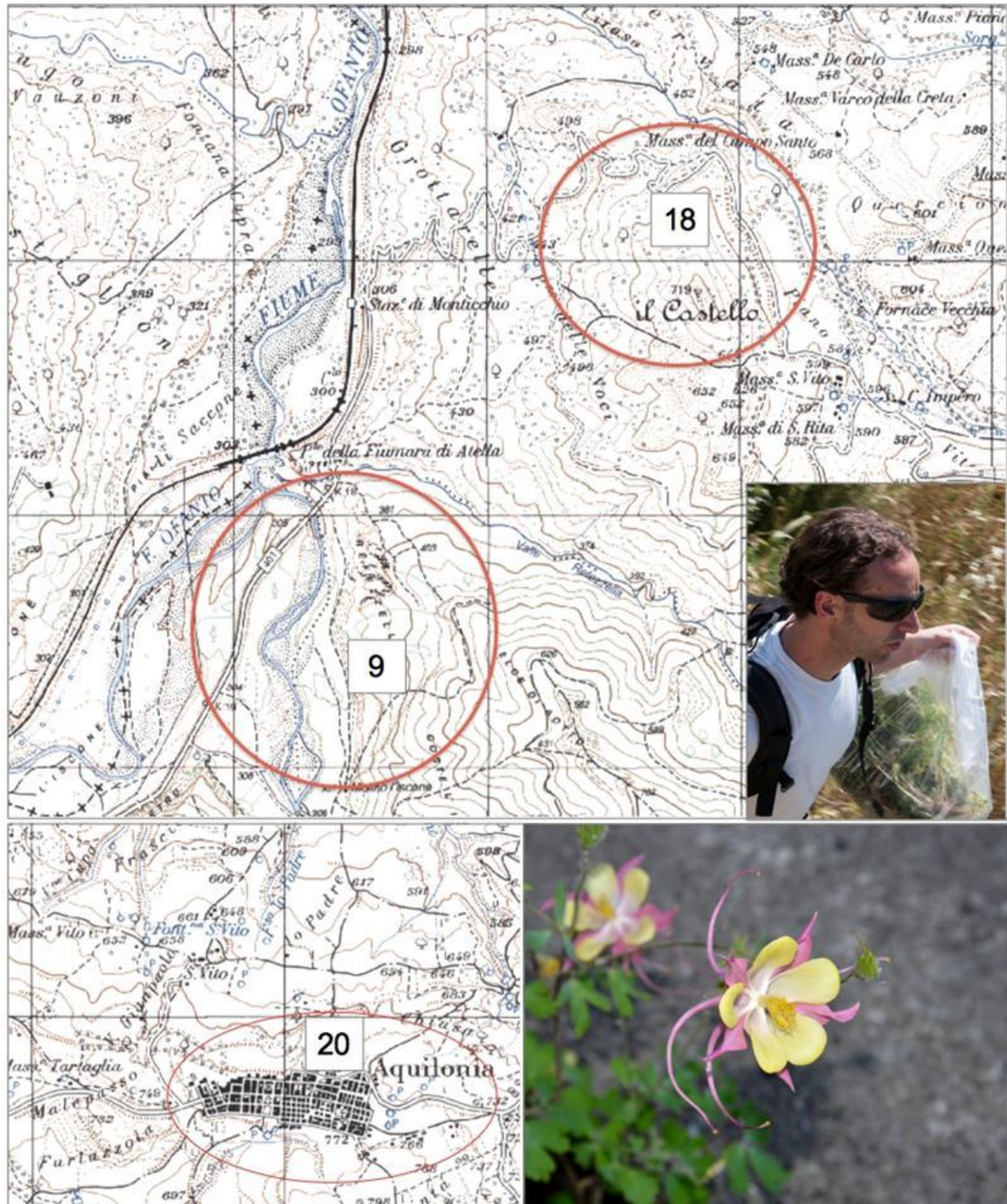
S3_3. Topographic map (from Italian Military Geographic Institute, original scale 1:25,000, grid of 1×1 km) of sampling site Nr. 6 and 8. Landscape of sampling sites Nr. 8 (upper). *Cardopatum corymbosum*(L.) Pers. collected at sampling site Nr. 8 (bottom). Photos by A. Stinca.



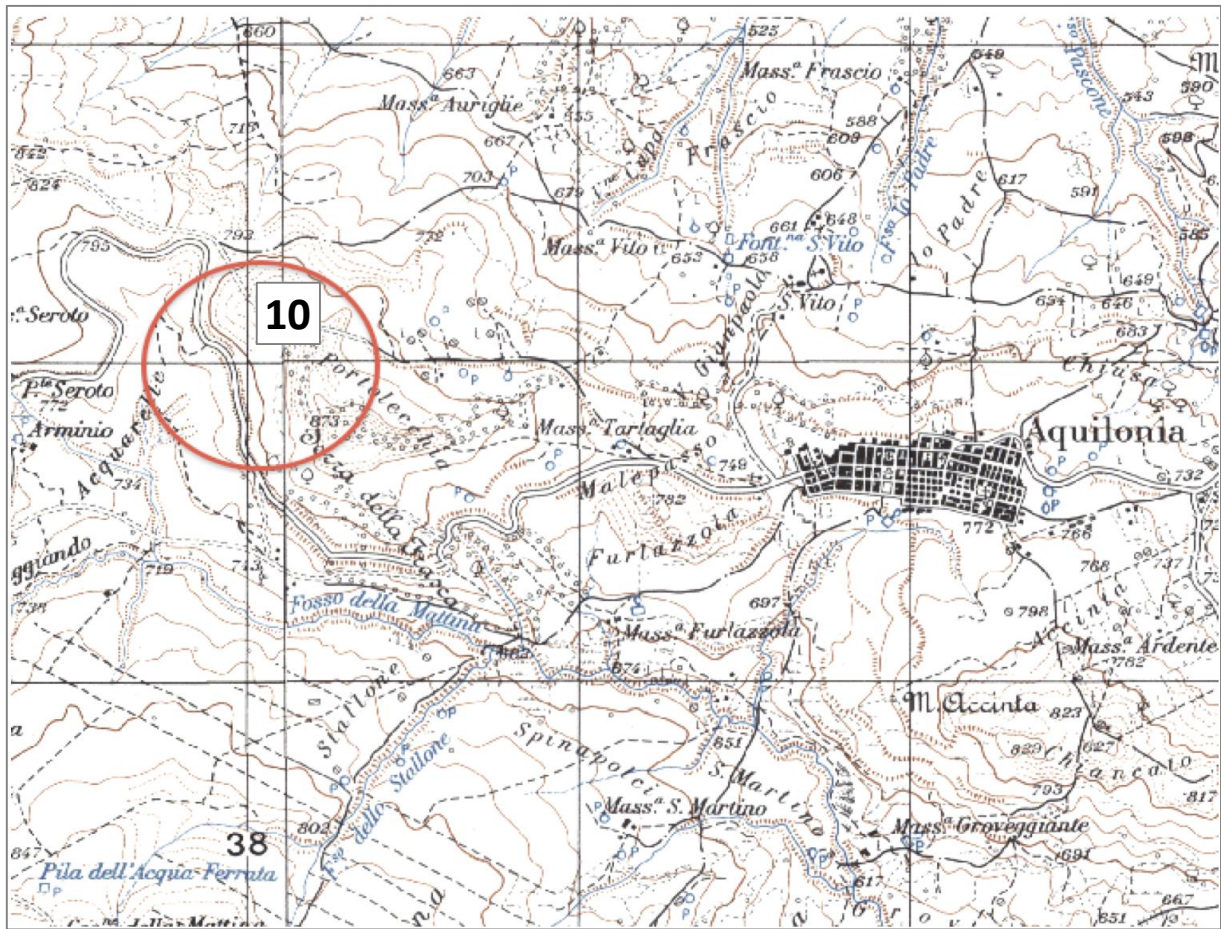
S3_4. Topographic map (from Italian Military Geographic Institute, original scale 1:25,000, grid of 1×1 km) and some plants collected at sampling site Nr. 7: *Melittis melissophyllum* L. subsp. *albida* (Guss.) P.W.Ball (left); *Hyoscyamus niger* L. (right). Photos by L. Rosati.



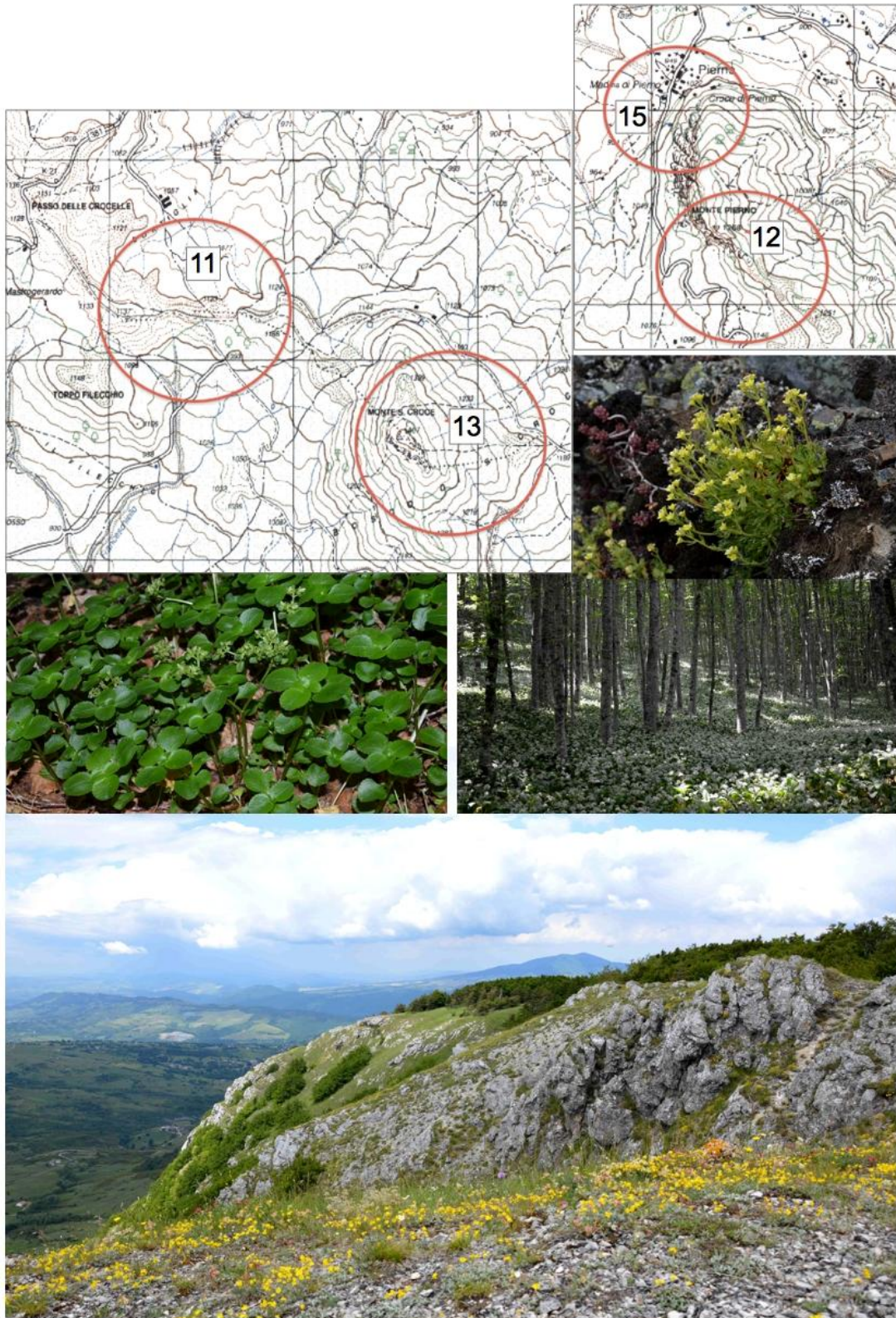
S3_5. Topographic maps (from Italian Military Geographic Institute, original scale 1:25,000, grid of 1×1 km) of sampling sites Nr. 9, 18 and 20. Surveyor of sampling site Nr. 18 (upper). *Aquilegia coerulea* E.James collected at sampling site Nr. 20 (bottom). Photos by V.A. Romano and A. Stinca.



S3_6. Topographic map (from Italian Military Geographic Institute, original scale 1:25,000, grid of 1×1 km) and landscape of sampling site Nr. 10. Photo by D. Bouvet.



S3_7. Topographic maps (from Italian Military Geographic Institute, original scale 1:25,000, grid of 1×1 km) of sampling site Nr. 11, 12, 13 and 15. Some plants collected at sampling site Nr. 13: *Saxifraga exarata* Vill. s.l. (upper right), *Chrysosplenium dubium* J.Gay ex Ser. (left), beech forest with *Allium ursinum* L. (right). At the bottom, landscape of the sampling site Nr. 12. Photos by A. Stinca.



S3_8. Topographic map (from Italian Military Geographic Institute, original scale 1:25,000, grid of 1×1 km), landscape and surveyor of sampling site Nr. 16. Photos by D. Bouvet and A. Stinca.



S4. Botanists participating at the field survey in eastern Irpinia and Vulture-Melfese area. At the bottom the group that has sampled the site Nr. 13. Photo by V.A. Romano.



S5. Playbills of the two workshops held in 2016 in Portici (Library of Agriculture and Department of Agricultural Sciences of the University of Naples Federico II) and Barisciano (Apennine Floristic Research Center) to revise the critical samples collected during the field survey in eastern Irpinia and Vulture-Melfese area. At the bottom, botanists participating at the workshop held in Portici during the walk in the Botanical Garden.

Irpinia orientale 2015 Portici 2016

Workshop del Gruppo per la Floristica, Sistemática ed Evoluzione della Società Botanica Italiana

Identificazione dei gruppi sistematici critici rilevati nel corso dell'escursione di studio in Irpinia orientale (Campania e Basilicata) del 2015

Organizzatori
Adriano Stinca
Leonardo Rosati
Giovanni Salerno
Simonetta Fascetti
Antonio Vito Romano
Maria Ravo
Giuseppina Chianese
Giuseppe D'Auria

**Biblioteca di Area Agraria
Reggia di Portici
Via Università 100, Portici (Napoli)**

Programma
3 marzo 2016
8:30-11:00 Revisione gruppi critici
11:00-11:00 Saluti del prof. Renato Lortz
11:05-11:10 Saluti del prof. Stefano Maczolemi
11:15-11:30 "Musai delle Scienze Agrarie MUSA"
11:30-13:30 Revisione gruppi critici
13:00-13:30 Pausa pranzo
13:30-14:00 Visita all'Orto Botanico di Portici con Riccardo Monti
14-15:00-15:30 Revisione gruppi critici

4 marzo 2016
8:30-13:00 Revisione gruppi critici
13:00-13:30 Pausa pranzo
13:30-19:30 Revisione gruppi critici

5 marzo 2016
9:30-18:00 Escursione in Piantaola Sorrentina

Irpinia orientale 2015 Barisciano 2016

Workshop del Gruppo per la Floristica, Sistemática ed Evoluzione della Società Botanica Italiana - seconda fase -

Identificazione dei gruppi sistematici critici rilevati nel corso dell'escursione di studio in Irpinia orientale (Campania e Basilicata) del 2015

Organizzatori del workshop
Adriano Stinca
Fabio Conti
Fabrizio Bartolucci

Organizzatori dell'escursione in Irpinia orientale
Adriano Stinca
Leonardo Rosati
Giovanni Salerno
Simonetta Fascetti
Antonio Vito Romano
Maria Ravo
Giuseppina Chianese
Giuseppe D'Auria

**Centro Ricerche Floristiche dell'Appennino
Parco Nazionale del Gran Sasso e Monti della Laga
Università di Camerino
Strada Provinciale km 4.2
Barisciano (L'Aquila)**

Programma
4 aprile 2016
9:00-13:00 Revisione gruppi critici
13:00-13:30 Pausa pranzo
13:30-19:00 Revisione gruppi critici

5 aprile 2016
9:00-13:00 Revisione gruppi critici
13:00-13:30 Pausa pranzo
13:30-19:00 Revisione gruppi critici

S6_1. Public herbaria in which the collected exsiccata are kept.

Herbarium code	Herbarium name	Institution	Location
APP	Herbarium Apenninicum	Centro Ricerche Floristiche dell'Appennino	Località San Colombo, Via Provinciale km 4.2, 67021 Barisciano (L'Aquila), Italy
BI	Herbarium Horti Botanici Barensis	Università di Bari Aldo Moro	Via E. Orabona 4, 70126 Bari, Italy
CLU	Erbario Università della Calabria	Università della Calabria	Via P. Bucci snc, 87030 Arcavacata di Rende (Cosenza), Italy
GE	Herbarium Universitatis Genuensis	Università di Genova	Corso Dogali 1M, 16136 Genova, Italy
HFLA	Herbarium Flaminio	Università di Roma La Sapienza	Via E. Gianturco 2, 00196 Roma, Italy
HLUC	Herbarium Lucanum	Università della Basilicata	Via Ateneo Lucano 10, 85100 Potenza, Italy
IS	Herbarium Universitatis Aeserniae	Università del Molise	Contrada Fonte Lappone, 86090 Pesche (Isernia), Italy
PAD	Herbarium Patavinum	Università di Padova	Via Orto Botanico 15, 35123 Padova, Italy
PI	Herbarium Horti Botanici Pisani	Università di Pisa	Via L. Ghini 13, 56126 Pisa, Italy
PORUN-Herb. Stinca	Herbarium Porticense-Herbarium Adriano Stinca	Università di Napoli Federico II	Via Università 100, 80055 Portici (Napoli), Italy
SIENA	Herbarium Universitatis Senensis	Università di Siena	Via P.A. Mattioli 4, 53100 Siena, Italy
TO	Herbarium Universitatis Taurinensis	Università di Torino	Viale P.A. Mattioli 25, 10125 Torino, Italy
UTV	Erbario Università della Tuscia	Università della Tuscia	Via S. Camillo de Lellis, 01100 Viterbo, Italy

S6_2. Private herbaria in which the collected exsiccata are kept.

Herbarium code	Herbarium name	Location
Herb. Cancellieri	Herbarium Laura Cancellieri	Roma, Italy
Herb. Carli	Herbarium Emanuela Carli	Roma, Italy
Herb. Caruso	Herbarium Giuseppe Caruso	Catanzaro, Italy
Herb. Gangale & Uzunov	Herbarium Carmen Gangale & Dimitar Uzunov	Cosenza, Italy
Herb. Lattanzi	Herbarium Edda Lattanzi	Roma, Italy
Herb. Majella	Herbarium Parco Nazionale della Majella	Sant'Eufemia a Majella (Pescara), Italy
Herb. Salerno	Herbarium Giovanni Salerno	Tivoli (Roma), Italy
Herb. Tilia	Herbarium Agnese Tilia	Roma, Italy

S7. Floristic list of taxa surveyed in the eastern Irpinia and Vulture-Melfese area with the number of sampling sites in bold (Supplementary material S2) and herbaria (Supplementary materials S6_1–2) (“+EU” = taxon recorded for the first time in Europe; “+IT” = taxon recorded for the first time in Italy; “+CAM**” = taxon recorded for the first time in Campania; “+BAS**” = taxon recorded for the first time in Basilicata; “+CAM*” = taxon confirmed for the flora of Campania; “E” = Italian endemic taxon [Peruzzi et al. 2014, 2015, Bartolucci et al. 2108a]; “A CAS” = casual alien taxon; “A NAT” = naturalized alien taxon; “A INV” = invasive alien taxon; “C” = cryptogenic taxon; “NEO” = neophyte taxon; “ARC” = archaeophyte taxon [Bartolucci et al. 2018a, Galasso et al. 2018a]).

ALISMATACEAE

***Alisma lanceolatum* With.**

2 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

5 BAS APP

Note- This taxon was recently confirmed for Campania and reported in the study area by Nicoletta et al. (2017): “Invaso San Pietro a Monteverde (AV)”. Few months later it was reported in Campania at Padula also by Rosati et al. (2017).

***Alisma plantago-aquatica* L.**

2 PORUN-Herb. Stinca

AMARANTHACEAE

A INV (CAM)
NEO

***Amaranthus retroflexus* L.**

5 CAM HFLA

AMARYLLIDACEAE

***Allium pendulinum* Ten.**

13 Herb. Gangale & Uzunov

18 PORUN-Herb. Stinca

***Allium polyanthum* Schult. & Schult.f.**

[– *A. ampeloprasum* auct. Fl. Ital. p.p.]

1 PI

2 Herb. Gangale & Uzunov

3 APP, Herb. Cancellieri, PORUN-Herb. Stinca, SIENA

18 HLUC

***Allium ursinum* L.**

[= *A. ursinum* L. subsp. *ucrainicum* Oksner & Kleopow]

12 Herb. Caruso, HLUC

13 HLUC, PORUN-Herb. Stinca

***Allium vineale* L.**

11 HLUC

16 UTV

Narcissus tazetta* L. subsp. *tazetta

3 PORUN-Herb. Stinca

APIACEAE

***Anthriscus nemorosa* (M. Bieb.) Spreng.**

1 HLUC

13 Herb. Cancellieri

16 PORUN-Herb. Stinca

18 PI, PORUN-Herb. Stinca

***Bifora testiculata* (L.) Spreng.**

10 PORUN-Herb. Stinca

***Bunium bulbocastanum* L.**

13 Herb. Gangale & Uzunov

***Bupleurum baldense* Turra**

3 APP, GE, Herb. Salerno, PAD, SIENA, UTV

12 IS

16 Herb. Gangale & Uzunov, PORUN-Herb. Stinca, UTV

***Bupleurum subovatum* Link ex Spreng.**

1 UTV

7 PAD

20 PORUN-Herb. Stinca

Note- This taxon was recently confirmed for Campania and reported in the study area by Del Guacchio (2007): “Monteverde (Avellino), strada dal lago di S. Pietro”.

+CAM**

***Cachrys libanotis* L.**

5 CAM HLUC

***Chaerophyllum aureum* L.**

13 APP

+CAM*

***Chaerophyllum nodosum* (L.) Crantz**

[≡ *Myrrhoides nodosa* (L.) Cannon]

1 CLU, PI, UTV

7 Herb. Cancellieri

13 Herb. Gangale & Uzunov

***Chaerophyllum temulum* L.**

1 CLU, PI, PORUN-Herb. Stinca

5 BAS PORUN-Herb. Stinca

7 Herb. Gangale & Uzunov

10 Herb. Gangale & Uzunov, HFLA

12 HLUC

***Eryngium campestre* L.**

4 PORUN-Herb. Stinca

Ferula communis* L. subsp. *communis

13 Herb. Gangale & Uzunov

***Ferula glauca* L.**

16 PORUN-Herb. Stinca, SIENA

18 Herb. Gangale & Uzunov

***Ferulago sylvatica* (Besser) Rchb.**

11 PAD

12 APP, BI, CLU, Herb. Carli, Herb. Lattanzi, Herb. Salerno, Herb. Tilia, HLUC, PAD, PI, PORUN-Herb. Stinca, SIENA, UTV

13 Herb. Cancellieri, Herb. Gangale & Uzunov, HFLA

15 IS

***Foeniculum vulgare* Mill. s.l.**

1 SIENA

Note- The specimens collected are incomplete and do not allowed to identify the subspecies.

Helosciadium nodiflorum* (L.) W.D.J.Koch subsp. *nodiflorum

[≡ *Apium nodiflorum* (L.) Lag.]

5 BAS APP, Herb. Salerno, PAD, SIENA

8 Herb. Caruso

***Oenanthe pimpinelloides* L.**

4 PORUN-Herb. Stinca

5 CAM HLUC

8 APP

18 Herb. Gangale & Uzunov, HLUC

***Opopanax chironium* (L.) W.D.J.Koch**

2 Herb. Gangale & Uzunov

7 HLUC

10 UTV

16 PORUN-Herb. Stinca

18 PORUN-Herb. Stinca

***Orlaya grandiflora* (L.) Hoffm.**

2 Herb. Caruso

***Orlaya platycarpus* W.D.J.Koch**

[– *O. daucoides* auct.; = *O. kochii* Heywood, nom. illeg.]

1 Herb. Gangale & Uzunov

4 PORUN-Herb. Stinca

7 APP, CLU, GE, Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Salerno, Herb. Tilia, HLUC, PORUN-Herb. Stinca, UTV

8 PI

10 HLUC

16 Herb. Gangale & Uzunov, SIENA

A CAS (BAS)
ARC

***Petroselinum crispum* (Mill.) Fuss**

16 PORUN-Herb. Stinca

***Physospermum verticillatum* (Waldst. & Kit.) Vis**

6 PORUN-Herb. Stinca

12 HLUC

13 HFLA

15 IS

***Pimpinella peregrina* L.**

1 Herb. Majella

2 Herb. Gangale & Uzunov

***Prangos ferulacea* (L.) Lindl**

[≡ *Cachrys ferulacea* (L.) Calest.]

13 APP, Herb. Cancellieri, Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca

***Sanicula europaea* L.**

12 HLUC

16 PI

Scandix pecten-veneris* L. subsp. *pecten-veneris

1 PORUN-Herb. Stinca

2 APP

10 UTV

16 APP

Seseli montanum* L. subsp. *montanum

16 Herb. Majella, PORUN-Herb. Stinca

E

***Siler montanum* Crantz subsp. *siculum* (Spreng.) Iamonico, Bartolucci & F.Conti**

13 APP, GE, PORUN-Herb. Stinca

Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

Smyrniium perfoliatum* L. subsp. *perfoliatum

12 Herb. Salerno

13 APP, Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Majella, HLUC, PORUN-Herb. Stinca

18 BI, GE, Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca, SIENA

***Thapsia asclepium* L.**

[≡ *Elaeoselinum asclepium* (L.) Bertol.]

12 Herb. Salerno, PORUN-Herb. Stinca

Thapsia garganica* L. subsp. *garganica

13 GE

***Tordylium apulum* L.**

1 Herb. Gangale & Uzunov, PORUN-Herb. Stinca, SIENA

7 BI

***Tordylium maximum* L.**

1 CLU, Herb. Salerno

4 Herb. Gangale & Uzunov

10 Herb. Lattanzi

11 Herb. Salerno

***Torilis africana* Spreng.**

[= *T. arvensis* (Huds.) Link subsp. *purpurea* (Ten.) Hayek]

1 Herb. Cancellieri, HLUC

18 CLU, Herb. Gangale & Uzunov, Herb. Lattanzi, HLUC, PORUN-Herb. Stinca, UTV

Torilis nodosa* (L.) Gaertn. subsp. *nodosa

1 CLU

8 APP

Trinia glauca* (L.) Dumort. subsp. *glauca

11 HLUC

12 APP, CLU, Herb. Carli, Herb. Tilia, HLUC, IS, PORUN-Herb. Stinca

13 HFLA

APOCYNACEAE

Vinca major* L. subsp. *major

5 CAM HLUC

18 BI, CLU, Herb. Cancellieri, Herb. Carli, Herb. Gangale & Uzunov, Herb. Salerno, HLUC, PORUN-Herb. Stinca, UTV

AQUIFOLIACEAE

***Ilex aquifolium* L.**

12 Herb. Caruso, Herb. Salerno, HLUC

13 Herb. Cancellieri, PORUN-Herb. Stinca

15 HFLA

ARACEAE

***Arisarum proboscideum* (L.) Savi**

12 CLU, Herb. Salerno

13 Herb. Cancellieri, HLUC, PORUN-Herb. Stinca

***Arum cylindraceum* Gasp. ex Guss.**

12 APP

13 APP, Herb. Cancellieri, PORUN-Herb. Stinca

Biarum tenuifolium* (L.) Schott subsp. *tenuifolium

9 PORUN-Herb. Stinca

***Lemna minor* L.**

5 BAS SIENA

ARALIACEAE

Hedera helix* L. subsp. *helix

12 UTV

ARISTOLOCHIACEAE

+CAM** E

***Aristolochia clusii* Lojac.**

3 APP, GE

***Aristolochia lutea* Desf.**

3 APP

4 HLUC, PAD, PI

+BAS**

Aristolochia rotunda* L. subsp. *rotunda

18 CLU

ASPARAGACEAE

***Asparagus acutifolius* L.**

7 IS

18 PORUN-Herb. Stinca

***Loncomelos narbonensis* (L.) Raf.**

[≡ *Ornithogalum narbonense* L.]

2 HLUC, PORUN-Herb. Stinca

3 APP, Herb. Lattanzi, TO

		<p><i>Loncomelos pyrenaicus</i> (L.) L.D.Hrouda subsp. <i>pyrenaicus</i> [≡ <i>Ornithogalum pyrenaicum</i> L.] 1 HLUC</p>
		<p><i>Muscari comosum</i> (L.) Mill. 3 SIENA 4 HLUC 5 CAM HLUC 7 TO 13 APP, PORUN-Herb. Stinca</p>
+BAS**	E	<p><i>Ornithogalum etruscum</i> Parl. subsp. <i>etruscum</i> 11 PAD 12 APP, IS, PI, PORUN-Herb. Stinca 13 PORUN-Herb. Stinca 15 APP, PORUN-Herb. Stinca <i>Note</i>- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).</p>
	E	<p><i>Ornithogalum exscapum</i> Ten. 1 PORUN-Herb. Stinca 5 CAM HLUC <i>Note</i>- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).</p>
		<p><i>Polygonatum odoratum</i> (Mill.) Druce 12 APP, PI 13 Herb. Gangale & Uzunov, PORUN-Herb. Stinca</p>
		<p><i>Ruscus aculeatus</i> L. 12 Herb. Salerno 18 PORUN-Herb. Stinca</p>
+BAS**		<p><i>Ruscus hypoglossum</i> L. 12 CLU, HLUC, PI, SIENA, UTV</p>

***Scilla bifolia* L.**

2 PORUN-Herb. Stinca

5 CAM HLUC

ASPHODELACEAE

***Asphodeline liburnica* (Scop.) Rchb.**

18 PORUN-Herb. Stinca, SIENA, UTV

***Asphodeline lutea* (L.) Rchb.**

13 HLUC

Asphodelus macrocarpus* Parl. subsp. *macrocarpus

13 APP

ASPLENIACEAE

***Asplenium ceterach* L. subsp. *bivalens* (D.E.Mey.) Greuter & Burdet**

[≡ *Ceterach officinarum* Willd. subsp. *bivalens* D.E.Mey.]

12 HLUC, PAD

15 PORUN-Herb. Stinca

Asplenium ceterach* L. subsp. *ceterach

[≡ *Ceterach officinarum* Willd. subsp. *officinarum*]

18 PI

***Asplenium onopteris* L.**

18 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

***Asplenium trichomanes* L. subsp. *quadrivalens* D.E.Mey.**

12 HLUC, PAD

18 Herb. Gangale & Uzunov, HLUC, PI

ASTERACEAE

+CAM**
+BAS**

Achillea nobilis* L. subsp. *nobilis

4 APP, PORUN-Herb. Stinca

5 **BAS** APP, Herb. Cancellieri, Herb. Salerno, PAD, PI, PORUN-Herb. Stinca, HFLA

7 PI

16 APP, Herb. Gangale & Uzunov, Herb. Majella, HLUC

E

***Achillea rupestris* Huter, Porta & Rigo subsp. *calcareae* (Huter, Porta & Rigo) Greuter**

15 APP, PORUN-Herb. Stinca

Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

***Achillea setacea* Waldst. & Kit.**

4 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

8 HLUC

11 PORUN-Herb. Stinca

***Anacyclus clavatus* (Desf.) Pers.**

1 Herb. Gangale & Uzunov, PAD, PI, PORUN-Herb. Stinca

3 PORUN-Herb. Stinca, UTV

5 **CAM** CLU

***Anthemis cotula* L.**

5 **BAS** PORUN-Herb. Stinca

5 **CAM** HFLA

***Anthemis cretica* L. subsp. *columnae* (Ten.) Franzén**

13 APP, GE, Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Majella, HLUC, PORUN-Herb. Stinca

E

***Artemisia campestris* L. subsp. *variabilis* (Ten.) Greuter**

1 Herb. Majella, PORUN-Herb. Stinca, UTV

5 **BAS** APP, PORUN-Herb. Stinca

Note- This taxon received the conservation status NT (near threatened) in the IUCN Red List of the

Italian Flora (Orsenigo et al. 2018).

***Artemisia vulgaris* L.**

5 BAS TO

Bellis annua* L. subsp. *annua

2 PI

***Bellis perennis* L.**

5 CAM HLUC

7 PORUN-Herb. Stinca, UTV

***Calendula arvensis* (Vail.) L.**

1 Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca

***Cardopatium corymbosum* (L.) Pers.**

8 APP, Herb. Cancellieri, Herb. Caruso, Herb. Gangale & Uzunov, Herb. Lattanzi, Herb. Salerno, Herb. Tilia, HLUC, PAD, PI, PORUN-Herb. Stinca, SIENA

Note- This taxon was recently confirmed for Campania and reported by Del Guacchio (2007) in the study area (“presso la stazione di Aquilonia”) and outside our study area (“Calitri (Avellino), argille rose ai fianchi di uno sbancamento sotto il paese”).

E

***Carduus corymbosus* Ten.**

3 CLU, Herb. Cancellieri, Herb. Lattanzi, Herb. Salerno, HLUC, PI, UTV

8 APP, BI, Herb. Carli

Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

E

***Carduus nutans* L. subsp. *perspinosus* (Fiori) Arènes**

3 APP, HLUC, PI, PORUN-Herb. Stinca

4 APP, Herb. Gangale & Uzunov

7 CLU, HFLA, HLUC, PI

8 PI

10 CLU

13 APP

Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

Carduus pycnocephalus* L. subsp. *pycnocephalus

1 PORUN-Herb. Stinca

4 PORUN-Herb. Stinca

8 Herb. Gangale & Uzunov

15 HFLA

***Carthamus caeruleus* L.**

3 APP, HLUC, PAD, SIENA

4 APP, PI

Note- This taxon was recently confirmed for Campania and reported in the study area by Del Guacchio (2007): “Monteverde (Avellino), strada da Lacedonia, dopo il bivio per il Lago di S. Pietro”.

+CAM*

***Catananche lutea* L.**

8 APP, Herb. Cancellieri, Herb. Tilia, HFLA

***Centaurea calcitrapa* L.**

1 PI, PORUN-Herb. Stinca

5 BAS SIENA

E

***Centaurea centauroides* L.**

3 APP, BI, CLU, GE, Herb. Cancellieri, Herb. Lattanzi, Herb. Salerno, HLUC, SIENA, UTV

Note- This taxon received the conservation status NT (near threatened) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018). It was recently confirmed for Campania just outside our study area by Del Guacchio (2010): “Calitri (Avellino), loc. Visciglito”, “viadotto che parte da Calitri scalo”.

***Centaurea cyanus* L.**

[= *Cyanus segetum* Hill]

5 BAS PI

***Centaurea deusta* Ten. group**

4 APP, Herb. Caruso, Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca

12 APP, BI, Herb. Carli, Herb. Caruso, Herb. Lattanzi, Herb. Tilia, HLUC, IS, PAD, PORUN-Herb.

Stinca, SIENA, UTV

13 APP, GE, Herb. Cancellieri, Herb. Caruso, Herb. Gangale & Uzunov, Herb. Majella, HFLA, HLUC, PORUN-Herb. Stinca

15 APP, HLUC, PORUN-Herb. Stinca

16 APP, CLU, Herb. Caruso, HLUC, PORUN-Herb. Stinca, TO

Note- This taxon shows a considerable variability in Italy, not well understood yet (Stinca et al. 2019a). The specimens collected in the investigated area are probably attributable to a new taxon under study.

***Centaurea jacea* L. subsp. *gaudinii* (Boiss. & Reut.) Gremli**

8 PI

***Centaurea solstitialis* L. s.l.**

3 APP, BI, HLUC

Note- The specimens collected are incomplete and do not allowed to identify the subspecies.

***Centaurea triumfettii* All.**

[≡ *Cyanus triumfettii* (All.) Dostál ex Á.Löve & D.Löve]

4 APP, Herb. Caruso, Herb. Gangale & Uzunov, HLUC, PAD, PORUN-Herb. Stinca

5 CAM HLUC

7 PI

11 HLUC

12 Herb. Carli, IS, UTV

13 APP, Herb. Cancellieri, Herb. Gangale & Uzunov, HLUC

***Chondrilla juncea* L.**

1 Herb. Salerno

16 Herb. Salerno

***Cirsium arvense* (L.) Scop.**

1 PI

3 PI, PORUN-Herb. Stinca, SIENA

10 HLUC

***Cota altissima* (L.) J.Gay**

[≡ *Anthemis altissima* L.]

3 APP, Herb. Lattanzi, UTV

10 Herb. Lattanzi

***Cota tinctoria* (L.) J.Gay subsp. *australis* (R.Fern.) Oberpr. & Greuter**

[≡ *Anthemis tinctoria* L. subsp. *australis* R.Fern.]

1 APP, BI, CLU, Herb. Gangale & Uzunov, Herb. Majella, HLUC, PORUN-Herb. Stinca

2 Herb. Caruso

5 BAS PI

8 HLUC

10 HFLA, HLUC

16 HLUC

Note- This taxon was recently discovered for Campania and reported in the study area by Del Guacchio (2010): “Aquilonia (Avellino) lungo l’Ofantina, nei pressi della stazione”.

***Crepis bursifolia* L.**

1 Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Salerno, HLUC, PORUN-Herb. Stinca

3 Herb. Salerno

Crepis lacera* Ten. subsp. *lacera

12 APP, Herb. Carli

15 PORUN-Herb. Stinca

***Crepis leontodontoides* All.**

4 APP, Herb. Majella, PORUN-Herb. Stinca

7 APP, GE, Herb. Tilia, HLUC, PI

13 APP

15 PORUN-Herb. Stinca

18 BI, HLUC

***Crepis neglecta* L. s.l.**

1 GE, PAD, PI

5 BAS APP

7 APP, Herb. Cancellieri, Herb. Gangale & Uzunov, HFLA

8 HLUC

Note - The collected specimens shows intermediate characters between the subsp. *corymbosa* (Ten.) Nyman and subsp. *neglecta*.

Crepis pulchra* L. subsp. *pulchra

1 GE

7 APP

8 PI

***Crepis rubra* L.**

3 APP, GE, Herb. Cancellieri, Herb. Salerno, UTV

A INV (CAM)
NEO

***Crepis sancta* (L.) Bornm. subsp. *nemausensis* (P.Fourn.) Bab.**

1 HLUC, PORUN-Herb. Stinca

***Crepis setosa* Haller f.**

1 Herb. Majella

***Crupina vulgaris* Cass.**

2 Herb. Majella, PORUN-Herb. Stinca

5 BAS BI

5 CAM BI

7 APP, GE, Herb. Gangale & Uzunov, Herb. Tilia, HLUC, UTV

8 PI

16 HLUC

Cynara cardunculus* L. subsp. *cardunculus

3 APP, PORUN-Herb. Stinca

18 CLU

***Doronicum columnae* Ten.**

12 HLUC

- Doronicum orientale* Hoffm.**
12 APP, PAD
13 APP, Herb. Cancellieri, Herb. Gangale & Uzunov, PORUN-Herb. Stinca
16 PI
- E ***Echinops siculus* Strobl**
10 HLUC
Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).
- A INV (CAM) ***Erigeron sumatrensis* Retz.**
A INV (BAS) **1** TO
NEO **5 BAS** TO
7 TO
- Filago germanica* (L.) Huds.**
7 Herb. Gangale & Uzunov, Herb. Majella, Herb. Salerno, HLUC
- Filago pyramidata* L.**
3 APP, BI, CLU, GE, Herb. Cancellieri, Herb. Lattanzi, PORUN-Herb. Stinca, SIENA, UTV
5 CAM CLU
7 Herb. Carli, Herb. Tilia, SIENA
- Galactites tomentosus* Moench**
[= *Galactites elegans* (All.) Soldano]
5 BAS PI, PORUN-Herb. Stinca, SIENA
10 HLUC
- Geropogon hybridus* (L.) Sch.Bip.**
[= *Geropogon glaber* L.]
8 BI, Herb. Lattanzi
- Hedypnois rhagadioloides* (L.) F.W.Schmidt**
1 PORUN-Herb. Stinca, UTV

7 PAD

Helichrysum italicum* (Roth) G. Don subsp. *italicum

7 Herb. Caruso, HLUC, PORUN-Herb. Stinca

8 PI

***Helminthotheca echioides* (L.) Holub**

[≡ *Picris echioides* L.]

3 PORUN-Herb. Stinca, UTV

8 PI

***Hypochaeris achyrophorus* L.**

7 Herb. Gangale & Uzunov

8 Herb. Salerno, Herb. Tilia

***Jacobaea erratica* (Bertol.) Fourr.**

[= *Senecio erraticus* Bertol. subsp. *barbareifolius* (Wimm. & Grab.) Walters]

5 BAS APP

5 CAM HFLA

E

***Klasea flavescens* (L.) Holub subsp. *cichoracea* (L.) Greuter & Wagenitz**

[≡ *Serratula cichoracea* (L.) DC.]

10 Herb. Gangale & Uzunov, HLUC, UTV

18 CLU, Herb. Cancellieri, PORUN-Herb. Stinca, SIENA, UTV

Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

***Lactuca saligna* L.**

1 Herb. Lattanzi

***Lactuca sativa* L. subsp. *serriola* (L.) Galasso, Banfi, Bartolucci & Ardenghi**

1 Herb. Lattanzi

Lapsana communis* L. subsp. *communis

7 HLUC

5 BAS BI

18 Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca

***Leontodon crispus* Vill.**

12 APP, BI, CLU, Herb. Lattanzi, HLUC, PAD, PORUN-Herb. Stinca, UTV

13 HFLA

15 PORUN-Herb. Stinca

16 Herb. Gangale & Uzunov

Leontodon hispidus* L. subsp. *hispidus

12 Herb. Carli, IS, PI

16 HLUC

E

***Leontodon intermedius* (Fiori) Huter, Porta & Rigo**

15 APP

Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

+CAM**

***Mantiscalca duriaei* (Spach) Briq. & Cavill.**

3 APP, CLU, Herb. Cancellieri, Herb. Lattanzi, Herb. Salerno, HLUC, PAD, PI, PORUN-Herb. Stinca, UTV

***Matricaria chamomilla* L.**

[≡ *Chamomilla recutita* (L.) Rauschert]

7 PI

***Notobasis syriaca* (L.) Cass.**

3 APP, BI, CLU, Herb. Cancellieri, Herb. Salerno, HLUC, PI, SIENA

Note- This taxon was recently reported just outside our study area by Del Guacchio (2007): "Monteverde (Avellino), frequente lungo la strada da Lacedonia, dopo il bivio per Rocchetta S. Antonio".

***Onopordum horridum* Viv.**

1 Herb. Gangale & Uzunov

Pallenis spinosa* (L.) Cass. subsp. *spinosa

1 Herb. Caruso, PORUN-Herb. Stinca

3 Herb. Salerno, PORUN-Herb. Stinca, SIENA

7 Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Majella

8 HLUC

10 HLUC

***Pentanema salicinum* (L.) D.Gut.Larr., Santos-Vicente, Anderb., E.Rico & M.M.Mart.Ort.**

[≡ *Inula salicina* L.]

3 APP, BI, Herb. Salerno

Petasites hybridus* (L.) G.Gaertn., B.Mey. & Scherb. subsp. *hybridus

7 PORUN-Herb. Stinca

Picris hieracioides* L. subsp. *hieracioides

3 PI

7 PI

10 PORUN-Herb. Stinca

Pilosella piloselloides* (Vill.) Soják subsp. *piloselloides

7 APP, BI, CLU, Herb. Cancellieri, Herb. Gangale & Uzunov, HFLA, HLUC, PORUN-Herb. Stinca

8 PI

+BAS**

***Pilosella ziziana* (Tausch) F.W.Schultz & Sch.Bip.**

12 CLU, Herb. Tilia, PI

Podospermum laciniatum* (L.) DC. subsp. *laciniatum

[≡ *Scorzonera laciniata* L. subsp. *laciniata*]

1 CLU, Herb. Salerno

8 BI, CLU, Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Majella, Herb. Salerno, Herb. Tilia,

HFLA, HLUC, PI

***Ptilostemon strictus*(Ten.) Greuter**

12 HLUC

18 SIENA

***Reichardia picroides*(L.) Roth**

2 Herb. Majella, PORUN-Herb. Stinca

3 Herb. Salerno

7 APP, Herb. Gangale & Uzunov

8 HLUC

16 Herb. Gangale & Uzunov, HLUC

***Rhagadiolus stellatus*(L.) Gaertn.**

1 CLU

4 PORUN-Herb. Stinca

18 Herb. Salerno

+CAM* E

***Scorzonera hispanica* L. subsp. *neapolitana* (Grande) Greuter**

8 APP, BI, Herb. Carli, Herb. Gangale & Uzunov, Herb. Lattanzi, Herb. Salerno, HFLA, HLUC, PORUN-Herb. Stinca, SIENA

10 HFLA

Note- This taxon received the conservation status DD (data deficient) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

E

***Scorzonera villosa* Scop. subsp. *columnae* (Guss.) Nyman**

3 APP, BI, Herb. Cancellieri, PI, PORUN-Herb. Stinca

8 PAD

Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

***Scorzoneroides cichoriacea* (Ten.) Greuter**

[≡ *Leontodon cichoriaceus* (Ten.) Sanguin.]

13 APP, Herb. Gangale & Uzunov

Senecio vulgaris* L. subsp. *vulgaris

1 PORUN-Herb. Stinca

7 APP

***Silybum marianum* (L.) Gaertn.**

1 SIENA

5 CAM HLUC

10 PORUN-Herb. Stinca

Sonchus asper* (L.) Hill subsp. *asper

10 HLUC

+BAS**

***Sonchus asper* (L.) Hill subsp. *glaucescens* (Jord.) Ball**

11 PORUN-Herb. Stinca

***Tanacetum parthenium* (L.) Sch.Bip.**

5 BAS Herb. Cancellieri, Herb. Salerno

16 PORUN-Herb. Stinca, SIENA

18 PI

***Tolpis umbellata* Bertol.**

13 APP, Herb. Gangale & Uzunov

Tragopogon crocifolius* L. subsp. *crocifolius

8 IS

E

***Tragopogon cupanii* Guss. ex DC.**

10 Herb. Tilia

Note- This taxon received the conservation status DD (data deficient) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

***Tragopogon porrifolius* L.**

3 PI

7 Herb. Gangale & Uzunov

11 CLU, HLUC
16 HLUC
18 Herb. Gangale & Uzunov

***Tragopogon pratensis* L.**

3 SIENA
13 Herb. Gangale & Uzunov

***Tussilago farfara* L.**

7 PORUN-Herb. Stinca

***Tyrimnus leucographus* (L.) Cass.**

2 APP

***Urospermum dalechampii* (L.) F.W.Schmidt**

1 Herb. Gangale & Uzunov
7 PORUN-Herb. Stinca
10 HLUC

***Urospermum picroides* (L.) Scop. ex F.W.Schmidt**

1 Herb. Salerno, PORUN-Herb. Stinca, SIENA
3 HLUC
7 BI

A NAT (CAM)
NEO

***Xanthium spinosum* L.**

20 PORUN-Herb. Stinca

***Xeranthemum cylindraceum* Sm.**

3 APP
4 PORUN-Herb. Stinca
8 Herb. Cancellieri, Herb. Carli, Herb. Salerno, IS
10 Herb. Salerno
16 HLUC

***Xeranthemum inapertum* (L.) Mill.**

7 Herb. Gangale & Uzunov

16 BI, GE, Herb. Carli, Herb. Gangale & Uzunov, Herb. Salerno, HLUC, PI, UTV

ATHYRIACEAE

***Athyrium filix-femina* (L.) Roth**

13 APP, HLUC, PORUN-Herb. Stinca

BETULACEAE

Carpinus orientalis* Mill. subsp. *orientalis

4 Herb. Caruso

5 BAS BI

18 Herb. Cancellieri, Herb. Gangale & Uzunov, PORUN-Herb. Stinca, UTV

***Corylus avellana* L.**

7 PORUN-Herb. Stinca

BORAGINACEAE

***Aegonychon purpurocaeruleum* (L.) Holub**

[≡ *Buglossoides purpurocaerulea* (L.) I.M. Johnst.]

4 Herb. Gangale & Uzunov

7 PI

10 Herb. Gangale & Uzunov

18 CLU, Herb. Gangale & Uzunov

***Anchusa azurea* Mill.**

10 PI

***Anchusella cretica* (Mill.) Bigazzi, E. Nardi & Selvi**

[≡ *Anchusa cretica* Mill.]

4 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

7 GE, Herb. Carli, Herb. Majella, Herb. Salerno, HFLA, HLUC, PAD

8 PI

18 Herb. Gangale & Uzunov

Cerithe major* L. subsp. *major

3 APP, PAD, PORUN-Herb. Stinca, SIENA

7 PI

10 PORUN-Herb. Stinca

***Cerithe minor* L. subsp. *auriculata* (Ten.) Domac**

12 Herb. Lattanzi, Herb. Salerno, HLUC, IS, PAD

13 APP, Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Majella, HLUC, PORUN-Herb. Stinca

***Cynoglossum creticum* Mill.**

5 CAM CLU

18 CLU, Herb. Gangale & Uzunov

***Cynoglossum montanum* L.**

11 PI

12 Herb. Salerno, Herb. Tilia, PAD, PORUN-Herb. Stinca

13 HFLA

Echium italicum* L. subsp. *italicum

5 BAS PORUN-Herb. Stinca

***Echium plantagineum* L.**

1 PI

5 CAM HFLA

***Echium vulgare* L.**

1 APP, Herb. Gangale & Uzunov, HLUC, PI, PORUN-Herb. Stinca

2 PORUN-Herb. Stinca

10 HLUC

11 HLUC

16 PORUN-Herb. Stinca

Note- The actual taxonomic distinction of two subspecies, namely *E. vulgare* L. subsp. *pustulatum* (Sm.) Em.Schmid & Gams and *E. vulgare* L. subsp. *vulgare*, needs to be furtherly investigated (L.

Cecchi, in litteris).

Myosotis arvensis* (L.) Hill subsp. *arvensis

4 PORUN-Herb. Stinca

5 BAS Herb. Salerno

7 CLU, IS, PORUN-Herb. Stinca

8 PI

13 Herb. Cancellieri

18 PI

Myosotis ramosissima* Rochel subsp. *ramosissima

7 APP

E ***Myosotis sylvatica* Hoffm. subsp. *elongata* (Strobl) Grau**

13 APP, Herb. Gangale & Uzunov

18 Herb. Gangale & Uzunov

Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

E ***Pulmonaria vallarsae* A.Kern. subsp. *apennina* (Cristof. & Puppi) L.Cecchi & Selvi**

7 Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca

12 PI, UTV

13 Herb. Cancellieri

Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

***Symphytum tuberosum* L. subsp. *angustifolium* (A.Kern.) Nyman**

[= *S. tuberosum* L. subsp. *nodosum* (Schur) Soó]

7 Herb. Gangale & Uzunov

12 APP, CLU

13 Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca

BRASSICACEAE

***Aethionema saxatile* (L.) R.Br.**

7 APP, BI, GE, Herb. Gangale & Uzunov

12 Herb. Salerno, Herb. Tilia

16 Herb. Carli, Herb. Gangale & Uzunov

***Alliaria petiolata* (M.Bieb.) Cavara & Grande**

18 PORUN-Herb. Stinca

***Alyssum simplex* Rudolphi**

[– *A. campestre* auct. Fl. Ital.]

1 PORUN-Herb. Stinca

8 APP, Herb. Carli

Arabis collina* Ten. subsp. *collina

12 Herb. Carli

15 PORUN-Herb. Stinca

18 PORUN-Herb. Stinca

***Arabis hirsuta* (L.) Scop.**

7 CLU

16 Herb. Tilia

***Arabis sagittata* (Bertol.) DC.**

8 Herb. Majella, PORUN-Herb. Stinca

10 PORUN-Herb. Stinca

11 Herb. Tilia

***Aurinia saxatilis* (L.) Desv. subsp. *megalocarpa* (Hauskn.) T.R.Dudley**

10 PAD

16 APP, BI, Herb. Cancellieri, Herb. Carli, Herb. Gangale & Uzunov, Herb. Lattanzi, Herb. Majella, Herb. Salerno, Herb. Tilia, HLUC, PORUN-Herb. Stinca

18 PI

***Barbarea vulgaris* R.Br.**

7 CLU, PORUN-Herb. Stinca

***Biscutella laevigata* L. s.l.**

13 APP, GE, PORUN-Herb. Stinca

Note- The collected specimens shows intermediate characters between the subsp. *australis* Raffaelli & Baldoïn (leaves with dense hairiness) and subsp. *laevigata* (small leaves).

***Brassica incana* Ten.**

16 APP, CLU, HLUC, PORUN-Herb. Stinca

C (CAM)

***Brassica nigra* (L.) W.D.J.Koch**

C (BAS)

1 APP, PORUN-Herb. Stinca

10 Herb. Salerno, PAD, PORUN-Herb. Stinca

***Bunias erucago* L.**

5 BAS Herb. Cancellieri, Herb. Salerno

***Calepina irregularis* (Asso) Thell.**

7 APP, Herb. Salerno, PORUN-Herb. Stinca

Capsella bursa-pastoris* (L.) Medik. subsp. *bursa-pastoris

7 Herb. Gangale & Uzunov, UTV

***Capsella rubella* Reut.**

8 PI

***Cardamine amporitana* Sennen & Pau**

13 APP, PORUN-Herb. Stinca

Note- This taxon was recently confirmed in Basilicata at Sasso di Castalda (Rosati et al. 2017).

***Cardamine bulbifera* (L.) Crantz**

13 Herb. Cancellieri, Herb. Gangale & Uzunov, PORUN-Herb. Stinca

***Cardamine graeca* L.**

15 PORUN-Herb. Stinca

***Cardamine hirsuta* L.**

1 PORUN-Herb. Stinca

7 Herb. Salerno

Draba verna* L. subsp. *verna

[≡ *Erophila verna* (L.) DC. subsp. *verna*]

1 PORUN-Herb. Stinca

E

***Erysimum apenninum* Peccenini & Polatschek**

2 APP

7 PI

8 CLU, GE, Herb. Gangale & Uzunov, Herb. Majella, HFLA, HLUC, PORUN-Herb. Stinca

10 PORUN-Herb. Stinca

Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

A NAT (BAS)

***Erysimum cheiri* (L.) Crantz**

ARC

16 PORUN-Herb. Stinca

Hesperis laciniata* All. subsp. *laciniata

18 PORUN-Herb. Stinca

Hesperis matronalis* L. subsp. *matronalis

12 Herb. Salerno

Hirschfeldia incana* (L.) Lagr.-Foss. subsp. *incana

7 HFLA

Hornungia petraea* (L.) Rchb. subsp. *petraea

16 Herb. Tilia

A NAT (CAM)
ARC

Isatis tinctoria* L. subsp. *tinctoria

1 Herb. Salerno, PI, PORUN-Herb. Stinca, TO
7 HLUC

***Lepidium campestre* (L.) R.Br.**

11 APP, BI, Herb. Salerno, HLUC
16 PI

***Lepidium coronopus* (L.) Al-Shehbaz**

[= *Coronopus squamatus* (Forssk.) Asch.]
3 TO

Lepidium draba* L. subsp. *draba

[≡ *Cardaria draba* (L.) Desv.]

1 Herb. Cancellieri, Herb. Salerno, SIENA
8 Herb. Caruso, HLUC, IS, PORUN-Herb. Stinca

***Microthlaspi perfoliatum* (L.) F.K.Mey.**

[≡ *Noccaea perfoliata* (L.) Al-Shehbaz; ≡ *Thlaspi perfoliatum* L.]

1 PORUN-Herb. Stinca
7 CLU, GE
12 CLU
18 PORUN-Herb. Stinca

***Nasturtium officinale* R.Br.**

7 APP, Herb. Gangale & Uzunov, PORUN-Herb. Stinca
5 BAS PI

+CAM*

***Neslia paniculata* (L.) Desv. subsp. *thracica* (Velen.) Bornm.**

7 CLU

***Noccaea praecox* (Wulfen) F.K.Mey.**

[≡ *Thlaspi praecox* Wulfen]

12 Herb. Carli, PAD, UTV

13 APP

13 Herb. Cancellieri

***Pseudoturritis turrita* (L.) Al-Shehbaz**

[≡ *Arabis turrita* L.]

16 BI

18 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

***Raphanus raphanistrum* L. subsp. *landra* (Moretti ex DC.) Bonnier & Layens**

1 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

Raphanus raphanistrum* L. subsp. *raphanistrum

1 Herb. Caruso

18 PORUN-Herb. Stinca

5 BAS PI

***Rapistrum rugosum* (L.) All.**

3 APP, BI, CLU, Herb. Salerno, UTV

8 GE, Herb. Gangale & Uzunov, PI, PORUN-Herb. Stinca

15 HFLA

Rorippa sylvestris* (L.) Besser subsp. *sylvestris

20 UTV

Sinapis arvensis* L. subsp. *arvensis

1 HLUC

7 Herb. Gangale & Uzunov

CAMPANULACEAE

***Campanula erinus* L.**

16 Herb. Cancellieri, Herb. Salerno, PORUN-Herb. Stinca

18 Herb. Carli

E

Campanula fragilis* Cirillo subsp. *fragilis

12 Herb. Salerno

16 APP, GE, Herb. Lattanzi, HLUC, SIENA

Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

***Campanula rapunculus* L.**

4 HLUC

10 HLUC

18 BI, Herb. Carli, PORUN-Herb. Stinca, SIENA

Edraianthus graminifolius* (L.) A.DC. subsp. *graminifolius

12 APP, Herb. Carli, Herb. Caruso, Herb. Salerno, HLUC, PAD, PI, PORUN-Herb. Stinca, SIENA, UTV

13 HFLA

15 APP, PORUN-Herb. Stinca

Legousia falcata* (Ten.) Janch. subsp. *falcata

3 PI

18 Herb. Gangale & Uzunov, Herb. Salerno, PORUN-Herb. Stinca, UTV

***Legousia hybrida* (L.) Delarbre**

7 CLU

Legousia speculum-veneris* (L.) Chaix subsp. *speculum-veneris

3 Herb. Salerno, SIENA, TO

7 APP, IS, PAD

10 PORUN-Herb. Stinca

18 SIENA

CANNABACEAE

***Humulus lupulus* L.**

5 BAS Herb. Cancellieri, Herb. Salerno

CAPRIFOLIACEAE

***Lonicera caprifolium* L.**

7 HLUC, PORUN-Herb. Stinca

***Lonicera etrusca* Santi**

2 Herb. Caruso

3 BI, Herb. Cancellieri, TO

4 Herb. Caruso, Herb. Gangale & Uzunov, PORUN-Herb. Stinca

7 Herb. Gangale & Uzunov, HFLA, HLUC

CARYOPHYLLACEAE

Arenaria leptoclados* (Rchb.) Guss. subsp. *leptoclados

1 PORUN-Herb. Stinca

7 GE, Herb. Gangale & Uzunov, Herb. Tilia, HFLA, PORUN-Herb. Stinca

16 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

18 Herb. Gangale & Uzunov

Arenaria serpyllifolia* L. subsp. *serpyllifolia

1 SIENA

7 CLU, IS

16 CLU

***Atocion armeria* (L.) Raf.**

[≡ *Silene armeria* L.]

13 APP, GE, Herb. Cancellieri, Herb. Gangale & Uzunov, PORUN-Herb. Stinca

***Cerastium glomeratum* Thuill.**

11 Herb. Carli

***Cerastium holosteoides* Fr.**

[= *C. fontanum* Baumg. subsp. *vulgare* (Hartm.) Greuter & Burdet]

7 CLU

8 Herb. Lattanzi

- E ***Cerastium tomentosum* L.**
12 PAD
13 APP, GE, Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca
16 Herb. Gangale & Uzunov, HLUC, PI
Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).
- E ***Dianthus carthusianorum* L. subsp. *tenorei* (Lacaita) Pignatti**
8 APP, Herb. Gangale & Uzunov, Herb. Majella, Herb. Salerno, PI, PORUN-Herb. Stinca
13 APP, GE
Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).
- Dianthus longicaulis* Ten.**
16 APP, CLU
- E ***Dianthus vulturius* Guss. & Ten. subsp. *vulturius***
2 Herb. Majella, PORUN-Herb. Stinca
16 Herb. Carli, Herb. Lattanzi, HLUC
18 CLU
Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).
- Lychnis coronaria* (L.) Desr.**
[≡ *Stene coronaria* (L.) Clairv.]
5 BAS BI, PI
5 CAM HLUC
18 GE, Herb. Cancellieri, PORUN-Herb. Stinca
- Lychnis flos-cuculi* L. subsp. *flos-cuculi***
[≡ *Stene flos-cuculi* (L.) Clairv.]
11 Herb. Carli
18 BI

***Moehringia trinervia* (L.) Clairv.**

12 CLU, UTV

***Petrorhagia dubia* (Raf.) G.López & Romo**

7 Herb. Tilia, PI

11 PORUN-Herb. Stinca

13 GE

***Petrorhagia prolifera* (L.) P.W.Ball & Heywood**

1 Herb. Majella

7 APP

8 Herb. Cancellieri

11 Herb. Carli, Herb. Tilia

13 Herb. Gangale & Uzunov, HLUC

***Petrorhagia saxifraga* (L.) Link subsp. *gasparrinii* (Guss) Greuter & Burdet**

1 Herb. Majella

2 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

7 PORUN-Herb. Stinca

8 Herb. Carli, Herb. Salerno, HLUC, SIENA

13 Herb. Gangale & Uzunov

16 APP, Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca

Petrorhagia saxifraga* (L.) Link subsp. *saxifraga

1 PORUN-Herb. Stinca

18 HLUC

Note- The two subspecies currently recognized for the Italian flora are very similar and mainly characterized by the different length of the floral bracts which are no longer than half the calyx tube in the subsp. *saxifraga*, while are long as calyx tube in the subsp. *gasparrinii* (Pignatti et al. 2017b, 2019). However, the most of the authors do not attribute taxonomic value to the latter subspecies.

+BAS**

Polycarpon tetraphyllum* (L.) L. subsp. *tetraphyllum

16 Herb. Cancellieri

18 UTV

***Sabulina glaucina* (Dvořáková) Dillenb. & Kadereit**

[= *Minuartia verna* (L.) Hiern subsp. *collina* (Neilr.) Domin]

7 IS

12 APP, CLU, Herb. Carli, Herb. Salerno, Herb. Tilia, HLUC, IS, PI, PORUN-Herb. Stinca, UTV

15 APP

16 CLU, Herb. Gangale & Uzunov, Herb. Majella, PORUN-Herb. Stinca

Note- This taxon was recently confirmed in Campania at Padula (Rosati et al. 2017).

***Sabulina mediterranea* (Ledeb. ex Link) Rchb.**

[≡ *Minuartia mediterranea* (Ledeb. ex Link) K.Malý]

7 Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Salerno, PORUN-Herb. Stinca, UTV

Sabulina tenuifolia* (L.) Rchb. subsp. *tenuifolia

[= *Minuartia hybrida* (Vill.) Schischk. subsp. *hybrida*]

7 APP, CLU, PORUN-Herb. Stinca

***Saponaria officinalis* L.**

7 PORUN-Herb. Stinca

***Scleranthus polycarpus* L.**

13 GE, Herb. Cancellieri, Herb. Cancellieri, PORUN-Herb. Stinca

***Silene conica* L.**

12 PAD

***Silene gallica* L.**

7 APP

13 GE, Herb. Cancellieri, Herb. Gangale & Uzunov

Silene italica* (L.) Pers. subsp. *italica

7 CLU, HFLA

16 HLUC

E

***Silene italica* (L.) Pers. subsp. *sicula* (Ucria) Jeanm.**

4 PORUN-Herb. Stinca

7 HLUC

12 HLUC

16 Herb. Gangale & Uzunov, PI, PORUN-Herb. Stinca

18 GE, Herb. Gangale & Uzunov, HLUC

Note- The two subspecies currently recognized for the Italian flora are very similar and mainly characterized by the different length of the carpophore which is long as capsule or slightly less in the subsp. *italica*, while is no longer than half the capsule in the subsp. *sicula* (Pignatti et al. 2017b, 2019). According to Jeanmonod (1984), there is no clear geographical limit between the two subspecies but a progressive transition between them.

Silene italica subsp. *sicula* received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018). It was recently discovered in Campania at Padula and in Basilicata at Brienza (Rosati et al. 2017).

***Silene latifolia* Poir.**

[= *S. latifolia* Poir. subsp. *alba* (Mill.) Greuter & Burdet]

1 APP, HLUC

4 PORUN-Herb. Stinca

5 BAS APP, SIENA

5 CAM HLUC

10 Herb. Gangale & Uzunov, HFLA

12 IS, PORUN-Herb. Stinca

13 APP, HLUC

18 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

Silene nocturna* L. subsp. *nocturna

1 GE, Herb. Cancellieri, PI

7 CLU, GE

***Silene saxifraga* L.**

15 APP

***Silene viridiflora* L.**

18 CLU, Herb. Salerno, HLUC

***Silene vulgaris* (Moench) Garcke subsp. *commutata* (Guss.) Hayek**

18 HLUC

Silene vulgaris* (Moench) Garcke subsp. *vulgaris

3 Herb. Cancellieri

4 APP, PORUN-Herb. Stinca

10 Herb. Gangale & Uzunov, HFLA

15 PORUN-Herb. Stinca

Stellaria media* (L.) Vill. subsp. *media

7 CLU

15 IS

18 PORUN-Herb. Stinca

CELASTRACEAE

***Euonymus latifolius* (L.) Mill.**

12 CLU, Herb. Salerno

CHENOPODIACEAE

***Atriplex prostrata* Boucher ex DC.**

8 HLUC

***Beta vulgaris* L. subsp. *maritima* (L.) Arcang.**

3 HLUC, TO

8 GE, Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Salerno, Herb. Tilia, HFLA, HLUC, IS, PORUN-Herb. Stinca

Chenopodium album* L. subsp. *album

18 HLUC

A INV (BAS)

NEO

***Dysphania ambrosioides* (L.) Mosyakin & Clemants**

[≡ *Chenopodium ambrosioides* L.]

5 BAS TO

9 PORUN-Herb. Stinca

CISTACEAE

***Cistus salviifolius* L.**

4 PORUN-Herb. Stinca

Helianthemum apenninum* (L.) Mill. subsp. *apenninum

12 CLU, Herb. Cancellieri, Herb. Carli, Herb. Tilia

***Helianthemum nummularium* (L.) Mill. subsp. *obscurum* (Čelak.) Holub**

4 PORUN-Herb. Stinca

8 PI

13 HLUC

18 HLUC

***Helianthemum oelandicum* (L.) Dum.Cours. subsp. *incanum* (Willk.) G.López**

12 CLU, Herb. Carli, Herb. Tilia, HLUC, IS, PAD, PORUN-Herb. Stinca

***Helianthemum salicifolium* (L.) Mill.**

3 GE

COLCHICACEAE

Colchicum neapolitanum* (Ten.) Ten. subsp. *neapolitanum

18 CLU, HLUC

CONVOLVULACEAE

***Convolvulus arvensis* L.**

1 PORUN-Herb. Stinca

8 Herb. Carli, HLUC

***Convolvulus cantabrica* L.**

1 Herb. Gangale & Uzunov, Herb. Gangale & Uzunov, PORUN-Herb. Stinca

2 Herb. Majella

3 BI

4 HLUC

7 Herb. Cancellieri, Herb. Gangale & Uzunov, HLUC

***Convolvulus silvaticus* Kit.**

[≡ *Calystegia silvatica* (Kit.) Griseb.]

1 PORUN-Herb. Stinca,

5 **BAS** PAD, PORUN-Herb. Stinca

7 Herb. Gangale & Uzunov

18 Herb. Gangale & Uzunov, HLUC, SIENA

***Cuscuta planiflora* Ten.**

5 **CAM** GE, HLUC

7 HFLA

8 HLUC

CORNACEAE

***Cornus mas* L.**

16 Herb. Lattanzi

18 BI, Herb. Gangale & Uzunov, Herb. Salerno, PORUN-Herb. Stinca

***Cornus sanguinea* L. subsp. *hungarica* (Kárpáti) Soó**

5 **BAS** Herb. Salerno

5 **CAM** HFLA

7 Herb. Caruso, Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca

8 Herb. Lattanzi

10 UTV

CRASSULACEAE

***Petrosedum ochroleucum* (Chaix) Niederle subsp. *mediterraneum* (L. Gallo)**

Niederle

[≡ *Sedum ochroleucum* Chaix subsp. *mediterraneum* L. Gallo]

5 **BAS** UTV

5 **CAM** HFLA

***Petrosedum rupestre* (L.) P.V.Heath**

[≡ *Sedum rupestre* L.]

5 BAS PAD

5 CAM HLUC

12 PORUN-Herb. Stinca

16 Herb. Gangale & Uzunov, HLUC

***Petrosedum tenuifolium* (Sm.) Grulich**

[≡ *Sedum amplexicaule* DC. subsp. *tenuifolium* (Sm.) Greuter]

4 Herb. Majella

5 BAS PI

7 PI

12 APP

13 Herb. Gangale & Uzunov, Herb. Majella, HLUC

16 UTV

***Phedimus stellatus* (L.) Raf.**

[≡ *Sedum stellatum* L.]

2 PORUN-Herb. Stinca

5 BAS APP

5 CAM HFLA

16 UTV

18 Herb. Cancellieri, SIENA

***Sedum acre* L.**

16 HLUC, PORUN-Herb. Stinca

***Sedum album* L. subsp. *micranthum* (Bast. ex DC.) Syme**

[≡ *S. micranthum* Bast. ex DC.]

4 PAD, PORUN-Herb. Stinca

10 PAD

16 PAD, PORUN-Herb. Stinca

***Sedum cepaea* L.**

4 PORUN-Herb. Stinca

7 PI

18 Herb. Gangale & Uzunov, HLUC

Sedum dasyphyllum* L. subsp. *dasyphyllum

16 BI

***Sedum hispanicum* L.**

1 Herb. Gangale & Uzunov, Herb. Majella, PORUN-Herb. Stinca

4 HLUC

13 Herb. Gangale & Uzunov

16 Herb. Gangale & Uzunov, HLUC, UTV

18 HLUC

***Sedum rubens* L.**

1 PI

5 BAS UTV

12 PAD

***Sedum sexangulare* L.**

16 Herb. Gangale & Uzunov

***Umbilicus horizontalis* (Guss.) DC.**

1 SIENA

16 PORUN-Herb. Stinca

18 HLUC

***Umbilicus rupestris* (Salisb.) Dandy**

4 PORUN-Herb. Stinca

16 SIENA

CUCURBITACEAE

***Bryonia dioica* Jacq.**

1 CLU

4 PI, PORUN-Herb. Stinca

7 Herb. Caruso, HLUC

8 HLUC, PAD

10 HFLA

18 Herb. Gangale & Uzunov, HLUC

***Ecballium elaterium* (L.) A.Rich.**

1 PORUN-Herb. Stinca

CYPERACEAE

***Carex caryophyllea* Latourr.**

13 Herb. Cancellieri, Herb. Gangale & Uzunov

***Carex depauperata* Curtis ex With.**

13 Herb. Majella

18 BI, CLU, Herb. Cancellieri, Herb. Carli, Herb. Gangale & Uzunov, Herb. Lattanzi, Herb. Salerno, Herb. Tilia, HLUC, PORUN-Herb. Stinca, SIENA, TO

***Carex distachya* Desf.**

2 APP, Herb. Gangale & Uzunov

4 Herb. Gangale & Uzunov, Herb. Majella

13 APP, HLUC

18 Herb. Cancellieri, TO

***Carex divisa* Huds.**

8 Herb. Cancellieri

***Carex divulsa* Stokes**

2 Herb. Gangale & Uzunov

5 CAM UTV

7 Herb. Cancellieri, Herb. Gangale & Uzunov, TO, UTV

8 TO

10 Herb. Gangale & Uzunov, HFLA, PI

13 Herb. Gangale & Uzunov

18 CLU, Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Lattanzi, HLUC, TO

***Carex flacca* Schreb. subsp. *erythrostachys* (Hoppe) Holub**

2 Herb. Gangale & Uzunov, Herb. Majella, PORUN-Herb. Stinca

3 Herb. Cancellieri, Herb. Salerno

4 Herb. Gangale & Uzunov

7 Herb. Cancellieri, Herb. Gangale & Uzunov, TO

8 HLUC, IS, PI, PORUN-Herb. Stinca, TO

11 PI, TO

12 TO, UTV

18 Herb. Gangale & Uzunov, Herb. Lattanzi, TO

***Carex humilis* Leyss**

12 HFLA, IS

Note- This taxon was recently discovered in Basilicata at Savoia di Lucania (Rosati et al. 2017).

***Carex otrubae* Podp.**

2 Herb. Gangale & Uzunov, Herb. Majella, PAD, PORUN-Herb. Stinca

5 BAS PAD, SIENA, TO

12 UTV

***Carex pendula* Huds.**

5 BAS SIENA

***Carex remota* L.**

13 Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Majella, PORUN-Herb. Stinca

***Carex sylvatica* Huds.**

12 TO

13 Herb. Gangale & Uzunov, TO

***Cyperus fuscus* L.**

9 PORUN-Herb. Stinca

***Cyperus longus* L.**

5 BAS Herb. Cancellieri, PORUN-Herb. Stinca, SIENA

***Schoenoplectus lacustris* (L.) Palla**

5 BAS APP, Herb. Cancellieri, Herb. Salerno, PI

***Scirpoides holoschoenus* (L.) Soják**

[= *Holoschoenus romanus* (L.) Fritsch]

2 Herb. Gangale & Uzunov, PAD, PORUN-Herb. Stinca

5 BAS APP, PORUN-Herb. Stinca, SIENA, TO

8 HLUC

CYSTOPTERIDACEAE

***Cystopteris fragilis* (L.) Bernh.**

4 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

DENNSTAEDTIACEAE

Pteridium aquilinum* (L.) Kuhn subsp. *aquilinum

7 HLUC, PORUN-Herb. Stinca

DIOSCOREACEAE

***Dioscorea communis* (L.) Caddick & Wilkin**

[≡ *Tamus communis* L.]

18 PORUN-Herb. Stinca

DIPSACACEAE

Dipsacus fullonum* L. subsp. *fullonum

3 SIENA

E

***Knautia calycina* (C.Presl) Guss.**

[= *K. calabrica* (Szabò) Zangheri]

7 APP

8 APP, BI, Herb. Carli, HFLA, PAD

10 Herb. Cancellieri, Herb. Tilia, PI

Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

Knautia integrifolia* (L.) Bertol. subsp. *integrifolia

4 Herb. Gangale & Uzunov

5 **BAS** Herb. Cancellieri, Herb. Salerno

7 APP, Herb. Carli, Herb. Gangale & Uzunov, PI, PORUN-Herb. Stinca

***Sixalix atropurpurea* (L.) Greuter & Burdet**

[= *Scabiosa atropurpurea* (L.) Greuter & Burdet subsp. *grandiflora* (Scop.) Soldano & F.Conti; = *Scabiosa maritima* L.]

1 PI

7 HFLA

8 Herb. Gangale & Uzunov

DRYOPTEDIDACEAE

***Polystichum setiferum* (Forssk.) T.Moore ex W oyn.**

12 HLUC

EQUISETACEAE

***Equisetum arvense* L.**

5 **BAS** APP

ERICACEAE

***Monotropa hypophegea* Wallr.**

18 UTV

EUPHORBIACEAE

***Euphorbia amygdaloides* L.**

12 CLU, SIENA

13 Herb. Cancellieri, Herb. Gangale & Uzunov

16 PI

18 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

E

***Euphorbia corallioides* L.**

18 BI, Herb. Gangale & Uzunov, HLUC, PI, PORUN-Herb. Stinca

Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

Euphorbia exigua* L. subsp. *exigua

3 GE, Herb. Cancellieri, SIENA

5 **BAS** UTV

7 BI, Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca

10 PORUN-Herb. Stinca

Euphorbia falcata* L. subsp. *falcata

7 Herb. Tilia

Euphorbia helioscopia* L. subsp. *helioscopia

4 Herb. Gangale & Uzunov

7 SIENA

***Euphorbia phymatosperma* Boiss. subsp. *cernua* (Coss. & Durieu ex Boiss.) Vindt**

4 PORUN-Herb. Stinca

18 PI, PORUN-Herb. Stinca

Note- This taxon was recently reported in the study area by Del Guacchio (2010: "Aquilonia (Avellino), presso la stazione") and Pignatti et al. (2017b: "lungo l'Ofanto ad Aquilonia").

***Mercurialis perennis* L.**

12 HLUC

13 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

FABACEAE

A NAT (BAS)
NEO

***Amorpha fruticosa* L.**

5 BAS APP, Herb. Salerno, PI, PORUN-Herb. Stinca, TO

***Anthyllis vulneraria* L. s.l.**

2 APP, PORUN-Herb. Stinca

4 APP, Herb. Gangale & Uzunov, Herb. Majella, PAD, PORUN-Herb. Stinca

7 APP, CLU, HFLA

8 APP, Herb. Carli, HLUC

11 APP, CLU

12 APP, BI, Herb. Tilia, HLUC, PAD, PORUN-Herb. Stinca

13 APP, HFLA

15 APP

16 PI

Note- Anthyllis vulneraria complex is a critical group well known for its remarkable morphological variation that led to recognition for Italian flora fifteen subspecies (Bartolucci et al. 2018a). However, the diacritical characters between these subspecies are not well defined and further investigations aimed to clarify the taxonomic value of these subspecies are needs. For these reasons, at present the attribution to the intraspecific rank of the collected samples in the study area is not possible.

***Astragalus glycyphyllos* L.**

13 Herb. Gangale & Uzunov

***Astragalus hamosus* L.**

1 Herb. Cancellieri, PAD, PORUN-Herb. Stinca

2 PI

3 BI, CLU, Herb. Cancellieri, Herb. Salerno, HLUC, UTV

5 BAS Herb. Salerno

16 Herb. Gangale & Uzunov

Astragalus monspessulanus* L. subsp. *monspessulanus

2 Herb. Caruso, PAD

8 HLUC, PI, PORUN-Herb. Stinca

***Astragalus sesameus* L.**

7 APP, Herb. Tilia, PORUN-Herb. Stinca

8 APP

***Bituminaria bituminosa* (L.) C.H.Stirt.**

1 APP

5 CAM Herb. Lattanzi, UTV

***Colutea arborescens* L.**

1 APP, HLUC, PI

2 HLUC

7 Herb. Cancellieri, HFLA, IS, PORUN-Herb. Stinca

8 IS

18 BI, Herb. Gangale & Uzunov, HLUC

***Coronilla scorpioides* (L.) W.D.J.Koch**

2 Herb. Gangale & Uzunov, Herb. Majella, PORUN-Herb. Stinca

3 Herb. Cancellieri, UTV

7 GE, Herb. Cancellieri, Herb. Salerno, Herb. Tilia, HFLA, HLUC, PAD, PI, PORUN-Herb. Stinca, SIENA

8 Herb. Caruso

***Cytisophyllum sessilifolium* (L.) O.Lang**

[≡ *Cytisus sessilifolius* L.]

10 Herb. Gangale & Uzunov

11 Herb. Salerno, PORUN-Herb. Stinca, UTV

***Cytisus hirsutus* L.**

12 UTV

13 APP, Herb. Gangale & Uzunov, Herb. Majella

Cytisus scoparius* (L.) Link subsp. *scoparius

7 Herb. Salerno, HFLA, HLUC, PORUN-Herb. Stinca

***Cytisus spinescens* Sieber ex Spreng.**

3 Herb. Salerno

***Cytisus villosus* Pourr.**

3 BI

12 Herb. Carli

18 Herb. Lattanzi, PORUN-Herb. Stinca

Emerus major* Mill. subsp. *major

[= *Coronilla emerus* L. subsp. *emerus*]

5 CAM HLUC, UTV

7 HLUC

16 Herb. Gangale & Uzunov, PI

18 Herb. Gangale & Uzunov, HLUC, PI, PORUN-Herb. Stinca, UTV

***Ervillea loiseleurii* (M.Bieb.) H.Schaeff.**

[≡ *Vicia loiseleurii* (M.Bieb.) Litv.]

18 UTV

***Ervum gracile* DC.**

[= *Vicia parviflora* Cav.]

2 PI

3 APP, BI, CLU, GE, Herb. Cancellieri, Herb. Lattanzi, HLUC, PAD, UTV

8 Herb. Majella, Herb. Tilia, PORUN-Herb. Stinca, UTV

***Ervum pubescens* DC.**

[≡ *Vicia pubescens* (DC.) Link]

5 CAM UTV

18 Herb. Lattanzi

***Ervum tetraspermum* L.**

[≡ *Vicia tetrasperma* (L.) Schreb.]

8 APP, BI, IS

***Genista sagittalis* L.**

13 APP, GE, Herb. Cancellieri, Herb. Gangale & Uzunov, HLUC

***Genista tinctoria* L.**

4 Herb. Caruso, Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca

7 PI

11 CLU

15 IS

18 Herb. Lattanzi

***Hippocrepis biflora* Spreng.**

[– *H. unisiliquosa* auct. Fl. Ital.]

3 Herb. Cancellieri, SIENA

5 CAM UTV

Hippocrepis comosa* L. subsp. *comosa

12 Herb. Carli, Herb. Tilia, PAD, UTV

13 Herb. Cancellieri, Herb. Gangale & Uzunov

Lathyrus aphaca* L. subsp. *aphaca

1 HLUC

3 GE, Herb. Salerno, PAD, TO, UTV

5 CAM CLU

8 BI, HLUC, IS

10 Herb. Tilia

16 Herb. Gangale & Uzunov

18 Herb. Gangale & Uzunov

***Lathyrus cicera* L.**

7 CLU, Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Tilia, PORUN-Herb. Stinca

***Lathyrus clymenum* L.**

2 Herb. Gangale & Uzunov, Herb. Majella

4 Herb. Gangale & Uzunov, Herb. Majella

5 BAS PAD
5 CAM CLU
7 Herb. Salerno
8 HFLA
10 Herb. Salerno
18 Herb. Gangale & Uzunov

***Lathyrus grandiflorus* Sm.**

11 HFLA

***Lathyrus hirsutus* L.**

8 CLU, HLUC
11 CLU
15 HFLA

+BAS**

***Lathyrus inconspicuus* L.**

16 PI

***Lathyrus latifolius* L.**

7 PORUN-Herb. Stinca

***Lathyrus nissolia* L.**

11 BI, CLU, Herb. Carli, Herb. Lattanzi, Herb. Tilia, PI, UTV
12 UTV

***Lathyrus ochrus* (L.) DC.**

3 CLU, GE, PORUN-Herb. Stinca, UTV

A CAS (BAS)
ARC

Lathyrus oleraceus* Lam. subsp. *oleraceus

[= *Pisum sativum* L. subsp. *sativum*]

5 BAS PI, PORUN-Herb. Stinca

Lathyrus pratensis* L. subsp. *pratensis

8 PI

11 HLUC

12 Herb. Salerno, IS, UTV

***Lathyrus setifolius* L.**

7 GE

8 Herb. Cancellieri, Herb. Tilia

***Lathyrus sphaericus* Retz.**

7 CLU, Herb. Cancellieri, Herb. Salerno

8 APP, GE

Lathyrus sylvestris* L. subsp. *sylvestris

3 Herb. Cancellieri

5 BAS BI

5 CAM HLUC

7 HLUC, UTV

***Lathyrus venetus* (Mill.) Wohlf.**

7 HLUC

10 HFLA

15 IS

18 Herb. Carli, Herb. Gangale & Uzunov, PORUN-Herb. Stinca

12 HLUC, UTV

***Lotus angustissimus* L.**

8 CLU

Lotus corniculatus* L. subsp. *corniculatus

7 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

8 Herb. Gangale & Uzunov, Herb. Majella, HLUC, PORUN-Herb. Stinca

10 HLUC

12 PORUN-Herb. Stinca

***Lotus herbaceus*(Vill.) Jauzein**

[≡ *Dorycnium herbaceum* Vill.]

1 Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca

2 Herb. Caruso, PAD, PI, PORUN-Herb. Stinca

7 Herb. Tilia, PI

8 Herb. Carli, HLUC, SIENA, UTV

***Lotus hirsutus*L.**

[≡ *Dorycnium hirsutum*(L.) Ser.]

2 Herb. Caruso, PORUN-Herb. Stinca

5 BAS BI

5 CAM HLUC

10 Herb. Cancellieri, Herb. Carli

***Lotus ornithopodioides*L.**

3 UTV

5 BAS Herb. Salerno, PAD

7 GE

***Lotus tenuis*Waldst. & Kit. ex Willd.**

8 HFLA, HLUC

***Lupinus albus*L. subsp. *graecus*(Boiss. & Spruner) Franco & P.Silva**

13 Herb. Gangale & Uzunov, Herb. Majella, HLUC

Note- This taxon was recently discovered in Basilicata at Sasso di Castalda (Rosati et al. 2017).

+CAM**

***Medicago × varia* Martyn**

[*M. falcata* L. × *M. sativa* L.]

1 Herb. Gangale & Uzunov

7 SIENA

Medicago falcata* L. subsp. *falcata

[≡ *M. sativa* L. subsp. *falcata* (L.) Arcang.]

1 Herb. Cancellieri, HLUC

2 Herb. Caruso, CLU, Herb. Lattanzi, Herb. Salerno, UTV

7 Herb. Tilia, HLUC

16 HLUC

+CAM**

***Medicago glutinosa* M. Bieb.**

1 Herb. Majella

Note- The Italian distribution of this taxon includes Lombardia, Veneto, Liguria, Toscana and no longer recorded in Emilia-Romagna, while it is considered doubtful in Umbria, Marche and Calabria (Bartolucci et al. 2018a). Therefore, our findings confirm its presence in southern Italy.

***Medicago lupulina* L.**

1 UTV

2 HLUC

5 CAM HFLA

7 Herb. Gangale & Uzunov

10 Herb. Carli

12 Herb. Carli

16 HLUC

***Medicago minima* (L.) L.**

1 Herb. Gangale & Uzunov, HLUC, PAD, PORUN-Herb. Stinca

5 BAS Herb. Cancellieri, UTV

5 CAM HFLA

7 CLU, Herb. Gangale & Uzunov, Herb. Tilia, PI

18 CLU

+CAM**

***Medicago muricoleptis* Tineo**

3 Herb. Lattanzi, UTV

8 CLU, Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Salerno, Herb. Tilia, HFLA, PORUN-Herb. Stinca, UTV

***Medicago orbicularis* (L.) Bartal.**

1 Herb. Lattanzi, PORUN-Herb. Stinca

10 PORUN-Herb. Stinca

16 Herb. Cancellieri

***Medicago polymorpha* L.**

1 Herb. Lattanzi, PAD, PORUN-Herb. Stinca

2 Herb. Caruso

5 BAS SIENA

5 CAM UTV

8 BI

10 PORUN-Herb. Stinca

11 CLU

***Medicago rigidula* (L.) All.**

1 GE, Herb. Cancellieri, Herb. Gangale & Uzunov, PORUN-Herb. Stinca

16 Herb. Gangale & Uzunov

A NAT (CAM)

A NAT (BAS)

ARC

***Medicago sativa* L.**

7 PORUN-Herb. Stinca

16 Herb. Gangale & Uzunov

***Medicago scutellata* (L.) Mill.**

3 Herb. Cancellieri, Herb. Lattanzi, UTV

7 BI, Herb. Cancellieri, Herb. Tilia

***Medicago truncatula* Gaertn.**

1 Herb. Cancellieri, PORUN-Herb. Stinca

7 Herb. Cancellieri, Herb. Tilia

8 CLU

***Onobrychis aequidentata* (Sm.) d'Urv.**

5 CAM CLU, HLUC, UTV

7 Herb. Cancellieri

Onobrychis alba* (Waldst. & Kit.) Desv. subsp. *alba

3 APP, CLU

- Onobrychis caput-galli* (L.) Lam.**
2 PORUN-Herb. Stinca
5 CAM GE, HLUC, UTV
7 Herb. Gangale & Uzunov, Herb. Tilia
- E ***Ononis oligophylla* Ten.**
8 APP, Herb. Lattanzi, Herb. Majella, Herb. Salerno, IS, PAD, PI, TO, UTV
- Ononis reclinata* L.**
7 APP, GE, Herb. Cancellieri, Herb. Gangale & Uzunov
- Ononis spinosa* L. subsp. *spinosa***
3 UTV
7 UTV
8 APP, BI, GE, Herb. Caruso, Herb. Gangale & Uzunov, Herb. Tilia, HLUC, PI, PORUN-Herb. Stinca
- Ononis viscosa* L. subsp. *breviflora* (DC.) Nyman**
3 APP, CLU, GE, Herb. Cancellieri, Herb. Lattanzi, HLUC, PI, UTV
5 BAS UTV
10 PI, PORUN-Herb. Stinca
- Ornithopus compressus* L.**
13 APP, GE, Herb. Cancellieri, Herb. Gangale & Uzunov
- A INV (CAM) ***Robinia pseudoacacia* L.**
A INV (BAS) **3** TO
NEO **16** PORUN-Herb. Stinca
- Scorpiurus subvillosus* L.**
2 Herb. Caruso, Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca
3 APP, GE, Herb. Cancellieri, SIENA
5 CAM UTV
7 Herb. Tilia, UTV

***Spartium junceum* L.**

7 Herb. Salerno

***Sulla coronaria* (L.) B.H.Choi & H.Ohashi**

2 PORUN-Herb. Stinca

Trifolium angustifolium* L. subsp. *angustifolium

1 Herb. Salerno, PORUN-Herb. Stinca

2 Herb. Caruso

5 CAM CLU, UTV

7 Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Tilia, UTV

8 Herb. Cancellieri, Herb. Lattanzi, Herb. Majella, Herb. Salerno, Herb. Tilia

18 Herb. Lattanzi, UTV

Trifolium arvense* L. subsp. *arvense

5 CAM UTV

7 HLUC

13 Herb. Cancellieri

16 Herb. Tilia, HLUC, UTV

***Trifolium campestre* Schreb.**

1 Herb. Cancellieri, Herb. Lattanzi, PAD, PORUN-Herb. Stinca, UTV

2 HLUC

4 HLUC

5 CAM HFLA

7 Herb. Carli, Herb. Salerno, HLUC, PAD

8 Herb. Lattanzi, PORUN-Herb. Stinca, UTV

10 HLUC

13 Herb. Cancellieri

16 Herb. Cancellieri, HLUC

18 Herb. Lattanzi, HLUC, UTV

***Trifolium cherleri* L.**

7 Herb. Cancellieri, Herb. Salerno, Herb. Tilia, UTV

8 PAD

***Trifolium glomeratum* L.**

5 BAS Herb. Cancellieri, UTV

5 CAM HFLA

7 Herb. Gangale & Uzunov, Herb. Salerno, PORUN-Herb. Stinca, UTV

13 GE, UTV

18 UTV

***Trifolium incarnatum* L. subsp. *molinerii* (Balb. ex Hornem.) Ces.**

2 Herb. Caruso

4 Herb. Gangale & Uzunov, HLUC, PAD, PORUN-Herb. Stinca

7 Herb. Salerno, Herb. Tilia, HLUC, UTV

8 PAD

10 Herb. Salerno, HLUC, UTV

11 Herb. Lattanzi

12 Herb. Tilia, UTV

13 Herb. Cancellieri

16 Herb. Cancellieri

Note- Some specimens collected in the sites Nr. 4 (Herb. Majella) and Nr. 11 (PORUN-Herb. Stinca) shows intermediate characters between the subsp. *incarnatum* and subsp. *molinerii* (Balb. ex Hornem.) Ces.

***Trifolium lappaceum* L.**

3 APP, CLU, GE, Herb. Cancellieri, Herb. Lattanzi, Herb. Salerno, HLUC, PI, UTV

8 BI, Herb. Cancellieri, Herb. Tilia, HFLA, UTV

18 Herb. Salerno, UTV

***Trifolium leucanthum* M.Bieb.**

8 Herb. Tilia, UTV

10 CLU, Herb. Cancellieri, Herb. Lattanzi, UTV

11 Herb. Tilia, UTV

16 Herb. Gangale & Uzunov

***Trifolium lucanicum* Gasp. ex Guss.**

[≡ *T. scabrum* L. subsp. *lucanicum* (Gasp. ex Guss.) Pignatti]

16 Herb. Gangale & Uzunov, Herb. Salerno, HLUC, UTV

***Trifolium micranthum* Viv.**

11 UTV

***Trifolium multistriatum* W.D.J.Koch**

5 CAM CLU, UTV

Note- The observations made during this study allowed Scoppola et al. (2016) to confirm the presence of this species in Campania.

Trifolium nigrescens* Viv. subsp. *nigrescens

5 BAS APP, Herb. Salerno, UTV

5 CAM HFLA

18 UTV

***Trifolium obscurum* Savi**

3 UTV

18 UTV

***Trifolium ochroleucon* Huds.**

5 BAS Herb. Cancellieri

8 Herb. Cancellieri

10 Herb. Cancellieri, HFLA

11 BI

12 UTV

***Trifolium pallidum* Waldst. & Kit.**

1 PI

2 HLUC

3 GE, Herb. Lattanzi, HLUC, PAD, UTV

5 CAM CLU, Herb. Lattanzi

7 PI

8 Herb. Carli, Herb. Gangale & Uzunov, Herb. Lattanzi, Herb. Salerno, Herb. Tilia, HLUC, IS, SIENA, UTV

10 Herb. Cancellieri, Herb. Tilia

11 Herb. Tilia

18 UTV

Trifolium pratense* L. subsp. *pratense

1 Herb. Lattanzi

4 Herb. Gangale & Uzunov, Herb. Lattanzi

5 BAS PORUN-Herb. Stinca, UTV

11 Herb. Lattanzi

13 HLUC

18 Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca, UTV

Note - In the sites Nr. 5 BAS (PORUN-Herb. Stinca, UTV) and Nr. 18 (HLUC, PORUN-Herb. Stinca), individuals classified as var. *sativum* Schreb. [= *T. pratense* L. subsp. *sativum* (Schreb.) Schuebl. & Mart.] have been found. However, the most of the authors do not attribute taxonomic value to this variety.

***Trifolium repens* L.**

[= *T. repens* L. subsp. *prostratum* Nyman]

5 CAM UTV

7 UTV

8 UTV

11 Herb. Lattanzi, UTV

***Trifolium resupinatum* L.**

1 Herb. Cancellieri, Herb. Lattanzi, PAD, UTV

5 BAS Herb. Salerno

7 Herb. Salerno, UTV

8 Herb. Carli, HLUC, UTV

10 Herb. Carli

11 Herb. Carli, Herb. Lattanzi, PAD, UTV

15 HFLA

18 Herb. Lattanzi, UTV

***Trifolium scabrum* L.**

- 1** Herb. Cancellieri, PORUN-Herb. Stinca
3 CLU, Herb. Cancellieri, UTV
5 BAS Herb. Cancellieri, Herb. Salerno, UTV
5 CAM HFLA
7 UTV
13 Herb. Cancellieri
18 UTV

***Trifolium sebastiani* Savi**

- 5 CAM** UTV

***Trifolium squamosum* L.**

- 3** CLU, GE, Herb. Lattanzi
5 CAM CLU
8 CLU, Herb. Cancellieri, Herb. Tilia, UTV
10 Herb. Lattanzi,
11 CLU, Herb. Lattanzi, Herb. Tilia, UTV
12 Herb. Lattanzi
18 UTV

***Trifolium squarrosum* L.**

- 3** APP, GE, Herb. Lattanzi, HLUC, PAD, PORUN-Herb. Stinca, UTV
5 BAS Herb. Salerno
10 CLU, Herb. Carli, Herb. Tilia
16 HLUC
18 Herb. Lattanzi, UTV

***Trifolium stellatum* L.**

- 1** Herb. Gangale & Uzunov, PORUN-Herb. Stinca
7 HLUC, UTV
8 Herb. Salerno
10 HLUC
16 UTV

Trifolium striatum* L. subsp. *striatum

7 Herb. Salerno, UTV

8 Herb. Cancellieri

10 Herb. Salerno, PORUN-Herb. Stinca

***Trifolium striatum* L. subsp. *tenuiflorum* (Ten.) Arcang.**

5 CAM UTV

10 CLU, Herb. Lattanzi, PAD, UTV

***Trifolium strictum* L.**

8 UTV

13 Herb. Cancellieri, UTV

***Trifolium subterraneum* L. subsp. *oxaloides* Nyman**

1 GE, Herb. Salerno

3 UTV

5 CAM UTV

7 UTV

8 APP

11 UTV

18 UTV

Note- This taxon was recently confirmed for Campania just outside our study area by Del Guacchio (2010): “Lacedonia (Avellino), loc. Putilicchio”.

***Trifolium tomentosum* L.**

1 GE, Herb. Cancellieri, Herb. Majella, Herb. Salerno, PAD, PORUN-Herb. Stinca

3 CLU, GE

8 UTV

***Trifolium vesiculosum* Savi**

5 CAM CLU

***Trigonella alba* (Medik.) Coulot & Rabaute**

[≡ *Melilotus albus* Medik.]

1 SIENA

3 PI

***Trigonella altissima* (Thuill.) Coulot & Rabaute**

[≡ *Melilotus altissimus* Thuill.]

9 PORUN-Herb. Stinca

***Trigonella sulcata* (Desf.) Coulot & Rabaute**

[≡ *Melilotus sulcatus* Desf.; = *M. neapolitanus* Ten.]

1 PAD, PORUN-Herb. Stinca, SIENA

3 APP, BI, CLU, GE, Herb. Cancellieri, Herb. Lattanzi, PAD, UTV

7 Herb. Tilia

8 GE, Herb. Salerno, Herb. Tilia, HFLA

10 Herb. Cancellieri, PORUN-Herb. Stinca

11 Herb. Lattanzi

16 HLUC, UTV

***Trigonella wojciechowskii* Coulot & Rabaute**

[– *Melilotus neapolitanus* auct.]

16 Herb. Cancellieri, Herb. Carli, Herb. Tilia, UTV

***Vicia angustifolia* L.**

[= *V. sativa* L. subsp. *nigra* (L.) Ehrh.]

7 CLU, Herb. Tilia

***Vicia bithynica* (L.) L.**

3 Herb. Cancellieri, Herb. Lattanzi, UTV

7 BI, Herb. Cancellieri, Herb. Gangale & Uzunov, HFLA, UTV

8 Herb. Gangale & Uzunov, Herb. Salerno, PI

10 UTV

11 Herb. Lattanzi, PI, PORUN-Herb. Stinca

- A CAS (BAS)
ARC
- Vicia cassubica* L.**
11 PI
- Vicia faba* L.**
5 BAS PORUN-Herb. Stinca
- Vicia grandiflora* Scop.**
5 BAS BI
18 GE, Herb. Cancellieri, Herb. Gangale & Uzunov, HLUC, PI, SIENA
- Vicia hybrida* L.**
1 Herb. Gangale & Uzunov
7 CLU, Herb. Tilia
- Vicia lutea* L.**
3 Herb. Cancellieri
- Vicia onobrychioides* L.**
13 APP, GE, Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Majella, HLUC, PORUN-Herb. Stinca
- Vicia sepium* L.**
12 Herb. Salerno, UTV
- Vicia serratifolia* Jacq.**
[≡ *V. narbonensis* L. subsp. *serratifolia* (Jacq.) Ces.]
5 BAS Herb. Cancellieri, Herb. Salerno, PORUN-Herb. Stinca, TO
Note- This taxon was recently confirmed in Campania at Padula (Rosati et al. 2017).
- Vicia villosa* Roth group**
8 APP, GE, Herb. Gangale & Uzunov, HFLA, HLUC, PI
11 CLU, Herb. Salerno
Note- The specimens collected shows intermediate characters between *Vicia dasycarpa* Ten. and *Vicia villosa* Roth.

FAGACEAE

***Castanea sativa* Mill.**

7 BI, HLUC, PORUN-Herb. Stinca, SIENA

Fagus sylvatica* L. subsp. *sylvatica

12 Herb. Caruso, Herb. Salerno, PORUN-Herb. Stinca

***Quercus cerris* L.**

2 Herb. Caruso

4 PORUN-Herb. Stinca

7 HLUC, IS

10 Herb. Gangale & Uzunov

12 Herb. Salerno

15 IS

Quercus ilex* L. subsp. *ilex

18 HLUC

Quercus pubescens* Willd. subsp. *pubescens

2 PORUN-Herb. Stinca

7 Herb. Salerno, HLUC, IS

10 IS

GENTIANACEAE

Blackstonia perfoliata* (L.) Huds. subsp. *perfoliata

1 Herb. Caruso

2 PORUN-Herb. Stinca

7 APP, Herb. Gangale & Uzunov, HLUC, PAD, UTV

8 APP, GE, Herb. Caruso, Herb. Salerno, HLUC, IS, PI

Centaurium erythraea* Rafn subsp. *erythraea

2 HLUC

5 BAS BI, TO

7 SIENA

GERANIACEAE

***Erodium botrys* (Cav.) Bertol.**

13 Herb. Gangale & Uzunov

***Erodium cicutarium* (L.) L'Hér.**

7 Herb. Cancellieri, Herb. Gangale & Uzunov, PORUN-Herb. Stinca, TO

Erodium malacoides* (L.) L'Hér. subsp. *malacoides

1 TO

3 TO

Geranium asphodeloides* Burm.f. subsp. *asphodeloides

7 GE

12 APP, CLU, Herb. Carli, Herb. Lattanzi, Herb. Tilia, IS, PI, SIENA, TO, UTV

13 HFLA

***Geranium columbinum* L.**

7 CLU, Herb. Gangale & Uzunov, PORUN-Herb. Stinca, TO

***Geranium dissectum* L.**

3 TO

***Geranium lucidum* L.**

7 Herb. Cancellieri, Herb. Salerno, HLUC, PORUN-Herb. Stinca, TO

10 Herb. Gangale & Uzunov

12 TO

18 TO

***Geranium molle* L.**

1 Herb. Gangale & Uzunov, HLUC, TO

5 **BAS** PORUN-Herb. Stinca

7 TO

***Geranium purpureum* Vill.**

7 PORUN-Herb. Stinca

13 HLUC

Geranium pyrenaicum* Burm.f. subsp. *pyrenaicum

1 TO

12 TO

13 Herb. Gangale & Uzunov

***Geranium robertianum* L.**

7 TO

12 TO

18 TO

***Geranium rotundifolium* L.**

1 TO

5 BAS PAD

7 TO

16 Herb. Gangale & Uzunov

***Geranium sanguineum* L.**

4 Herb. Majella, HLUC, PORUN-Herb. Stinca

10 Herb. Gangale & Uzunov

11 HLUC

12 PAD

13 Herb. Majella, HLUC, PORUN-Herb. Stinca

***Geranium sylvaticum* L.**

13 Herb. Gangale & Uzunov

***Geranium versicolor* L.**

7 HFLA, HLUC, PORUN-Herb. Stinca, UTV

12 APP, PAD, SIENA, TO

13 HLUC

HELIOTROPIACEAE

***Heliotropium europaeum* L.**

5 BAS PORUN-Herb. Stinca

5 CAM HFLA

HYDRANGEACEA

+CAM**

A CAS (CAM)
NEO

***Philadelphus coronarius* L.**

1 CLU

HYPERICACEAE

***Hypericum montanum* L.**

13 Herb. Cancellieri, Herb. Gangale & Uzunov, PORUN-Herb. Stinca

18 Herb. Cancellieri

***Hypericum perforatum* L.**

1 BI

13 APP, HLUC

16 Herb. Carli

18 SIENA, UTV

***Hypericum perforatum* L. subsp. *veronense* (Schrank) Ces.**

1 Herb. Caruso, Herb. Gangale & Uzunov, PI

5 BAS PORUN-Herb. Stinca, SIENA

10 HLUC

16 Herb. Gangale & Uzunov, Herb. Tilia

IRIDACEAE

***Chamaeiris lorea* (Janka) Peruzzi, F.Conti & Bartolucci**

[≡ *Iris lorea* Janka; = *I. collina* N.Terracc.]

3 APP, PI, PORUN-Herb. Stinca, SIENA

18 Herb. Salerno

Note- This taxon was recently confirmed for Campania and reported in the study area by Del Guacchio (2007, sub *Iris lorea* Janka): "Aquilonia (Avellino), Bosco di Sassano, nei pressi della stazione".

- E ***Crocus biflorus* Mill.**
1 HLUC
5 CAM HLUC
Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).
- E ***Crocus imperati* Ten.**
1 PORUN-Herb. Stinca
Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).
- C (CAM)
C (BAS) ***Gladiolus italicus* Mill.**
7 Herb. Gangale & Uzunov, HFLA
8 PI
10 Herb. Tilia
- Hermodactylus tuberosus* (L.) Mill.**
5 CAM HLUC
18 HLUC
- Romulea columnae* Sebast. & Mauri**
12 APP
16 PI

JUNCACEAE

- Juncus articulatus* L. subsp. *articulatus***
5 BAS APP
7 Herb. Salerno, PORUN-Herb. Stinca
9 PORUN-Herb. Stinca
- Juncus hybridus* Brot.**
5 BAS PAD
5 CAM UTV
7 APP, PORUN-Herb. Stinca

***Luzula forsteri* (Sm.) DC.**

4 PORUN-Herb. Stinca

7 Herb. Majella, HLUC, PORUN-Herb. Stinca

Luzula multiflora* (Ehrh.) Lej. subsp. *multiflora

13 Herb. Gangale & Uzunov

E

***Luzula sylvatica* (Huds.) Gaudin subsp. *sicula* (Parl.) K.Richt.**

12 APP, Herb. Carli, Herb. Lattanzi, HLUC, IS, UTV

13 Herb. Cancellieri, Herb. Gangale & Uzunov, HFLA, HLUC

LAMIACEAE

Ajuga chamaepitys* (L.) Schreb. subsp. *chamaepitys

1 SIENA

2 Herb. Caruso

3 CLU, Herb. Cancellieri, Herb. Lattanzi, Herb. Salerno

7 CLU, GE, Herb. Gangale & Uzunov, Herb. Tilia, HFLA, IS, PORUN-Herb. Stinca, TO, UTV

18 Herb. Gangale & Uzunov

***Ajuga reptans* L.**

12 PORUN-Herb. Stinca, TO

13 Herb. Gangale & Uzunov

18 Herb. Gangale & Uzunov

***Ballota nigra* L. subsp. *uncinata* (Bég.) Patzak**

1 APP, Herb. Gangale & Uzunov, Herb. Salerno, HLUC, PI, SIENA, TO

2 Herb. Caruso

8 HLUC

18 PORUN-Herb. Stinca

***Clinopodium vulgare* L. subsp. *arundanum* (Boiss.) Nyman**

4 PORUN-Herb. Stinca

18 Herb. Cancellieri

Clinopodium vulgare* L. subsp. *vulgare

2 Herb. Caruso

10 PI

Lamium bifidum* Cirillo subsp. *bifidum

18 PORUN-Herb. Stinca

***Lamium flexuosum* Ten.**

7 APP, UTV

12 Herb. Tilia, SIENA

13 Herb. Gangale & Uzunov, HLUC

Lamium garganicum* L. subsp. *garganicum

16 Herb. Gangale & Uzunov, Herb. Salerno, TO

***Lamium purpureum* L.**

1 HLUC

***Lycopus europaeus* L.**

5 BAS SIENA, TO

2 PORUN-Herb. Stinca

***Marrubium vulgare* L.**

1 APP, Herb. Caruso, PI, PORUN-Herb. Stinca, TO

2 Herb. Caruso

8 Herb. Caruso, HLUC

+BAS** C (BAS)

Melissa officinalis* L. subsp. *officinalis

18 Herb. Salerno

***Melittis melissophyllum* L. subsp. *albida* (Guss.) P.W.Ball**

4 APP, Herb. Gangale & Uzunov, HLUC, PAD, PI, PORUN-Herb. Stinca

7 HLUC

13 GE, HLUC, TO, UTV

Mentha aquatica* L. subsp. *aquatica

2 PORUN-Herb. Stinca

***Micromeria graeca* (L.) Benth. ex Rchb. s.l.**

1 APP, BI, Herb. Caruso, PI, PORUN-Herb. Stinca, TO

7 BI, CLU, Herb. Cancellieri, Herb. Tilia, HFLA, PAD, UTV

16 CLU, Herb. Salerno, HLUC, PORUN-Herb. Stinca, TO

Note- Micromeria graeca complex is a critical group well known for its remarkable morphological variation that led to recognition for Italian flora six subspecies (Bartolucci et al. 2018a). However, the diacritical characters between these subspecies are not well defined and further investigations aimed to clarify the taxonomic value of these subspecies are needs. For these reasons, at present the attribution to the intraspecific rank of the collected samples in the study area is not possible.

***Origanum vulgare* L. subsp. *viridulum* (Martrin-Donos) Nyman**

[= *O. heracleoticum* L.]

1 UTV

3 Herb. Salerno

18 Herb. Carli

Phlomis herba-venti* L. subsp. *herba-venti

2 PORUN-Herb. Stinca

3 APP, GE, Herb. Salerno, PI, TO

7 PI

8 APP, GE, Herb. Cancellieri, Herb. Caruso, Herb. Gangale & Uzunov, Herb. Lattanzi, Herb. Majella, Herb. Tilia, IS, PORUN-Herb. Stinca, SIENA

***Prunella laciniata* (L.) L.**

2 Herb. Gangale & Uzunov

7 Herb. Cancellieri, Herb. Caruso, Herb. Gangale & Uzunov, PORUN-Herb. Stinca, SIENA, TO

8 IS

11 PORUN-Herb. Stinca

Prunella vulgaris* L. subsp. *vulgaris

5 BAS BI

7 Herb. Cancellieri, Herb. Carli, Herb. Gangale & Uzunov, Herb. Tilia, HLUC, PORUN-Herb. Stinca, TO

18 Herb. Gangale & Uzunov, PORUN-Herb. Stinca, TO

Salvia pratensis* L. subsp. *pratensis

18 CLU

***Salvia verbenaca* L.**

7 Herb. Gangale & Uzunov

8 HFLA

Scutellaria columnae* All. subsp. *columnae

5 BAS PAD

18 CLU, Herb. Gangale & Uzunov, HLUC, PI, PORUN-Herb. Stinca, TO

Stachys germanica* L. subsp. *germanica

7 Herb. Majella

***Stachys germanica* L. subsp. *salviifolia* (Ten.) Gams**

1 APP, PI

5 BAS PORUN-Herb. Stinca

8 Herb. Tilia, HLUC

10 HLUC

16 APP, HLUC, TO

***Stachys heraclea* All.**

2 Herb. Caruso, Herb. Majella, PORUN-Herb. Stinca

3 APP, CLU, Herb. Cancellieri, PI, PORUN-Herb. Stinca, SIENA

7 Herb. Gangale & Uzunov, HFLA

8 Herb. Cancellieri, Herb. Caruso, HLUC, PI

10 PORUN-Herb. Stinca

18 CLU

***Stachys romana* (L.) E.H.L.Krause**

[≡ *Sideritis romana* L. subsp. *romana*]

3 UTV

7 APP, Herb. Gangale & Uzunov, Herb. Majella, PAD, TO

***Stachys sylvatica* L.**

13 Herb. Gangale & Uzunov

18 Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca, TO, UTV

Teucrium capitatum* L. subsp. *capitatum

5 BAS SIENA, UTV

7 APP, Herb. Gangale & Uzunov, HLUC, IS, PORUN-Herb. Stinca

Teucrium chamaedrys* L. subsp. *chamaedrys

1 Herb. Salerno, PORUN-Herb. Stinca, TO

7 TO

8 Herb. Salerno, IS

12 Herb. Tilia

18 SIENA

Teucrium flavum* L. subsp. *flavum

16 APP, Herb. Cancellieri, Herb. Gangale & Uzunov, HLUC, PAD, PORUN-Herb. Stinca

Teucrium fruticans* L. subsp. *fruticans

1 Herb. Caruso

2 Herb. Caruso

Note- This taxon was found in anthropic environments and probably spread by the seeds of nearby cultivated plants.

***Teucrium montanum* L.**

12 Herb. Carli, Herb. Salerno, UTV

13 HFLA

Thymus longicaulis* C.Presl subsp. *longicaulis

11 APP, PORUN-Herb. Stinca

12 APP, CLU, PAD

E

***Thymus picentinus* (Lacaita) Bartolucci**

13 APP, Herb. Gangale & Uzunov, PORUN-Herb. Stinca

Note- This taxon received the conservation status DD (data deficient) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018). The specimens collected during this study allowed Bartolucci & Mráz (2016) to ascertain the presence of this species and to re-evaluate its taxonomic status.

Thymus striatus* Vahl subsp. *striatus

12 APP, CLU, Herb. Tilia, HLUC, PORUN-Herb. Stinca, UTV

13 HFLA

+BAS**

Thymus* × *korpii* Ronniger nothosubsp. *korpii

[*Th. longicaulis* C.Presl subsp. *longicaulis* × *Th. striatus* Vahl subsp. *striatus*]

12 PORUN-Herb. Stinca, UTV

Note- This taxon was recently discovered for Italy in Campania at Padula (Rosati et al. 2017, sub *Thymus longicaulis* C. Presl × *Thymus striatus* Vahl).

***Ziziphora granatensis* (Boiss. & Reut.) Melnikov s.l.**

[= *Acinos alpinus* (L.) Moench s.l.; = *Clinopodium alpinum* (L.) Kuntze s.l.]

1 APP, PAD, PI, PORUN-Herb. Stinca, TO

2 PI

4 Herb. Gangale & Uzunov

5 BAS TO

7 PORUN-Herb. Stinca, TO

8 APP, BI, HFLA, HLUC, PAD, PORUN-Herb. Stinca

11 APP

12 APP, BI, CLU, Herb. Carli, PORUN-Herb. Stinca

13 APP, Herb. Gangale & Uzunov

16 PORUN-Herb. Stinca, TO

Note- *Ziziphora granatensis* complex is a critical group well known for its remarkable morphological variation that led to recognition for Italian flora three (Bartolucci et al. 2018a) or two subspecies (Bartolucci et al. 2019b). However, the diacritical characters between these subspecies are not well

defined and further investigations aimed to understand its variability in Italy are needs. For these reasons, at present the attribution to the intraspecific rank of the collected samples in the study area is not possible.

LILIACEAE

***Lilium bulbiferum* L. subsp. *croceum* (Chaix) Jan**

12 Herb. Salerno, HLUC

18 PI

LINACEAE

***Linum strictum* L.**

[= *L. strictum* L. subsp. *spicatum* (Pers.) Nyman]

3 APP, BI, GE, Herb. Cancellieri

5 BAS BI, UTV

7 APP, BI, GE, Herb. Gangale & Uzunov, Herb. Majella, Herb. Tilia, HLUC, PORUN-Herb. Stinca, UTV

8 Herb. Gangale & Uzunov, Herb. Salerno

11 Herb. Tilia

***Linum trigynum* L.**

3 UTV

8 PI

***Linum usitatissimum* L. subsp. *angustifolium* (Huds) Thell.**

[= *L. bienne* Mill.]

5 BAS PAD

7 Herb. Gangale & Uzunov, HLUC, PI, PORUN-Herb. Stinca

8 CLU, Herb. Majella

12 Herb. Carli, Herb. Tilia, PAD

13 Herb. Gangale & Uzunov, Herb. Majella

LYTHRACEAE

***Lythrum hyssopifolia* L.**

5 BAS PAD

18 CLU

MALVACEAE

***Althaea cannabina* L.**

5 BAS SIENA

Malope malacoides* L. subsp. *malacoides

1 PAD, PI, UTV

2 HLUC, PORUN-Herb. Stinca

3 APP, GE, Herb. Cancellieri, Herb. Lattanzi, Herb. Salerno, PAD, PORUN-Herb. Stinca, SIENA

8 APP, Herb. Gangale & Uzunov, SIENA

***Malva moschata* L.**

12 Herb. Salerno

13 Herb. Gangale & Uzunov

***Malva setigera* K.F.Schimp. & Spenn.**

[= *Althaea hirsuta* L.]

8 PI, GE, Herb. Cancellieri, Herb. Salerno, Herb. Tilia

***Malva sylvestris* L.**

1 PORUN-Herb. Stinca

16 Herb. Gangale & Uzunov

***Tilia platyphyllos* Scop. subsp. *cordifolia* (Besser) C.K.Schneid.**

18 Herb. Salerno, HLUC

MORACEAE

***Ficus carica* L.**

1 PORUN-Herb. Stinca, SIENA

OLEACEAE

Fraxinus ornus* L. subsp. *ornus

5 BAS BI

16 Herb. Gangale & Uzunov, HLUC

18 Herb. Gangale & Uzunov, PI, PORUN-Herb. Stinca

***Ligustrum vulgare* L.**

4 Herb. Caruso, PORUN-Herb. Stinca

5 CAM HLUC

7 PI

18 BI, Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca, UTV

ONAGRACEAE

Circaea lutetiana* L. subsp. *lutetiana

13 PORUN-Herb. Stinca

Epilobium tetragonum* L. subsp. *tetragonum

5 BAS PAD

ORCHIDACEAE

***Anacamptis coriophora* (L.) R.M.Bateman, Pridgeon & M.W.Chase**

[≡ *Orchis coriophora* L.]

8 APP, PORUN-Herb. Stinca, SIENA, UTV

***Anacamptis morio* (L.) R.M.Bateman, Pridgeon & M.W.Chase**

[≡ *Orchis morio* L.]

7 PORUN-Herb. Stinca

***Anacamptis pyramidalis* (L.) Rich.**

[≡ *Orchis pyramidalis* L.]

1 PI

2 PORUN-Herb. Stinca

5 CAM Photo V.A. Romano

8 PORUN-Herb. Stinca

16 SIENA

18 Photo V.A. Romano (see Supplementary material S8)

Note - In the sites Nr. 2 (PORUN-Herb. Stinca, see Supplementary material S8) and Nr. 8 (PORUN-Herb. Stinca), individuals with white flowers classified as var. *nivea* P.Delforge have been found. However, the most of the authors do not attribute taxonomic value to this variety.

***Cephalanthera damasonium* (Mill.) Druce**

12 UTV (see Supplementary material S8)

***Cephalanthera longifolia* (L.) Fritsch**

12 APP

***Cephalanthera rubra* (L.) Rich.**

12 APP

***Dactylorhiza maculata* (L.) Soó subsp. *saccifera* (Brongn.) Diklić**

12 APP

***Dactylorhiza sambucina* (L.) Soó**

13 APP

***Epipactis microphylla* (Ehrh.) Sw.**

18 UTV

***Himantoglossum hircinum* (L.) Spreng.**

1 Photo V.A. Romano (see Supplementary material S8)

11 HLUC

12 Herb. Caruso, PORUN-Herb. Stinca, SIENA, UTV

***Neotinea tridentata* (Scop.) R.M.Bateman, Pridgeon & M.W.Chase**

[≡ *Orchis tridentata* Scop.]

12 PORUN-Herb. Stinca, SIENA

***Neottia nidus-avis*(L.) Rich.**

12 Photo V.A. Romano (see Supplementary material S8)

13 PORUN-Herb. Stinca

***Ophrys apifera* Huds.**

7 Photo V.A. Romano (see Supplementary material S8)

8 SIENA

10 PI

Note- In the sites Nr. 7 (Photo V.A. Romano, see Supplementary material S8), individuals classified as var. *fulvofusca* M.P.Grasso & Scrugli have been found. However, the most of the authors do not attribute taxonomic value to this variety.

+CAM**

***Ophrys funerea* Viv.**

8 APP

***Ophrys incubacea* Bianca**

7 PORUN-Herb. Stinca

E

***Ophrys lucana* P.Delforge, Devillers-Tersch. & Devillers**

7 PORUN-Herb. Stinca

Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

E

***Ophrys tenthredinifera* Willd. subsp. *neglecta* (Parl.) E.G.Camus**

11 APP, SIENA

12 Photo V.A. Romano (see Supplementary material S8)

***Orchis italica* Poir.**

7 PORUN-Herb. Stinca

Orchis mascula* (L.) L. subsp. *mascula

7 PORUN-Herb. Stinca

12 APP

***Orchis provincialis* Balb. ex Lam. & DC.**

7 PORUN-Herb. Stinca

Note - This taxon is indicated with the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Rossi et al. 2013).

***Orchis purpurea* Huds.**

7 PORUN-Herb. Stinca

***Serapias vomeracea* (Burm.f.) Briq.**

7 APP, PORUN-Herb. Stinca

8 APP, PORUN-Herb. Stinca, SIENA

OROBANCHACEAE

***Bellardia trixago* (L.) All.**

[≡ *Bartsia trixago* L.]

2 PAD, PORUN-Herb. Stinca

3 PAD, SIENA

5 BAS TO

7 Herb. Cancellieri, Herb. Gangale & Uzunov, HLUC, IS, PI, PORUN-Herb. Stinca, SIENA

8 IS, TO

10 Herb. Cancellieri, Herb. Tilia

***Bellardia viscosa* (L.) Fisch. & C.A.Mey.**

[≡ *Parentucellia viscosa* (L.) Caruel]

7 PI

***Euphrasia liburnica* Wettst.**

13 Herb. Cancellieri

***Euphrasia stricta* D.Wolff ex J.F.Lehm.**

12 PI, UTV

***Orobanche alba* Stephan ex Willd.**

13 APP, Herb. Gangale & Uzunov, HLUC

16 HLUC

***Orobanche amethystea* Thuill.**

15 APP

16 APP

***Orobanche artemisiae-campestris* Gaudin**

10 GE

13 GE

***Orobanche caryophyllacea* Sm.**

11 HLUC, PORUN-Herb. Stinca

12 CLU, Herb. Tilia, PORUN-Herb. Stinca

15 HFLA, PORUN-Herb. Stinca

***Orobanche hederæ* Vaucher ex Duby**

4 PORUN-Herb. Stinca

13 APP

18 CLU, HLUC, PI, PORUN-Herb. Stinca

***Orobanche minor* Sm.**

7 APP, HLUC

13 APP

+BAS**

***Orobanche teucrii* Holandre**

12 APP, SIENA, UTV

***Parentucellia latifolia* (L.) Caruel**

12 Herb. Tilia

***Phelipanche ramosa* (L.) Pomel**

[≡ *Orobanche ramosa* L.]

7 IS

***Phelipanche schultzi* (Mutel) Pomel**

[≡ *Orobanche schultzi* Mutel]

13 APP, HLUC

***Rhinanthus minor* L.**

8 PI

11 APP, CLU, HLUC, PORUN-Herb. Stinca

12 Herb. Tilia

***Rhinanthus wettsteinii* (Sterneck) Soó**

11 APP, PI

13 APP

OXALIDACEAE

C (CAM)

C (BAS)

***Oxalis corniculata* L.**

16 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

20 PORUN-Herb. Stinca

PAPAVERACEAE

***Chelidonium majus* L.**

7 Herb. Gangale & Uzunov

11 HLUC

12 Herb. Salerno

18 Herb. Gangale & Uzunov

Corydalis cava* (L.) Schweigg. & Körte subsp. *cava

18 PORUN-Herb. Stinca

Fumaria capreolata* L. subsp. *capreolata

18 Herb. Gangale & Uzunov

Fumaria officinalis* L. subsp. *officinalis

5 BAS PORUN-Herb. Stinca

		<i>Fumaria officinalis</i> L. subsp. <i>wirtgenii</i> (W.D.J.Koch) Arcang.
		7 PORUN-Herb. Stinca
+CAM**		<i>Papaver pinnatifidum</i> Moris
		7 Herb. Salerno
	C (CAM)	<i>Papaver rhoeas</i> L. subsp. <i>rhoeas</i>
	C (BAS)	1 PORUN-Herb. Stinca, SIENA
		5 BAS PORUN-Herb. Stinca
		18 PI

PLANTAGINACEAE

		<i>Cymbalaria muralis</i> G. Gaertn., B. Mey. & Scherb. subsp. <i>muralis</i>
		16 HLUC, SIENA
E		<i>Digitalis micrantha</i> Roth ex Schweigg.
		7 HLUC
		18 PI, SIENA
		<i>Kickxia commutata</i> (Bernh. ex Rchb.) Fritsch subsp. <i>commutata</i>
		7 Herb. Gangale & Uzunov
E		<i>Linaria purpurea</i> (L.) Mill.
		7 GE, Herb. Salerno, HLUC, PAD, PORUN-Herb. Stinca
		8 PI
		<i>Note</i> - This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).
		<i>Plantago coronopus</i> L.
		8 Herb. Cancellieri, Herb. Majella, Herb. Tilia, HFLA
		<i>Plantago lanceolata</i> L.
		1 PORUN-Herb. Stinca
		4 PORUN-Herb. Stinca

8 Herb. Gangale & Uzunov, HFLA
15 HFLA
16 CLU, Herb. Gangale & Uzunov, PAD

***Plantago serraria* L.**

2 Herb. Gangale & Uzunov
4 PORUN-Herb. Stinca
7 UTV
8 Herb. Gangale & Uzunov, HLUC, IS
UTV

***Veronica agrestis* L.**

7 Herb. Cancellieri, IS
8 PI

Veronica anagallis-aquatica* L. subsp. *anagallis-aquatica

5 BAS PORUN-Herb. Stinca
7 PORUN-Herb. Stinca

***Veronica arvensis* L.**

4 PORUN-Herb. Stinca
7 APP, CLU, Herb. Carli, Herb. Gangale & Uzunov, Herb. Majella, IS, UTV
8 UTV

Veronica beccabunga* L. subsp. *beccabunga

5 BAS PAD, SIENA
7 CLU, Herb. Gangale & Uzunov, Herb. Salerno, IS, PORUN-Herb. Stinca, UTV
8 HLUC

Veronica chamaedrys* L. subsp. *chamaedrys

7 HFLA, HLUC, PORUN-Herb. Stinca
12 APP, PI
13 APP, Herb. Gangale & Uzunov

***Veronica hederifolia* L.**

1 PORUN-Herb. Stinca
12 Herb. Salerno
18 PORUN-Herb. Stinca

A INV (CAM)
NEO

***Veronica persica* Poir.**

7 PORUN-Herb. Stinca

***Veronica polita* Fr.**

1 PORUN-Herb. Stinca
7 CLU, Herb. Gangale & Uzunov, PORUN-Herb. Stinca, UTV

***Veronica serpyllifolia* L.**

18 PORUN-Herb. Stinca

PLUMBAGINACEAE

E

***Armeria macropoda* Boiss.**

13 APP, Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Majella, HLUC, PORUN-Herb. Stinca
Note- This taxon received the conservation status DD (data deficient) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

POACEAE

***Achnatherum bromoides* (L.) P. Beauv.**

[≡ *Stipa bromoides* (L.) Dorfl.]

5 BAS PAD
5 CAM CLU
18 HLUC, PORUN-Herb. Stinca, UTV

***Aira caryophyllea* L.**

13 GE, Herb. Cancellieri, Herb. Majella, HLUC

***Aira multiculmis* Dumort.**

[≡ *A. caryophyllea* L. subsp. *multiculmis* (Dumort.) Bonnier & Layens]

7 PORUN-Herb. Stinca

Alopecurus myosuroides* Huds. subsp. *myosuroides

5 BAS Herb. Cancellieri, PORUN-Herb. Stinca

3 Herb. Cancellieri

***Anisantha diandra* (Roth) Tutin ex Tzvelev**

[≡ *Bromus diandrus* Roth; = *B. gussonei* Parl.]

7 HLUC

Anisantha madritensis* (L.) Nevski subsp. *madritensis

[≡ *Bromus madritensis* L. subsp. *madritensis*]

1 Herb. Majella

7 BI, Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca

***Anisantha sterilis* (L.) Nevski**

[≡ *Bromus sterilis* L.]

1 PI

5 BAS PAD

7 Herb. Majella

11 Herb. Tilia

***Anisantha tectorum* (L.) Nevski**

[≡ *Bromus tectorum* L.]

1 PORUN-Herb. Stinca

***Anthoxanthum odoratum* L.**

4 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

7 HLUC

10 HLUC

11 PORUN-Herb. Stinca

12 HLUC

13 Herb. Majella

Arrhenatherum elatius*(L.) P.Beauv. ex J.Presl & C.Presl subsp. *elatius

- 3 Herb. Salerno
- 4 Herb. Majella, PORUN-Herb. Stinca
- 7 Herb. Cancellieri, Herb. Salerno, HLUC
- 8 HFLA
- 10 Herb. Carli
- 11 HLUC

***Arundo plinii* Turra**

- 9 PORUN-Herb. Stinca

***Avena barbata* Pott ex Link**

- 1 Herb. Caruso, PORUN-Herb. Stinca, UTV
- 7 HLUC

A NAT (CAM)
ARC

***Avena sterilis*L. subsp. *ludoviciana* (Durieu) Gillet & Magne**

- 3 Herb. Salerno

***Brachypodium distachyon* (L.) P.Beauv.**

[≡ *Trachynia distachya* (L.) Link]

- 2 PORUN-Herb. Stinca
- 7 Herb. Cancellieri, Herb. Majella, HLUC, PAD
- 8 Herb. Majella, PORUN-Herb. Stinca

***Brachypodium retusum* (Pers.) P.Beauv.**

- 8 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

***Brachypodium rupestre* (Host) Roem. & Schult.**

- 8 HFLA

Brachypodium sylvaticum* (Huds.) P.Beauv. subsp. *sylvaticum

- 7 APP, HLUC
- 18 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

***Briza maxima* L.**

- 1 HLUC, SIENA
- 2 PORUN-Herb. Stinca
- 4 HLUC, PORUN-Herb. Stinca
- 7 HLUC, PORUN-Herb. Stinca, TO
- 10 HLUC
- 13 HLUC
- 18 HLUC

***Briza media* L.**

- 8 BI, CLU, Herb. Carli, Herb. Gangale & Uzunov, Herb. Salerno, HLUC, PORUN-Herb. Stinca, SIENA, UTV

Bromopsis erecta* (Huds.) Fourr. subsp. *erecta

[≡ *Bromus erectus* Huds.]

- 7 APP, CLU, Herb. Gangale & Uzunov, Herb. Salerno, HFLA, PORUN-Herb. Stinca
- 8 HFLA, PORUN-Herb. Stinca
- 11 PORUN-Herb. Stinca
- 12 BI, Herb. Carli, PORUN-Herb. Stinca
- 13 HLUC
- 16 Herb. Gangale & Uzunov

***Bromopsis erecta* (Huds.) Fourr. subsp. *stenophylla* (Link) H.Scholz & Valdés**

- 13 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

Bromopsis ramosa* (Huds.) Holub subsp. *ramosa

[≡ *Bromus ramosus* Huds. subsp. *ramosus*]

- 18 CLU

Bromus commutatus* Schrad. subsp. *commutatus

- 11 Herb. Carli

Bromus hordeaceus* L. subsp. *hordeaceus

- 2 PORUN-Herb. Stinca

3 PAD, PORUN-Herb. Stinca

12 IS

+CAM**

+BAS**

***Bromus hordeaceus* L. subsp. *longipedicellatus* Spalton**

5 BAS PAD

10 Herb. Lattanzi

11 Herb. Tilia

Note- The Italian distribution of this taxon includes Lombardia and Sardegna (Bartolucci et al. 2018a). Therefore, our findings are the first in the peninsular Italy.

+CAM**

***Bromus hordeaceus* L. subsp. *molliformis* (J.Lloyd ex Billot) Maire & Weiller**

1 BI

11 BI

***Bromus hordeaceus* L. subsp. *thominei* (Hardouin) Braun-Blanq.**

7 Herb. Gangale & Uzunov

Note- *Bromus hordeaceus* complex is a critical group well known for its remarkable morphological variation that led to recognition for Italian flora five subspecies (Bartolucci et al. 2018a), four of which were observed in the study area. Further investigations aimed to clarify the taxonomic value of these subspecies are probably needs.

***Bromus intermedius* Guss.**

7 HLUC

8 HLUC

Catapodium rigidum* (L.) C.E.Hubb. subsp. *rigidum

1 APP, BI, Herb. Gangale & Uzunov, PORUN-Herb. Stinca, SIENA

7 Herb. Gangale & Uzunov, Herb. Majella, HFLA, HLUC, PORUN-Herb. Stinca

***Cynosurus cristatus* L.**

7 Herb. Cancellieri, HLUC

8 Herb. Salerno, PAD

11 BI, Herb. Carli, HLUC

***Cynosurus echinatus* L.**

1 BI, Herb. Majella, PORUN-Herb. Stinca, SIENA

4 APP, Herb. Majella, HLUC

7 Herb. Cancellieri, HLUC

8 IS

10 HLUC

11 HLUC

13 Herb. Majella, HLUC

18 Herb. Cancellieri, PORUN-Herb. Stinca

Dactylis glomerata* L. subsp. *glomerata

2 PORUN-Herb. Stinca

7 Herb. Gangale & Uzunov

18 BI, Herb. Cancellieri

***Dactylis glomerata* L. subsp. *hispanica* (Roth) Nyman**

1 Herb. Majella

2 PORUN-Herb. Stinca

3 Herb. Salerno, PORUN-Herb. Stinca

5 **BAS** UTV

7 HLUC, PORUN-Herb. Stinca

8 HLUC, IS, PORUN-Herb. Stinca

Note- Dactylis glomerata complex is a critical group well known for its remarkable morphological variation that led to recognition for Italian flora six subspecies (Bartolucci et al. 2018a), two of which were observed in the study area. Further investigations aimed to clarify the taxonomic value of these subspecies are probably needed. The specimens collected in site Nr. 11 (PORUN-Herb. Stinca) shows intermediate characters between the subsp. *glomerata* and subsp. *hispanica*.

***Dasypyrum villosum* (L.) P. Candargy**

1 Herb. Caruso, Herb. Salerno, HLUC, PORUN-Herb. Stinca

3 BI

7 HLUC

8 HLUC

E

***Drymochloa drymeja* (Mert. & W.D.J.Koch) Holub subsp. *exaltata* (C.Presl)**

Foggi & Signorini

[≡ *Festuca drymeja* Mert. & W.D.J.Koch subsp. *exaltata* (C.Presl) Asch. & Graebn]

12 APP, HLUC, UTV

13 APP, HFLA

18 CLU, Herb. Cancellieri, HLUC

Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

+CAM*

***Echinaria capitata* (L.) Desf.**

8 CLU, Herb. Cancellieri, Herb. Majella, Herb. Salerno, Herb. Tilia, HLUC, PORUN-Herb. Stinca, SIENA, UTV

***Elymus caninus* (L.) L.**

[≡ *Agropyron caninum* (L.) P.Beauv.]

18 CLU

Elymus repens* (L.) Gould subsp. *repens

[≡ *Agropyron repens* (L.) P.Beauv.]

1 UTV

2 Herb. Caruso

3 APP

8 Herb. Majella, PORUN-Herb. Stinca

18 BI, Herb. Carli, Herb. Gangale & Uzunov, Herb. Tilia

***Festuca circummediterranea* Patzke**

8 Herb. Salerno, HFLA, HLUC

12 Herb. Cancellieri, PAD, PORUN-Herb. Stinca

13 GE, Herb. Cancellieri, Herb. Gangale & Uzunov, HFLA

16 BI, Herb. Cancellieri, PAD, PI

***Festuca cyrnea* (Litard. & St.-Yves) Signorini, Foggi & Nardi**

15 HFLA

Festuca danthonii* Asch. & Graebn. subsp. *danthonii

[= *Vulpia ciliata* Dumort.]

1 Herb. Majella

3 PAD

7 Herb. Cancellieri, Herb. Majella, HLUC, PORUN-Herb. Stinca

***Festuca incurva* (Gouan) Gutermann**

[≡ *Psilurus incurvus* (Gouan) Schinz & Thell.]

7 Herb. Tilia

***Festuca laevigata* Gaudin**

13 Herb. Cancellieri

Festuca myuros* L. subsp. *myuros

[≡ *Vulpia myuros* (L.) C.C.Gmel. subsp. *myuros*]

7 Herb. Tilia, HLUC

10 Herb. Salerno, PORUN-Herb. Stinca

+CAM**

***Festuca stricta* Host subsp. *trachyphylla* (Hack.) Patzke ex Pils**

8 Herb. Cancellieri

***Gaudinia fragilis* (L.) P.Beauv.**

2 Herb. Majella, PORUN-Herb. Stinca

3 PAD

5 **BAS** Herb. Salerno

7 APP, GE, Herb. Majella, HFLA, PAD

8 GE, Herb. Cancellieri, Herb. Carli, Herb. Salerno, HLUC, IS

***Glyceria notata* Chevall.**

5 **BAS** SIENA

7 Herb. Carli, Herb. Salerno, PORUN-Herb. Stinca

8 Herb. Cancellieri

***Hainardia cylindrica* (Willd.) Greuter**

- 4** PORUN-Herb. Stinca
5 BAS Herb. Cancellieri
8 HLUC, UTV
18 CLU, Herb. Lattanzi

Holcus lanatus* L. subsp. *lanatus

- 1** Herb. Gangale & Uzunov, PORUN-Herb. Stinca
2 Herb. Majella
4 PORUN-Herb. Stinca
5 BAS PORUN-Herb. Stinca, SIENA
7 APP
8 Herb. Gangale & Uzunov, HLUC, IS

Holcus mollis* L. subsp. *mollis

- 5 BAS** PI

***Hordeum bulbosum* L.**

- 1** PAD, UTV
8 HLUC
11 BI, Herb. Salerno, HLUC, PORUN-Herb. Stinca
15 HFLA
18 CLU

***Hordeum geniculatum* All.**

[= *H. gussoneanum* Parl.]

- 3** APP, GE, Herb. Cancellieri, Herb. Salerno, PAD
8 APP, Herb. Cancellieri, Herb. Carli, Herb. Gangale & Uzunov, Herb. Majella, Herb. Salerno, Herb. Tilia, HFLA, HLUC, PI
PORUN-Herb. Stinca
10 Herb. Carli

Note- This taxon was recently discovered in Campania at Padula (Rosati et al. 2017).

- Hordeum murinum* L. subsp. *leporinum* (Link) Arcang.**
1 BI
- E ***Koeleria lucana* Brullo, Giusso & Miniss.**
12 BI, Herb. Lattanzi, Herb. Tilia, PORUN-Herb. Stinca
13 APP, Herb. Gangale & Uzunov, Herb. Majella, HFLA
Note- This taxon received the conservation status DD (data deficient) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).
- +BAS** ***Koeleria pyramidata* (Lam.) P.Beauv.**
12 HLUC
- Lagurus ovatus* L. subsp. *ovatus***
1 PORUN-Herb. Stinca, UTV
- Lolium multiflorum* Lam.**
[= *L. gaudinii* Parl.]
3 APP, PI, PORUN-Herb. Stinca
7 HLUC
- Lolium perenne* L.**
2 PORUN-Herb. Stinca
- Lolium rigidum* Gaudin subsp. *rigidum***
5 BAS APP
5 CAM HFLA
7 HLUC
11 BI, Herb. Tilia
- +IT
+CAM** ***Lolium ×boucheanum* Kunth**
[*L. perenne* L. × *L. multiflorum* Lam.]
3 PI
Note- A small population of this taxon was found in Monteverde (Avellino province) in a marginal areas.

***Melica transsilvanica* Schur subsp. *klokovii* Tzvelev**

1 PI

2 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

16 Herb. Carli, Herb. Salerno

***Melica uniflora* Retz.**

12 HLUC

13 PORUN-Herb. Stinca

18 PORUN-Herb. Stinca

Parapholis incurva* (L.) C.E.Hubb. subsp. *incurva

5 BAS Herb. Salerno

***Parapholis pycnantha* (Hack.) C.E.Hubb.**

8 Herb. Cancellieri, Herb. Carli, Herb. Majella, Herb. Salerno, Herb. Tilia, HFLA, PORUN-Herb. Stinca

Note- This taxon was recently confirmed for Campania just outside our study area by Del Guacchio (2007): “Calitri (Avellino), ampio sbancamento accanto ai tornanti che salgono verso il paese”.

A INV (BAS)
NEO

***Paspalum distichum* L.**

5 BAS Herb. Salerno, PORUN-Herb. Stinca, TO

9 PORUN-Herb. Stinca

+CAM*

***Phalaris aquatica* L.**

8 Herb. Salerno

***Phalaris coerulescens* Desf.**

2 APP, Herb. Gangale & Uzunov, Herb. Majella

3 CLU, PI, PORUN-Herb. Stinca

8 Herb. Cancellieri, Herb. Carli, Herb. Gangale & Uzunov, Herb. Salerno, HFLA, HLUC, PORUN-Herb. Stinca

+CAM*

***Phalaris truncata* Guss. ex Bertol.**

3 APP, Herb. Salerno, PAD, PORUN-Herb. Stinca, SIENA

8 CLU, Herb. Carli, Herb. Salerno, HLUC

***Phleum hirsutum* Honck. subsp. *ambiguum* (Ten.) Cif. & Giacom.**

1 APP, Herb. Majella, Herb. Salerno

2 Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca

4 HLUC

7 HFLA, HLUC, PORUN-Herb. Stinca, UTV

8 HLUC, PAD

10 HLUC

16 Herb. Gangale & Uzunov

18 Herb. Carli, Herb. Gangale & Uzunov, PORUN-Herb. Stinca

***Phleum nodosum* L.**

[= *P. bertolonii* DC.]

2 PAD

4 Herb. Gangale & Uzunov, Herb. Majella, PAD

7 Herb. Majella

10 Herb. Tilia

14 PORUN-Herb. Stinca

Phleum pratense* L. subsp. *pratense

1 PAD

7 Herb. Cancellieri

8 Herb. Salerno

Phleum subulatum* (Savi) Asch. & Graebn. subsp. *subulatum

5 BAS Herb. Cancellieri

5 CAM HFLA

Poa alpina* L. subsp. *alpina

13 Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Majella, PORUN-Herb. Stinca

Poa bulbosa* L. subsp. *bulbosa

8 Herb. Majella

12 Herb. Tilia

***Poa infirma* Kunth**

7 Herb. Majella

***Poa molinerii* Balb.**

7 CLU

Poa nemoralis* L. subsp. *nemoralis

7 PORUN-Herb. Stinca

11 PORUN-Herb. Stinca

Poa pratensis* L. subsp. *pratensis

7 Herb. Cancellieri

11 HLUC

***Poa sylvicola* Guss.**

7 Herb. Cancellieri, Herb. Majella, HLUC, PORUN-Herb. Stinca

18 Herb. Salerno

***Poa trivialis* L.**

7 CLU, Herb. Gangale & Uzunov, Herb. Salerno

Polypogon viridis* (Gouan) Breistr. subsp. *viridis

5 BAS APP, PORUN-Herb. Stinca

***Rostraria cristata* (L.) Tzvelev**

1 HLUC, PI, SIENA

5 BAS Herb. Cancellieri

5 CAM HFLA

8 Herb. Cancellieri

+CAM*

***Sclerochloa dura* (L.) P.Beauv.**

10 PORUN-Herb. Stinca

Sesleria juncifolia* Suffren subsp. *juncifolia

12 CLU, Herb. Cancellieri, Herb. Carli, Herb. Caruso, PAD, PORUN-Herb. Stinca, UTV

13 HFLA

E

Stipa austroitalica* Martinovský subsp. *austroitalica

2 Herb. Gangale & Uzunov, Herb. Majella, PORUN-Herb. Stinca

7 Herb. Cancellieri, HFLA, HLUC

Note- This taxon received the conservation status DD (data deficient) in the IUCN Red List of the Italian Flora (Rossi et al. 2013, Orsenigo et al. 2018).

***Triticum vagans* (Jord. & Fourr.) Greuter**

[= *Aegilops geniculata* Roth]

1 Herb. Caruso

2 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

3 PORUN-Herb. Stinca, SIENA

4 HLUC, PORUN-Herb. Stinca

5 **BAS** BI, SIENA

7 BI, Herb. Cancellieri, HLUC, PAD

8 Herb. Gangale & Uzunov, HLUC, PI, PORUN-Herb. Stinca

10 HLUC

11 HLUC

POLYGALACEAE

***Polygala monspeliaca* L.**

3 APP, Herb. Salerno

5 **BAS** APP

7 Herb. Cancellieri, Herb. Tilia, UTV

8 CLU, Herb. Gangale & Uzunov, Herb. Salerno, HLUC, PI, PORUN-Herb. Stinca

E

***Polygala nicaeensis* Risso ex W.D.J.Koch subsp. *peninsularis* Arrigoni**

11 APP

Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

POLYGONACEAE

Fallopia convolvulus(L.) Á.Löve

3 BI

5 **BAS** PORUN-Herb. Stinca

5 **CAM** HFLA

18 BI

Rumex acetosa L. subsp. *acetosa*

4 APP

7 PI

11 HLUC

12 SIENA

Rumex acetosella L. subsp. *multifidus*(L.) Schübl. & G.Martens

13 APP, Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Majella, HLUC

16 APP, Herb. Salerno, HLUC

Rumex crispus L.

1 Herb. Gangale & Uzunov, PI

8 HLUC

Rumex pulcher L. subsp. *pulcher*

2 PORUN-Herb. Stinca

Rumex sanguineus L.

18 CLU, Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca, UTV

+CAM*

Rumex thyrsoides Desf.

4 PORUN-Herb. Stinca

13 Herb. Majella

Note- The Italian distribution of this taxon includes Puglia, Basilicata, Calabria, Sicilia, Sardegna and it is no longer recorded in Lazio, while it is doubtful in Molise and Campania (Bartolucci et al. 2018a). Therefore, our findings confirm its presence in Campania.

POLYPODIACEAE

***Polypodium cambricum* L.**

18 Herb. Gangale & Uzunov, HLUC, PI

POTAMOGETONACEAE

***Potamogeton berchtoldii* Fieber**

2 APP, Herb. Majella, PI, PORUN-Herb. Stinca

PRIMULACEAE

Lysimachia arvensis* (L.) U.Manns & Anderb. subsp. *arvensis

[≡ *Anagallis arvensis* L. subsp. *arvensis*]

3 Herb. Cancellieri

7 APP, PI, PORUN-Herb. Stinca, TO

Primula vulgaris* Huds. subsp. *vulgaris

7 HLUC, PORUN-Herb. Stinca

RANUNCULACEAE

***Anemone apennina* L.**

10 HFLA

12 TO

13 Herb. Gangale & Uzunov, Herb. Majella

18 PORUN-Herb. Stinca

Anemone hortensis* L. subsp. *hortensis

1 HLUC, PORUN-Herb. Stinca

13 HLUC

16 HLUC

18 PORUN-Herb. Stinca

+EU A CAS (IT,
+IT CAM)
+CAM** NEO

***Aquilegia coerulea* E. James**

20 PORUN-Herb. Stinca, SIENA

Note - Taxon identification and nomenclature follow Whittemore (1997). A small population of this species was found in Aquilonia (Avellino province) in anthropogenic environments.

***Aquilegia dumeticola* Jord.**

12 APP, BI, PI, PORUN-Herb. Stinca

13 APP, HLUC, PORUN-Herb. Stinca

***Clematis flammula* L.**

5 CAM HLUC

16 Herb. Lattanzi

18 Herb. Lattanzi, Herb. Salerno, HLUC, PORUN-Herb. Stinca

***Clematis vitalba* L.**

5 BAS PORUN-Herb. Stinca

1 SIENA

16 HLUC

***Delphinium ajacis* L.**

5 BAS APP

+CAM**

Ficaria verna* Huds. subsp. *verna

18 PORUN-Herb. Stinca

Helleborus foetidus* L. subsp. *foetidus

5 BAS BI

7 Herb. Caruso, Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca

18 HLUC

***Helleborus viridis* L. subsp. *abruzzicus* (M. Thomsen, McLewin & B. Mathew)**

Bartolucci, F. Conti & Peruzzi

11 APP

***Hepatica nobilis* Mill.**

12 HLUC

***Nigella damascena* L.**

2 Herb. Gangale & Uzunov

3 PORUN-Herb. Stinca, TO, UTV

4 PORUN-Herb. Stinca

7 PI

8 IS

***Ranunculus bulbosus* L.**

[= *R. bulbosus* L. subsp. *aleae* (Willk.) Rouy & Foucaud]

3 CLU

***Ranunculus lanuginosus* L.**

12 TO

13 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

18 TO

***Ranunculus millefoliatus* Vahl**

8 Herb. Gangale & Uzunov

12 TO

18 PORUN-Herb. Stinca

Ranunculus monspeliacus* L. subsp. *monspeliacus

13 APP, Herb. Cancellieri, Herb. Gangale & Uzunov

***Ranunculus neapolitanus* Ten.**

3 TO

7 Herb. Gangale & Uzunov, TO

8 PI

11 TO

***Ranunculus repens* L.**

7 PORUN-Herb. Stinca

13 PORUN-Herb. Stinca

Thalictrum aquilegifolium* L. subsp. *aquilegifolium

13 PORUN-Herb. Stinca

RESEDACEAE

Reseda alba* L. subsp. *alba

1 HLUC, PORUN-Herb. Stinca

Reseda lutea* L. subsp. *lutea

1 Herb. Caruso, Herb. Gangale & Uzunov, PI, PORUN-Herb. Stinca, SIENA

3 APP, CLU

7 BI, Herb. Tilia, HLUC

8 PI

***Reseda luteola* L.**

7 PORUN-Herb. Stinca

ROSACEAE

Agrimonia eupatoria* L. subsp. *eupatoria

2 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

10 HLUC

***Aphanes arvensis* L.**

7 CLU, Herb. Salerno, Herb. Tilia, PORUN-Herb. Stinca, UTV

Aremonia agrimonoides* (L.) DC. subsp. *agrimonoides

12 PORUN-Herb. Stinca

***Crataegus laevigata* (Poir.) DC.**

2 APP

12 Herb. Salerno, PAD, UTV

18 Herb. Salerno

***Crataegus monogyna* Jacq.**

1 Herb. Caruso, PORUN-Herb. Stinca

2 Herb. Gangale & Uzunov, HLUC

5 **BAS** BI

7 HLUC, PORUN-Herb. Stinca

10 UTV

***Crataegus × media* Bech.**

[*C. laevigata* (Poir.) DC. × *C. monogyna* Jacq.]

12 UTV

18 UTV

Note- Taxon identification and nomenclature follow Christensen (1992).

***Filipendula vulgaris* Moench**

3 Herb. Cancellieri, PI, PORUN-Herb. Stinca, SIENA, UTV

4 Herb. Gangale & Uzunov, HLUC

10 HLUC

Fragaria vesca* L. subsp. *vesca

4 PORUN-Herb. Stinca

7 SIENA

12 Herb. Caruso, HLUC, PORUN-Herb. Stinca

***Geum urbanum* L.**

4 PORUN-Herb. Stinca

7 Herb. Cancellieri, Herb. Gangale & Uzunov, HLUC

8 PI

13 HLUC

18 Herb. Cancellieri, HLUC, PORUN-Herb. Stinca

***Malus sylvestris* (L.) Mill.**

7 PORUN-Herb. Stinca

12 Herb. Salerno

18 Herb. Salerno

A NAT (CAM) ***Mespilus germanica* L.**
A NAT (BAS) **7** Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Salerno, HFLA, HLUC, IS, PORUN-Herb.
ARC Stinca
10 CLU
11 CLU

E ***Potentilla calabra* Ten.**
13 APP, GE, Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Majella, HLUC, PORUN-Herb.
Stinca
Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

***Potentilla micrantha* Ramond ex DC.**
12 HLUC
18 Herb. Salerno

***Potentilla pedata* Willd. ex Hornem.**
[– *P. hirta* auct. Fl. Ital.]
2 Herb. Majella
3 APP, Herb. Cancellieri, PI
4 APP, PORUN-Herb. Stinca
5 **BAS** UTV
7 Herb. Cancellieri, Herb. Tilia, HFLA
16 UTV
18 Herb. Cancellieri

Potentilla recta* L. subsp. *recta
4 Herb. Gangale & Uzunov, Herb. Majella, PI, PORUN-Herb. Stinca
7 HFLA
11 BI, CLU, Herb. Tilia, PORUN-Herb. Stinca
16 CLU
Note- Some specimens collected in sites Nr. 3 (HLUC, UTV) and Nr. 16 (APP) shows intermediate characters between *Potentilla pedata* Willd. ex Hornem. and *Potentilla recta* L. subsp. *recta*.

***Poterium sanguisorba* L. subsp. *balearicum* (Bourg. ex Nyman) Stace**

[≡ *Sanguisorba minor* Scop. subsp. *balearica* (Bourg. ex Nyman) Muñoz Garm. & C.Navarro]

1 BI, Herb. Gangale & Uzunov, Herb. Majella

3 Herb. Salerno, SIENA

4 PORUN-Herb. Stinca

10 HLUC

12 PORUN-Herb. Stinca

A NAT (CAM)
ARC

***Prunus domestica* L.**

1 PORUN-Herb. Stinca

Prunus spinosa* L. subsp. *spinosa

1 Herb. Caruso

2 PORUN-Herb. Stinca

7 Herb. Salerno

10 Herb. Gangale & Uzunov

***Pyrus communis* L. subsp. *pyraster* (L.) Ehrh.**

4 PORUN-Herb. Stinca

12 Herb. Salerno

13 HLUC

18 PORUN-Herb. Stinca

***Pyrus spinosa* Forssk.**

[= *P. amygdaliformis* Vill.]

2 Herb. Majella, PORUN-Herb. Stinca

16 CLU, PORUN-Herb. Stinca

***Rosa agrestis* Savi**

1 Herb. Lattanzi

4 HLUC

7 Herb. Lattanzi, HLUC, UTV

8 Herb. Lattanzi

***Rosa andegavensis* Bastard**

2 HLUC

7 Herb. Lattanzi

8 HLUC

***Rosa arvensis* Huds.**

18 Herb. Caruso, Herb. Salerno

***Rosa balsamica* Besser**

7 Herb. Lattanzi

12 Herb. Lattanzi

***Rosa canina* L.**

1 Herb. Lattanzi, HLUC

2 PORUN-Herb. Stinca

5 **CAM** Herb. Lattanzi

7 Herb. Lattanzi, HLUC

8 HLUC, PI

16 Herb. Lattanzi

18 Herb. Lattanzi

***Rosa corymbifera* Borkh.**

2 HLUC

5 **CAM** Herb. Lattanzi

7 Herb. Gangale & Uzunov, Herb. Lattanzi, HLUC

16 Herb. Lattanzi

18 Herb. Lattanzi

***Rosa desglisei* Boreau**

3 Herb. Lattanzi

7 Herb. Lattanzi, UTV

18 Herb. Lattanzi

+CAM**

+BAS**

***Rosa micrantha* Borrer ex Sm.**

7 HFLA

8 Herb. Lattanzi, HFLA

***Rosa nitidula* Besser**

1 Herb. Lattanzi

4 HLUC

7 HLUC

8 Herb. Lattanzi

15 HFLA

***Rosa sempervirens* L.**

5 BAS PI

5 CAM Herb. Lattanzi

18 Herb. Lattanzi

***Rosa spinosissima* L.**

13 APP, Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Lattanzi, HLUC, PORUN-Herb. Stinca

***Rosa squarrosa* (A.Rau) Boreau**

1 Herb. Lattanzi, HLUC

4 HLUC

7 Herb. Gangale & Uzunov, Herb. Lattanzi, HLUC

16 HLUC

***Rosa subcanina* (Christ) Vuk.**

7 HLUC

11 HLUC

16 HLUC

***Rosa subcollina* (Christ) Vuk.**

2 HLUC

***Rubus canescens* DC.**

5 BAS PI, PORUN-Herb. Stinca

6 PORUN-Herb. Stinca

7 BI, GE, IS, UTV

***Rubus ulmifolius* Schott**

2 HLUC

4 HLUC

***Sorbus domestica* L.**

7 Herb. Salerno, IS, PORUN-Herb. Stinca

18 HLUC

***Sorbus torminalis* (L.) Crantz**

7 CLU, HFLA, HLUC, IS

18 GE, Herb. Cancellieri, Herb. Salerno, HLUC, PORUN-Herb. Stinca

RUBIACEAE

Asperula taurina* L. subsp. *taurina

10 HLUC

12 HLUC

13 Herb. Gangale & Uzunov, HLUC

***Crucianella angustifolia* L.**

7 APP, CLU

8 CLU

16 BI, Herb. Cancellieri, Herb. Carli, Herb. Gangale & Uzunov, Herb. Majella, Herb. Salerno, Herb. Tilia, HLUC, PORUN-Herb. Stinca, TO

***Cruciata laevipes* Opiz**

3 Herb. Salerno

7 BI, Herb. Caruso, Herb. Gangale & Uzunov, PI, PORUN-Herb. Stinca

8 HLUC

13 HLUC

***Cruciata pedemontana* (Bellardi) Ehrend.**

11 UTV

Galium album* Mill. subsp. *album

[= *G. mollugo* L. subsp. *erectum* Syme]

1 BI

5 **BAS** PI

7 HLUC, IS

8 HLUC

11 CLU

***Galium corrudifolium* Vill.**

1 Herb. Gangale & Uzunov

3 APP, CLU

4 APP

12 APP, CLU, Herb. Tilia

13 APP, Herb. Gangale & Uzunov

16 Herb. Gangale & Uzunov

***Galium glaucum* L.**

3 APP, BI, CLU

8 PI

Note- This taxon was recently confirmed for Campania just outside our study area by Del Guacchio (2007): “Bisaccia (Avellino), strada per Lacedonia”.

Galium lucidum* All. subsp. *lucidum

3 Herb. Salerno, PORUN-Herb. Stinca

***Galium mollugo* L. group**

1 PORUN-Herb. Stinca

2 PORUN-Herb. Stinca

16 APP

Note- The specimens collected in the investigated area are probably attributable to a new taxon under study.

***Galium odoratum* (L.) Scop.**

12 HLUC, IS

15 PORUN-Herb. Stinca

***Galium parisiense* L.**

7 Herb. Gangale & Uzunov, Herb. Tilia

8 PORUN-Herb. Stinca

***Galium spurium* L.**

3 TO

10 Herb. Gangale & Uzunov

***Galium tricornutum* Dandy**

3 BI, Herb. Cancellieri, Herb. Salerno

Galium verum* L. subsp. *verum

5 BAS PORUN-Herb. Stinca

***Rubia peregrina* L.**

18 CLU, Herb. Cancellieri, Herb. Caruso, HLUC, PORUN-Herb. Stinca

+CAM*

A CAS (CAM)
ARC

***Rubia tinctorum* L.**

1 HLUC, UTV

***Sherardia arvensis* L.**

1 SIENA

7 PAD, PORUN-Herb. Stinca

SALICACEAE

***Populus alba* L.**

5 BAS PI

Populus nigra* L. subsp. *nigra

2 Herb. Caruso

5 **BAS** Herb. Salerno, PI, PORUN-Herb. Stinca

***Populus tremula* L.**

7 PORUN-Herb. Stinca

***Salix alba* L.**

2 PORUN-Herb. Stinca

5 **BAS** Herb. Salerno, PI

8 HLUC

***Salix apennina* A.K.Skvortsov**

8 PI

Salix purpurea* L. subsp. *purpurea

[= *S. lambertiana* Sm.]

5 **BAS** Herb. Salerno, PI, PORUN-Herb. Stinca

SANTALACEAE

***Osyris alba* L.**

4 PORUN-Herb. Stinca

18 HLUC

***Thesium linophyllum* L.**

13 Herb. Cancellieri, Herb. Gangale & Uzunov

SAPINDACEAE

***Acer campestre* L.**

7 Herb. Salerno

12 Herb. Salerno, BI, CLU, PORUN-Herb. Stinca

E

***Acer cappadocicum* Gled. subsp. *lobelii* (Ten.) A.E.Murray**

12 BI, Herb. Salerno, HLUC, IS, PAD, PI, SIENA, TO

13 GE, Herb. Cancellieri, Herb. Gangale & Uzunov, HFLA, HLUC, PORUN-Herb. Stinca
Note- This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

Acer monspessulanum* L. subsp. *monspessulanum

18 BI, CLU, Herb. Gangale & Uzunov, Herb. Salerno, HLUC, PI, PORUN-Herb. Stinca, UTV

A NAT (CAM)
NEO

***Acer negundo* L.**

2 Herb. Gangale & Uzunov

20 PORUN-Herb. Stinca

***Acer opalus* Mill. subsp. *obtusatum* (Waldst. & Kit. ex Willd.) Gams**

12 HLUC, PAD

15 IS

SAXIFRAGACEAE

***Chrysosplenium dubium* J.Gay ex Ser.**

13 APP, GE, Herb. Cancellieri, Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca

***Saxifraga exarata* Vill. group**

13 APP, GE, Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Majella, PORUN-Herb. Stinca

Note- The specimens collected in the investigated area are probably attributable to a new taxon under study.

+BAS**

A CAS (BAS)
NEO

***Saxifraga stolonifera* Curtis**

16 PI

Note- The Italian distribution of this taxon includes Lombardia and Veneto and no longer recorded in Liguria (Galasso et al. 2018a). Therefore, our finding is the first in the peninsular Italy.

SCROPHULARIACEAE

Scrophularia auriculata* L. subsp. *auriculata

5 BAS PAD

***Scrophularia canina* L.**

[= *S. bicolor* Sm.]

2 PORUN-Herb. Stinca

7 Herb. Gangale & Uzunov, Herb. Tilia, PAD

8 HLUC, PI

11 PORUN-Herb. Stinca

***Scrophularia scopolii* Hoppe ex Pers.**

7 Herb. Gangale & Uzunov, Herb. Tilia, HLUC, PORUN-Herb. Stinca

8 PI

13 HLUC

SIMAROUBACEAE

A INV (CAM)

A INV (BAS)

NEO

***Ailanthus altissima* (Mill.) Swingle**

1 SIENA, TO

16 PORUN-Herb. Stinca

SOLANACEAE

A NAT (BAS)

NEO

***Datura stramonium* L.**

5 BAS TO

***Hyoscyamus albus* L.**

1 Herb. Salerno

***Hyoscyamus niger* L.**

7 HLUC, IS, PORUN-Herb. Stinca

8 PAD

***Solanum dulcamara* L.**

5 BAS SIENA

8 APP, Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca

A CAS (BAS)

NEO

***Solanum lycopersicum* L.**

5 BAS PORUN-Herb. Stinca, TO

THYMELAEACEAE

***Daphne laureola* L.**

7 Herb. Caruso, HFLA, HLUC

TYPHACEAE

***Typha latifolia* L.**

8 PI, PORUN-Herb. Stinca

ULMACEAE

***Ulmus glabra* Huds.**

12 Herb. Salerno, HLUC

Ulmus minor* Mill. subsp. *minor

2 Herb. Caruso

7 Herb. Salerno

8 HLUC

URTICACEAE

***Parietaria judaica* L.**

1 Herb. Gangale & Uzunov, HLUC, PORUN-Herb. Stinca

16 HLUC

18 Herb. Gangale & Uzunov

URTICACEAE

Urtica dioica* L. subsp. *dioica

1 HLUC

5 BAS PORUN-Herb. Stinca

VALERIANACEAE

Centranthus ruber* (L.) DC. subsp. *ruber

11 SIENA

16 HLUC, PORUN-Herb. Stinca

***Valeriana stolonifera* Czern. subsp. *angustifolia* Soó**

[– *V. collina* auct.]

7 PORUN-Herb. Stinca

***Valerianella carinata* Loisel.**

4 Herb. Gangale & Uzunov, PORUN-Herb. Stinca

7 CLU, GE, Herb. Salerno, UTV

18 PORUN-Herb. Stinca

***Valerianella dentata* (L.) Pollich**

7 Herb. Tilia

11 CLU, Herb. Tilia

13 Herb. Cancellieri

***Valerianella eriocarpa* Desv.**

3 APP

7 BI, CLU, GE, Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Salerno, Herb. Tilia, IS, PAD, PI, PORUN-Herb. Stinca, SIENA, UTV

***Valerianella muricata* (Steven ex M.Bieb.) W.H.Baxter & Wooster**

7 GE

VIOLACEAE

E

***Viola aethnensis* (Ging. & DC.) Strobl subsp. *splendida* (W.Becker) Merxm. & Lippert**

10 HLUC

11 HLUC

12 APP, CLU, IS, PAD, UTV

13 APP, GE, Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Majella, HLUC, PORUN-Herb. Stinca

15 HFLA

16 PI

Note - This taxon received the conservation status LC (least concern) in the IUCN Red List of the Italian Flora (Orsenigo et al. 2018).

***Viola alba* Besser subsp. *dehnhardtii* (Ten.) W. Becker**

2 PORUN-Herb. Stinca

5 CAM HLUC

10 HFLA

18 HLUC

Viola arvensis* Murray subsp. *arvensis

7 Herb. Cancellieri, Herb. Gangale & Uzunov, Herb. Tilia, PORUN-Herb. Stinca, UTV

10 UTV

***Viola reichenbachiana* Jord. ex Boreau**

12 APP, CLU, HLUC

+CAM** A CAS (CAM)
NEO

***Viola tricolor* L. subsp. *tricolor* cv.**

20 PORUN-Herb. Stinca

Note- The specimens collected in the investigated area are attributable to a cultivar of *V. tricolor* subsp. *tricolor*, probably obtained from the crossing with related species. A small population of this taxon was found in Aquilonia (Avellino province) in anthropogenic environments.

VITACEAE

A NAT (CAM)
NEO

***Vitis* × *koberi* Ardenghi, Galasso, Banfi & Lastrucci**

[*V. berlandieri* Planch. × *V. riparia* Michx.]

1 APP

Note- This taxon was recently reported by Stinca (2019) in Campania in the provinces of Caserta (Caserta, Capua, Castel Volturno) and Naples (Castellammare di Stabia, Vico Equense).

S8. Orchids recorded in the eastern Irpinia and Vulture-Melfese area only by digital photographs. From upper left to lower right: *Anacamptis pyramidalis* (L.) Rich. var. *nivea* P.Delforge (site Nr. 2); *Anacamptis pyramidalis* (L.) Rich. (site Nr.18); *Ophrys apifera* Huds. (site Nr. 7); *Neottia nidus-avis* (L.) Rich. (site Nr. 12); *Cephalanthera damasonium* (Mill.) Druce (site Nr. 12); *Ophrys tenthredinifera* Willd. subsp. *neglecta* (Parl.) E.G.Camus (site Nr. 12); *Ophrys apifera* Huds. var. *fulvofusca* M.P.Grasso & Scrugli (site Nr. 7); *Himantoglossum hircinum* (L.) Spreng. (site Nr. 1). Photos by V.A. Romano.

